Records Center
Wells G&H
11.9
OTHER:

Avecia

1405 Foulk Road
Wilmington, DE 19803

VIA FEDERAL EXPRESS

March 30, 2004

Martha Bosworth, Enforcement Coordinator
U. S. Environmental Protection Agency, Region 1
Office of Site Remediation and Restoration (HBS)
One Congress Street, Suite 1100
Boston, MA 02114

ATTN: Wells G&H Case Team

RE: Request for Information Pursuant to Section 104 of CERCLA in relation to the former Whitney Barrel Company at the Wells G & H Superfund Site in Woburn, Massachusetts, hereinafter referred to as the "Site"

Dear Ms. Bosworth:

NeoResins Inc. ("NeoResins") received a letter from your office on December 15, 2003, inquiring into NeoResins' association with Polyvinyl Chemicals, Inc. and Whitney Barrel Company's property at the Site. NeoResins forwarded the letter to me in the law department of Avecia Inc. NeoResins is a wholly owned subsidiary of Avecia Inc. Avecia requested more time to respond and referred the matter to John Andreasen who submitted the attached response to you on behalf of NeoResins and the legal successors to Polyvinyl Chemicals, Inc. NeoResins is not a legal successor to Polyvinyl Chemicals, Inc.

I spoke with Mary Jane O'Donnell from your office and explained that NeoResins Inc. is not the legal successor to any liabilities of Polyvinyl Chemicals Inc. and that I sent the matter to the appropriate parties. She instructed me to explain the corporate history of NeoResins and submit the corporate history with the response from Mr. Andreasen.

NeoResins Inc. currently owns and operates a manufacturing facility located at 730 Main Street in Wilmington, Massachusetts (the "Wilmington Plant"). NeoResins Inc., a Delaware corporation incorporated in 2001, purchased the assets of Avecia Inc.'s resins business (which included the Wilmington Plant) on January 31, 2002. Avecia Inc. was incorporated in 1999 and purchased the Wilmington Plant and all of the other assets of Zeneca Inc.'s specialty chemicals business from Zeneca Inc. on June 30, 1999. The Wilmington Plant was owned and operated by Avecia Inc. until it was sold to NeoResins in 2001.

0045-0015
SDMS Doc ID 564088

Mr. Andreasen has explained the history of the Wilmington Plant prior to 1999 in the attached letter, and he will be handling all further requests for information regarding the Site. Thank you.

Sincerely,

Deirdre J. Attea
Assistant General Counsel

DJA/smh

cc: Mary Jane O'Donnell, Esquire
John Andreasen, Esquire
Luke Mette, Esquire

McGRATH NORTH MULLIN & KRATZ, PC LLO

ATTORNEYS AT LAW

SUITE 3700 FIRST NATIONAL TOWER
1601 DODGE STREET, OMAHA, NEBRASKA 68102

JOHN A. ANDREASEN

TELEPHONE: 402-341-3070
E-MAIL: jandreasen@mnmk.com

March 30, 2004

VIA FEDERAL EXPRESS

Martha Bosworth, Enforcement Coordinator
U.S. Environmental Protection Agency, Region 1
Office of Site Remediation and Restoration
One Congress Street, Suite 1101
Boston, MA 02114
ATTN: Wells G&H Case Team

Re: ***Request for Information Pursuant to Section 104 of CERCLA in relation to the former Whitney Barrel Company at the Wells G&H Superfund Site in Woburn, Massachusetts***

Dear Ms. Bosworth:

I respond on behalf of the former Polyvinyl Chemicals, Inc., to the above-referenced Request For Information dated December 15, 2003. This Response is being submitted consistent with the extension previously granted on or about February 26, 2004. Further, this response incorporates the correspondence, and information contained therein, of Avecia, Inc., with respect to the Request For Information. A copy of the correspondence from Deirdra Attea, Assistant General Counsel for Avecia, Inc., is attached.

The above-referenced Request For Information letter identified Polyvinyl Chemicals, Inc., as having a possible connection to the Whitney Barrel Company. The pertinent time period identified as being investigated is 1950 to 1985. During this time period, Polyvinyl Chemicals operated at two different facilities within the vicinity of the subject Site in Peabody, Massachusetts from approximately 1959 until 1967 and in Wilmington, Massachusetts from 1967 to the present, subject to various name changes.

From 1955 to 1965 Polyvinyl Chemical Industries was owned by Stahl Finish Company. In 1965 Beatrice Foods Co. bought Polyvinyl Chemicals, Inc., from Stahl. Then in 1984, ICI Americas acquired Polyvinyl Chemicals, Inc. as part of its purchase of the stock of certain Beatrice Company subsidiaries. The Polyvinyl Chemicals business became known as ICI Resins, a business unit of ICI Americas, later changing its name to Zeneca Resins, a business unit of Zeneca, Inc. In 1999, the Zeneca Resins facility operating in Wilmington, Massachusetts, the former Polyvinyl Chemicals facility, was sold by Zeneca to Avecia, Inc. and has been operated by Avecia, Inc.'s subsidiary, NeoResins Inc., since that time.

This Response is submitted on behalf of the aforementioned entities, with respect to Polyvinyl Chemicals, Inc., based upon a good faith investigation consistent with the requirements of CERCLA 104(e). The parties will comply with their obligations to provide EPA with additional responsive information, if such information is discovered following submittal of this Response.

The Polyvinyl Chemicals facility in Wilmington, Massachusetts has been associated by the EPA with numerous other Sites in the area, including but not limited to Cannons Engineering Superfund Site, Old Southington Landfill Site, Saco Landfill Superfund Site, Solvents Recovery Service of New England Site, Sutton Brook Disposal Area Superfund Site and J.M. Mills Landfill Site. The responding parties have previously provided EPA with information, pursuant to CERCLA Section 104(e), with respect to the aforementioned Sites. No information in connection with the Whitney Barrel Company has been discovered.

I have enclosed, as part of this Response, the Response to the Sutton Brook Disposal Area Superfund Site Request For Information, dated April 6, 2001, with its accompanying documents. Based upon the parties' investigation, no additional information responsive to the Whitney Barrel Company Request For Information is available at this time.

Please contact the undersigned regarding further information or inquiry with respect to this matter.

Very truly yours,

John A. Andreasen

JAA/ldo

cc: Luke Mette (w/o encs.)
Senior Counsel
AstraZeneca Pharmaceuticals LP
1800 Concord Pike
P.O. Box 15437
Wilmington, DE 19850

Deirdre J. Attea (w/o encs.)
Assistant General Counsel
Avecia, Inc.
1405 Foulk Rd.
P.O. Box 15457
Wilmington, DE 19803

McGRATH NORTH MULLIN & KRATZ, PC LLO

ATTORNEYS AT LAW

SUITE 3700 FIRST NATIONAL TOWER
1601 DODGE STREET, OMAHA, NEBRASKA 68102

JOHN A. ANDREASEN

TELEPHONE: 402-341-3070
E-MAIL: jandreasen@mnmk.com

March 30, 2004

VIA FEDERAL EXPRESS

Martha Bosworth, Enforcement Coordinator
U.S. Environmental Protection Agency, Region 1
Office of Site Remediation and Restoration
One Congress Street, Suite 1101
Boston, MA 02114
ATTN: Wells G&H Case Team

Re: ***Request for Information Pursuant to Section 104 of CERCLA in relation to the former Whitney Barrel Company at the Wells G&H Superfund Site in Woburn, Massachusetts***

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Very truly yours,

John A. Andreasen

JAA/ldo

cc: Luke Mette (w/o encs.)
Senior Counsel
AstraZeneca Pharmaceuticals LP
1800 Concord Pike
P.O. Box 15437
Wilmington, DE 19850

Deirdre J. Attea (w/o encs.)
Assistant General Counsel
Avecia, Inc.
1405 Foulk Rd.
P.O. Box 15457
Wilmington, DE 19803

Avecia

1405 Foulk Road
Wilmington, DE 19803

VIA FEDERAL EXPRESS

March 30, 2004

Martha Bosworth, Enforcement Coordinator
U. S. Environmental Protection Agency, Region 1
Office of Site Remediation and Restoration (HBS)
One Congress Street, Suite 1100
Boston, MA 02114

ATTN: Wells G&H Case Team

RE: Request for Information Pursuant to Section 104 of CERCLA in relation to the former Whitney Barrel Company at the Wells G & H Superfund Site in Woburn, Massachusetts, hereinafter referred to as the "Site"

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March 30, 2004
Page Two

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Sincerely,

Deirdre J. Attea
Assistant General Counsel

DJA/smh

cc: Mary Jane O'Donnell, Esquire
John Andreasen, Esquire
Luke Mette, Esquire

AstraZeneca

April 6, 2001

Daniel J. Coughlin, Chief
Massachusetts Superfund Section
Office of Site Remediation and Restoration
Environmental Protection Agency, Region 1
1 Congress Street, Ste. 1100
Boston, MA 02114-2023

Re: Request for Information Pursuant to Section 104 of CERCLA for the Sutton Brook Disposal Area Superfund Site in Tewksbury, MA

Dear Mr. Coughlin:

AstraZeneca Pharmaceuticals LP ("AstraZeneca") is writing in response to the above-referenced Request for Information submitted to "Polyvinyl Chemical Inc. c/o Astra Zeneca Inc." Polyvinyl Chemicals Inc., ("Respondent") was formerly affiliated with Zeneca Inc. (formerly known as ICI Americas Inc.) as a business unit of its specialty chemicals business. In 1999, Zeneca Inc. sold its specialty chemicals business, including Respondent, to Avecia Inc. Accordingly, AstraZeneca is no longer affiliated with the Respondent. Zeneca Inc. is now a part of AstraZeneca, which was formed in 1999 when Zeneca Inc.'s ultimate parent, Zeneca Group PLC, merged with Astra AB. This Response reflects AstraZeneca's good faith investigation consistent with the requirements of CERCLA 104(e), based upon a review of documents that remain in AstraZeneca's possession or control and interviews with individuals with relevant knowledge.

AstraZeneca will, of course, comply with its obligation to provide EPA with additional responsive information that AstraZeneca obtains following submittal of this Response.

I. General Responses and Objections

1. AstraZeneca submits this response solely in connection with the Site, as defined in the Request for Information. AstraZeneca objects to, and would oppose, any intended or actual use by EPA or other entity of the information provided herein for any other purpose.

2. Nothing herein shall constitute an admission of liability. The information provided herein is based on information reasonably available to AstraZeneca, except that any information protected by the attorney-client privilege or work product immunity will not be produced or disclosed, consistent with the Instructions.

AstraZeneca Pharmaceuticals LP
1800 Concord Pike PO Box 15437 Wilmington DE 19850-5437

Tel 302 886 3000
www.astrazeneca-us.com

AZPH1001 (01/00)

3. AstraZeneca makes no representations as to the accuracy of any documents forming the basis of, or enclosed with, this Response that pre-date its affiliation with Respondent. These documents were located in files that are now in AstraZeneca's possession.

4. To the extent that the Request for Information requests information that is overly broad, overly burdensome, speculative, vague, ambiguous or outside EPA's authority under CERCLA 104(e), AstraZeneca believes such request go beyond its reasonable obligations and, on that basis, objects to such requests.

Subject to, and without waiver or limitation of any of the foregoing or other potentially available objections, AstraZeneca responds to the Request for Information as follows:

II. Specific Responses

1. General Information About the Respondent

a. The addresses of both AstraZeneca and Avecia Inc. are provided below:

AstraZeneca Pharmaceuticals LP
1800 Concord Pike
PO Box 15437
Wilmington, DE 19850-5437
(302) 886-3000

Avecia, Inc.
1405 Foulk Road
PO Box 15457
Wilmington, DE 19850-5457
(302) 477-8000 phone
(302) 477-8150 fax

b. Alan B. Horowitz, Esq.
Senior Counsel
1800 Concord Pike
PO Box 15437
Wilmington, DE 19850-5437
(302) 886-4755 phone
(302) 886-2952 fax

c. Same as above

2. Respondent's Operations[1]

a. 730 Main Street (the "Facility")
Wilmington, Massachusetts 01887

b. i. Plant operations commenced in approximately Spring, 1967. The Facility is now operated by NeoResins, a business unit of Avecia Inc. **Phone Interview with Maurice Bechard, former plant Safety, Health and Environmental Manager (hereafter "Bechard Interview"); Phone Interview with Greg Kurey, General Counsel, Avecia Inc., 3/27/01 (hereafter "Kurey Interview"); Memorandum from Bill Michaud, SEA to Larry Fitch, ICI Resins US, June 19, 1990.**

Maurice Bechard

ii. Upon reasonable review, during the Relevant Period, the Facility was engaged in the manufacture of organic solvent-based solution acrylic and polyurethane polymers in solution; water dispersed acrylic emulsions; water dispersed polyurethane emulsions; and styrene acrylic solution or "bead" polymers. Process equipment included raw material storage tanks, reactors, finished goods storage, blending facilities, filters and other miscellaneous equipment. Solvent-based acrylics were the primary product from commencement of operations until the mid-1970's. Water-based acrylics were introduced in the mid-1970s. Manufacture of water-based polyurethane resins commenced in the late 1970s or early 1980s. Styrene acrylic beads were manufactured at the Facility from commencement of operations until the early or mid-1980s. **Bechard Interview; Safety, Health and Environmental Performance Assessment, 730 Main St., Wilmington, MA, Sept. 12-15, 1994.**

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[1] As discussed with EPA Enforcement Counsel, and consistent with our correspondence dated January 26, 2001, we understand the intended scope of the Request for Information to be limited to facilities operated by Respondent within 60 miles of the Site. Commencing in 1967, Respondent operated out of a facility located at 730 Main Street in Wilmington, MA. Upon reasonable review, Respondent did not conduct operations at any other facility within 60 miles of the site except as follows:

- From approximately 1959 until approximately Spring, 1967, Respondent manufactured acrylic resins in a building located at 26 Howley Street, Peabody, MA. The site occupied approximately one acre of land and Respondent's operations apparently were limited to the basement of this three-story building. Underground storage tanks, a boiler room and an electrical room may have also existed on the site. The tanks may have been used to store fuel oil and acrylic polymers. Tanks used to store acrylic polymers were emptied in Spring, 1967, Upon reasonable review, AstraZeneca is without additional knowledge regarding Respondent's activities at this location.
- For a short period of time during the late 1970s or early 1980s, Respondent may have conducted bench-scale research activities, along with other ICI business units, at a facility located on Corwin Street in Peabody, MA. Upon reasonable review, AstraZeneca is without additional responsive knowledge with regard to Polyvinyl Chemical activities at this location.

Interview with Steven Osoff, Director, Safety, Health Environment and Engineering, Stahl, USA, 3/27/01; Environmental Site Evaluation, Former Stahl USA Facility, 26 Howley Street, Peabody, MA, 1995.

A post-Relevant Period document suggests that during at least a portion of the Relevant Period, laboratories engaged in research and development, applications, quality control, analytical chemistry, pilot and process development activities were also located at the facility. R&D labs engaged in the design, synthesis, and characterization of new polymeric materials. Major materials used were volatile and semi-volatile reactive organic liquids. Applications labs were involved in the formulation of new and existing polymeric products. Semi-volatile organic liquids, water based polymeric emulsions and solid inert colorants and fillers were used. Pilot labs were involved in the evaluation of R&D formulas. Materials handled were similar to those used in the R&D labs. **Id.**

iii. 2821 (Plastics materials and resins) **Zeneca Inc. Response to Request for Information Pursuant to CERCLA 104 (e) Concerning Saco Landfill Superfund Site, February 15, 1994 (hereafter "Saco Response"); Notice of Intent for Stormwater Discharges Associated with Industrial Activity under a NPDES General Permit, ZSC Inc. (now Avecia Inc.)** Saco Landfill

c. With regard to changes in the nature of operations over time, see response to Question 2 (b)(ii). Upon reasonable review, during the Relevant Period, the size of the operation remained relatively constant, although production volumes at the Facility grew from approximately 4 million pounds/year to approximately 30 million lbs./year. The number of employees at the Facility from the commencement of operations until the early 1980s grew from approximately 30 to 40 to approximately 150. This number may have declined during the 1980s. AstraZeneca is without additional responsive knowledge. **Bechard Interview.**

d. See response to Question 2 (b)(ii). Upon reasonable review, specific products were acrylic emulsions and urethane polymers, solid acrylics, solution acrylics, polyurethane dispersions and solvent-borne polyurethane. During a portion of the Relevant Period, the Facility recycled spent alkaline cleaning solution pursuant to a Massachusetts Department of Environmental Protection permit. **\Department of Environmental Protection Recycling Permit #NE-92-080; Bechard Interview.**

e. Upon reasonable review, raw materials used during the Relevant Period included acrylic monomers, styrenes, isocyanates, polyols, solvents, amines, organic peroxides, inorganic persulfates, and surfactants. **Bechard Interview; Saco Response; Notification for Underground Storage Tanks, Dept. of Public Safety, Oct., 1980.**

f. The sole MSDS applicable to the Relevant Period and in AstraZeneca's possession is enclosed.

0045-0026

g. Available information relating to a portion of the Relevant Period indicates that during that time, materials used to clean and maintain equipment at that time included solvents, high-pressure water, and caustic soda solutions. Upon reasonable review, we are unable to determine the quantity of materials used. **Saco Response; Bechard Interview; Massachusetts Department of Environmental Quality Engineering, Division of the Quality Control Report (hereafter "DEQE")**

h. Available information relating to a portion of the Relevant Period is provided in the attached "**ICI Resins US Spill Control and Slug Discharge Plan**." A reasonable review has identified the following responsive information:

- Two spills of acrylonitrile (7/27/88; 03/14/89) from above ground storage tanks. The July, 1988 spill involved 16 gallons of monomer released though a tank vent pipe. Soil in contact with the spill material was removed by Inland Pollution Control Inc. for incineration. The March, 1989 spill involved the release of 64 gallons of acrylonitrile. Available information indicates that the effected soil was removed by Chemical Waste Management and disposed of at a Clean Harbors facility in Braintree, MA. **Potential Oil Hazardous Material Release Site Preliminary Assessment Report, January, 1990 (hereafter "Potential Oil Haz. Mat. Release Report")**

- Volatile organic compounds in groundwater on site in 1990 in the area of an abandoned underground storage tank farm. Remediation has occurred under oversight from the Massachusetts Dept. of Environmental Protection. **Bechard Interview**

- In 1990, the Facility discovered standing water contaminated with toluene and styrene in a swale on the boundary of operating plant. Upon reasonable review, AstraZeneca is without additional responsive knowledge. **Letter to John Fitzgerald, Mass. DEP from James Tynan, ICI Resins US.**

- In August, 1991 buried discarded polymer beads were encountered in an area approximately 150 feet southeast of the location of above ground solvent tanks. The area was excavated on June 18, 1992 and documents suggest that the polymer beads were disposed of by Laidlaw at a facility in Plainville, Massachusetts. The volume of bead material and soil disposed was approximately 160 cubic yards. **(09/24/91 SEA Report to Maurice Bechard; Bechard Interview.**

i. See enclosed "Process Flow Diagram." Upon reasonable review, AstraZeneca is without additional responsive knowledge.

3. Respondent's Wastes and Waste Streams (including By-Products)

a. The enclosed "Waste Survey" is based upon AstraZeneca's good faith investigation. Except as provided therein and in this Response, AstraZeneca is without responsive knowledge. The Survey is intended to be supplemented by the information provided in response to Question 3 (b) below.

Waste Survey

b. (i) to (vi) Except as provided below, upon reasonable review, AstraZeneca is without additional responsive knowledge. Sources include **Bechard Interview; Saco Response; DEQE Report; Unison Transfer Services Hazardous Waste Manifests; Memorandum to M. Potash from W. Kennedy re. Waste Disposal, 10/18/79.**

Potash Kennedy Memo 10/18/79

A 1979 document identifies the following "categories" of waste at that time:

- "Solvent Waste – suitable for incineration and/or reclaim"
- "Solvent Waste/Product – which may not be incinerated or reclaimed, e.g., drums of coag, filters, lab or pilot lab mixtures, etc."
- "Any Non-solvent Chemical Waste, coag, raw material bags, scrap and/or coagulated latex, etc."
- "Non-Chemical Waste – e.g. office trash, empty damaged containers, metal, etc.

Waste quantities in 1979 are stated to be "over 150-175 drums per month."

Available information from 1990-92 identifies the following waste stream:

- Waste solvent: liquid; clear to grayish in color; solvent-like odor; production rate during the 1990-92 time period are estimated at 30-40, 55-gallon drums/quarter.

- Water-based acrylic polymer waste: liquid; white/off-white; odorless to slight solvent odor; upon reasonable review, production rate during the 1990-92 time period are estimated at approximately 80-120, 55-gallon drums/quarter.

- Solid polymer bead waste: generated from production of styrene acrylic beads; solid, fine beads; dark color; upon reasonable review, this waste was generated from the commencement of operation until the early to mid-1980s.

0045-0028

- Sludge from settling basin and floor drain sumps used to collect process wastewater. Wastewater, primarily from tank washings and cleanings produced a sludge that may have included polymer beads. Basin cleaned-out approximately once/year prior to installation of pre-treatment facility in or around 1991. Available information indicates that this material may have been disposed on-site. Subsequently, the material may have been removed from the sumps and settling basins using a vacuum truck and transported the material to an unidentified landfill.

- PCB Waste: Available information indicates that at intermittent periods between 1988 and 1991, PCB waste was generated and transported off-site by Unison Transformer Services to its facility in Columbus, Ohio. This waste is described on manifests as "RQ Hazardous Waste Substance Liquid N.O.S. (polychlorinated biphenyls), as "transformer fluid TF-X" and "liquid" (one entry from 8/17/91 describes material as "solid").

- Filter Wastes: Available information indicates that the manufacturing process resulted in the generation of filters and filter bags. Several thousand bags/year may have been generated.

c. Upon reasonable review, AstraZeneca is without responsive knowledge.

d. See response to Question 4 (c).

e. i. Available information relating to a portion of the Relevant Period indicates that at that time, waste was stored in fiber drums and steel drums. **Bechard Interview, Saco Response**

ii. Upon reasonable review, drums were stored on an asphalt area on-site. **Saco Response**

4. Respondent's Disposal/Treatment/Storage/Recycling/Sale of Waste (including By-Products)

a. Maurice Bechard
Zeneca employee-Safety, Health & Environmental Manager from 1990-1999.
(508) 787-2243 (work)

William Kennedy
REDACTED - PERSONAL PRIVACY

0045-0029

REDACTED - PERSONAL PRIVACY

Polyvinyl and Zeneca Employee - Manufacturing Technical Manager, Production Manager in late 1970's.

Harold Thoma
REDACTED - PERSONAL PRIVACY

(Deceased)
Former Polyvinyl and ICI Americas Inc. Employee - Purchasing Manager in the late 1970's (retired in 1990)

James Tynan
REDACTED - PERSONAL PRIVACY

Former Polyvinyl and ICI Americas Inc. Employee - Safety, Health & Environmental Manager (mid-1970's – retirement in 1990)

Richard Alsterberg
730 Main Street
Wilmington, MA 01887
(978)-658-0609
Current Facility Manager

Juan Canella
730 Main Street
Wilmington, MA 01887
(978) 658-0636
Responsible for Safety, Health & Environmental Matters, (1995 to 1997)

Uday Wagle
REDACTED - PERSONAL PRIVACY

Plant Manager (1992 to 1997)

Max Potash
Former President of Polyvinyl Chemicals
REDACTED - PERSONAL PRIVACY

b. See response to 4 (a)

c. See response to 4 (a)

0045-0030

d. See response to 4(a). Upon reasonable review, AstraZeneca is without additional responsive knowledge.

e. AstraZeneca is without responsive knowledge except as provided below, which is derived from information relating to portions of the Relevant Period:

   i. During 1979, waste was placed in fiber and metal drums. Available information suggests that the same practice was used during other portions of the Relevant Period.
   ii. Fiber drums were tan and steel drums were black
   iii. No distinctive stripes or marks
   iv. Information regarding the 1990-92 timeframe indicates that certain containers may have contained white labels with blue printing
   v. During 1979, drums were used.
   vi. During the 1990-92 timeframe, drums were purchased from a reconditioner and triple rinsed prior to reuse.

Undated Handwritten Notes entitled "Polyvinyl Chemical c/o William Kennedy" ("Kennedy Notes"); Saco Response; Bechard Interview

f. AstraZeneca is without responsive knowledge except as provided below, Available information indicates that for at least a portion of the Relevant Period, no written contracts were used for the transportation or disposal of waste.

- Commencing in 1992, the Facility recycled spent alkaline solution for purposes of adjusting the pH of effluent going to the Facility wastewater treatment unit. This was performed pursuant to Recycling Permit NE-92-080 issued by the Massachusetts Department of Environmental Protection. Spent material quantity was estimated at "less than 10,00 gallons/year. **DEP Permit; DEP Hazardous Waste Recycling Summary, ICI Resins, August 7, 1992.**

- Laidlaw Waste Systems coordinated the transport and disposal of polymer beads and soil discovered in 1991 (See Response to Question 2(h)) to the Laidlaw, Plainville, MA. landfill. Available information indicates that waste was loaded by Richard Iovino Inc. Excavating **Letter from William Michaud, SEA to Lawrence Fitch, ICI, November 30, 1992 (hereafter "11/30/92 Michaud Letter"); Laidlaw Waste Systems Invoice, 9/18/92; Richard Iovino Inc. Excavating Invoice, 10/5/92.**

  Laidlaw Plainville, MA

- Available information indicate that on approximately 75 occasions from 1986 through 1991, Franklin Environmental Services transported "Polymer waste (non-hazardous waste)" from the facility to GSX

  Franklin Environmental GSX Pinewood, SC

0045-0031

Services located in Pinewood, SC. **Franklin Environmental Services Waste Manifests.**

- Available information indicates that in March, 1989, Chemical Waste Management Inc. removed contaminated soil resulting from the release of approximately 64 gallons of acrylonitrile from an above ground storage tank. Documents indicate that this material was taken to a Clean Harbors facility in Braintree, MA. **Id.**

Chem Waste
Clean Harbors
Braintree, MA

- Available information indicates that in July, 1988, Inland Pollution Control Inc. removed for incineration contaminated soil resulting from the spill of approximately 16 gallons of acrylonitrile. **Potential Oil Haz. Mat. Release Report.**

- Available information indicates that at intermittent periods between 1988 and 1991, PCB waste was generated and transported from the Facility by Unison Transformer Services to a Unison facility in Columbus, Ohio. **Unison Manifests.**

Unison Transformer
Columbus, OH

- Available information indicates that on several occasions in 1978 and 1979, "Liquidators" transported from the Facility liquid waste described as "polyurethane systems, generally already gelled and useless."

Liquidators

  - Three dates in December, 1978: approximately 80-90 drums of waste (total of 256 drums). See Documents for additional information.
  - Two days in January, 1979: total of 165 drums for disposal. See Documents for additional information.
  - March 14, 1979: 81 drums. See Documents for additional information. Available information indicates that the location of Liquidators' premises was in Dorchester, MA.

Saco Response; Polyvinyl Chemical Inc. Response to CERCLA 104 (e) Request re. Cannons Engineering sites in Bridgewater Mass., and Plymouth, Mass.; Gilson Road site in Nashua, New Hampshire; and Tinkham Garage site in Londonderry, New Hampshire. ("Cannons 104(e) Response"); Massachusetts Division of Water Pollution Control, "Monthly Operation Report" re. The Liquidator Inc., March, 1979; December, 1978; January, 1979.

Saco
Cannons Eng.
Gilson Rd
Tinkham Garage

- Available information indicates that between August 22, 1979 and October 30, 1979, Chem-Waste Inc. removed 1,168 drums of "primarily latex, and other non-solvent chemical wastes" from the Facility. Documentation indicates that during the period of August 28-

Chem Waste
Cannons Eng.

30, 1979, Chem-Waste removed four "loads of waste material" from the Facility, including one load of "flammable materials" and "3 loads of material which had been removed from the Avco tank for disposal." With regard to the use of Chem-Waste in 1979, Polyvinyl would "contact Chem-Waste answering service or Richard French whenever a pick-up was necessary." **Cannons 104(e) Response; Kennedy Notes; Polyvinyl Chemical Industries Purchase Orders, Intermittent dates between 8/79 and 10/79 ("Purchase Orders").**

- Available information indicate that in 1979, the following wastes were removed from the Facility: "drums containing filter bags, coag, solvent/solution polymer draining from filters and mixed solvent/polymer from labs and pilot labs." **Memorandum to M. Potash from W. J. Kennedy re. "Waste Disposal", Oct. 18, 1979 ("Potash Waste Disposal Memo")**

- 1979 documents indicate that Facility waste described as "polymer, liquid latex, raw material bags, and containers" and "non-toxic waste"/"sump waste drums" may have been sent to a "Tewksbury disposal" area or "Tewksbury landfill" by a waste contractor named "Canelas." **Id.; Memorandum from H.J. Thoma to M. Potash re. Liquidators – Waste Disposal, June 19, 1979.**

  Canelas Tewksbury Landfill

- Available information indicates that between December, 1978 and January and February, 1979, the Facility used Recycling Industries Inc. to remove certain wastes. Specific records indicate that on December 6, 1978, Recycling Industries removed 44, 55 gallon drums containing "resin solution" from the Facility. AstraZeneca is without additional responsive knowledge. **Id.; Recycling Industries Records, December, 1978.**

  Recycling Industries

- Available information indicates that Cannons Engineering Corp. removed waste materials from the Facility in 1978. Documents indicate that the wastes were liquids (described, in part, as "solvent residues") and removed by Cannon's tank trucks and that no drum removal was performed. Cannons Engineering Corp. picked up pumpable material on a monthly basis during part of 1978. Chem-Waste Inc. made approximately 8 pick-ups in August, 1979 and 6 pickups in pickups in October, 1979. **Cannons 104 (e) Response; Memo to Marhoffer from Moran re: Hazardous Waste Disposal at Lowell, 11/21/79. ("Marhoffer Memo"); Miscellaneous Cannons Engineering Corp. Contract Documents, 1978.**

  Cannons Eng. Chem Waste

- See **Saco Response; Waste Survey** for additional responsive information.

0045-0033

- Available information states that "there is evidence documenting the pick-up of 321 drums of hazardous waste from Polyvinyl Chemical by Chem-Waste in October 1979 and transport of those drums to Robert Stanwood in Saco, Maine. **"Saco Municipal Landfill Superfund Site, Evidentiary Summary."** Chem Waste Saco

- Available information suggests that at an unknown time (reasonably believed to be during the Relevant Period), the Facility used Solvent Recovery Service of Southington, CT to reclaim solvent described as "polymer residue" from the cleaning of "closed reactor systems" consisting of "MEK, Xylene, Toluene, and Solveso". **DEQE Report** SRS Southington, CT

g. Responsive documents are enclosed.

h. See Response to Question 4 (f) and enclosed documents. Upon reasonable review, AstraZeneca is without additional responsive knowledge.

i. See Response to Question 4 (f) and enclosed documents. Upon reasonable review, AstraZeneca is without additional responsive knowledge.

j. Upon reasonable review, AstraZeneca is without responsive knowledge.

k. See Response to Question 4 (f) and enclosed documents. Upon reasonable review, AstraZeneca is without additional responsive knowledge.

l. See Response to Question 4 (f) and enclosed documents. Upon reasonable review, AstraZeneca is without additional responsive knowledge.

m. See Response to Question 4 (f) and enclosed documents. Upon reasonable review, AstraZeneca is without additional responsive knowledge.

n. See Response to Question 4 (f). Upon reasonable review, AstraZeneca is without additional responsive knowledge.

o. See enclosed documents.

p. Available information relating to a portion of the Relevant Period indicates that during that time, tanker trucks and flatbeds were used. Removal performed by Cannons Engineering in 1978 was performed by vacuuming waste into tank trucks. Upon reasonable review, AstraZeneca is without additional responsive knowledge. **Saco Response; Marhoffer Memo.** Cannons Eng.

q. Upon reasonable review, AstraZeneca is without responsive knowledge except as follows:

Chem-Waste: Richard French; Richard Brodie
Liquidator: Irving Greenberg

r. See Response to Question 4 (f). Available information relating to a portion of the Relevant Period indicates that during that time locations may have included: Cannons Engineering, Bridgewater, Massachusetts; Chem-Waste, Inc., Londonderry, New Hampshire; The Liquidator Inc., Dorchester, Massachusetts, and a landfill in Tewksbury, Massachusetts.[2] Additional information suggests that for during the early 1990s, a Chem-Waste Management in New Jersey (perhaps Paterson) and an unidentified Clean Harbors facility may also have served as the ultimate disposal location for wastes generated at the Facility. **Bechard Interview; Marhoffer Memo; Saco Response**

s. Responsive documents are enclosed.

t. i. Upon reasonable review, AstraZeneca is without responsive knowledge

ii. Available information relating to a portion of the Relevant Period indicates that during that time purchase orders were used to request pick-up of waste from the Facility. Upon reasonable review, AstraZeneca is without additional responsive knowledge.

iii. See Response to Question 3 (q). Upon reasonable review, AstraZeneca is without additional responsive knowledge.

iv. See Response to Question 4 (f). Upon reasonable review, AstraZeneca is without additional responsive knowledge.

v. Upon reasonable review, AstraZeneca is without responsive knowledge.

vi. Upon reasonable review, AstraZeneca is without responsive knowledge.

u. See Response to Question 4 (f) and enclosed documents. Available information suggests that as a general practice in 1990-92, the Waste Carriers selected the location where Respondent's wastes were taken. **Bechard Interview**

v. Responsive documents are enclosed.

0045-0035

[2] Based upon available information, AstraZeneca is unable to determine whether or not this "Tewksbury" location refers to the Site.

w. Upon reasonable review, AstraZeneca is without responsive information except as provided below:

i. Facility wastewater consisted primarily of tank washings, rinse-downs and laboratory effluent.

ii. Relevant Period.

iii. AstraZeneca is without responsive knowledge.

iv. From approximately 1967 until approximately 1991, wastewater was discharged to the local POTW via a pumping station owned and operated by Textron Defense Systems, as successor to Avco. During this time, settling basins and sumps may have been used to collect wastewater. The basin may have been cleaned out annually. In or about 1991, the Facility commenced operation of a pretreatment facility. This facility was used to adjust pH and biologically treat plant and laboratory effluent to remove toxic organics. Pretreatment sludge was disposed of at a regulated landfill. **Bechard Interview; Massachusetts Water Resources Authority/Town of Wilmington Revised Sewer Use Discharge Permit # 40 004 688-0 (hereafter "MWRA Sewer Use Discharge Permit"); Letter to Carl G. Buzawa, Textron Defense Systems from William Blagbrough, ICI Resins US, May 7, 1990.**

v. See response to Question 4 (w)(iv).

x. Town of Wilmington sewer system/Massachusetts Water Resources Authority. **MWRA Sewer Use Discharge Permit**.

y. See Waste Survey and Responses to Question 2(h); 3 (b); 4 (f); and 4 (w). Upon reasonable review, AstraZeneca is without additional responsive knowledge.

z. See response to Question 2 (h). Upon reasonable review, AstraZeneca is without additional responsive knowledge.

aa. Upon reasonable review, AstraZeneca is without responsive knowledge.

bb. AstraZeneca is without additional responsive knowledge.

5. Respondent's Environmental Reporting **Saco Response; Bechard Interview; Interview with Richard Alsterberg; MWRA Sewer Use Discharge Permit; DEQE Reports.**

0045-0036

a. MAD048269062

b. U.S. Environmental Protection Agency
Region I, JFK Federal Building
Boston, MA 02203

U.S. EPA
EPCRA Reporting Center
470 L'Enfant Plaza East
Suite 7103 SW
Washington, D.C. 20024

U.S. EPA
Effluent Guidelines Division WH-552
Washington, D.C. 20460

U.S. EPA
Office of Toxics Substances
Washington, D.C. 20460

c. Available information indicates that information was sent at sequences in compliance with applicable law.

d. Massachusetts DEP
Northeast Regional Office
5A Commonwealth Avenue
Woburn, MA 01801

Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue
Boston, MA 02129

Department of Public Safety
Office of Fire Marshal
Tewksbury, MA 01876

e. Available information indicates that information was sent at sequences in compliance with applicable law.

f. Clean Water Act – MWRA, EPA Region I and EPA HQ
EPCRA – EPA HQ, MA DEP
TSCA – EPA HQ
Clean Air Act – EPA Region I
RCRA – EPA Region I, MA DEP
MGL c. 21E (MA Superfund) – MA DEP

0045-0037

310 CMR 30 (MA RCRA) – MA DEP
310 CMA 7 (MA Air Regs) – MA DEP
527 CMR 9 (MA Underground Tank Program – State Fire Marshal)

g. See Response to Question 5 (h) above.

6. Respondent's Legal and Financial Status

a. 141[3]

b. The number of employees from the commencement of operations until the early 1980s grew from approximately 30 to 40 to approximately 150. This number may have declined during the 1980s. Upon reasonable review, AstraZeneca is not in possession of additional information responsive to this request.

c. Based upon information and belief, the history of Respondent can be summarized as follows: In December, 1984, ICI Americas acquired Respondent as part of its purchase of the stock of certain Beatrice Company subsidiaries. Respondent later became ICI Resins, a business unit of ICI Americas. ICI Resins later became known as Zeneca Resins, following a business reorganization and name change. In 1999, Zeneca Inc. sold its specialty chemicals business, including Zeneca Resins, to an entity that became known as Avecia Inc. and Zeneca Resins became known as NeoResins, a business unit of Avecia Inc.

- Polyvinyl Chemical (1956 to 1965)
- Polyvinyl Chemical Industries, a division of Beatrice Foods (1965 to February, 1985) (may have existed as part of Polyvinyl/Permuthane subsidiary by late 1984)
- Polyvinyl Chemicals Inc., a Delaware Corporation (1985-1987)(through ICI acquisition of Beatrice)(merged with Polyvinyl/Permuthane Co. in 1986)
- Polyvinyl Chemicals, a business unit of ICI Americas, Inc. (1987-1988)(through merger into ICI Americas Inc.)
- ICI Resins US, a business unit of ICI Americas, Inc. (1988-1993)(name change)
- Zeneca Resins, a business unit of Zeneca Inc. 1993 (1993-1999)(name change)
- NeoResins, a business unit of Avecia Inc. (1999 to present)

Affidavit of Robert C. Fredette, Director of Finance, ICI Resins, Oct. 27, 1988; Kurey Interview, General Counsel, Avecia Inc.

0045-0038

[3] This figure represents current employees at the NeoResins Wilmington facility. NeoResins also employs 25 individuals at its facility in Franklin, IN

d. ICI Americas' 1995 Annual Report (following acquisition of Beatrice subsidiaries), Zeneca Inc.'s 1998 Annual Report, and AstraZeneca's 1999 Annual Report are enclosed. AstraZeneca is without additional responsive knowledge with regard to Avecia Inc.

e. Not applicable

f. See Response to Question 6 (d). Uon information and belief, Respondent was originally established in 1956 and, as reflected in response to Question 6 (c) above, existed as business units of larger entities from 1965 thereafter. Respondent now exists as NeoResins, a business unit of Avecia Inc. AstraZeneca is without additional responsive knowledge regarding Avecia Inc.

g. Not applicable

h. Not applicable

i. See Response to Questions 1 (a) and 6 (c). Upon information and belief, the successor to Beatrice is ConAgra. Contact information is:

Thomas C. McGowan, Esq.
ConAgra
McGrath North
222 S. 15th St., Ste 1400
Omaha, NE 68102

j. See Response to Question 6 (c) and (i) above.

k. Not applicable

l. Transaction documents are described as follows: 0045-0039

- *Stock Purchase Agreement dated as of December 12, 1984 among Beatrice Companies, Inc. LA Acquisition Corporation and Imperial Chemical Industries, PLC*, amended February 27, 1985 by letter agreement. Transaction involved the acquisition from Beatrice Companies, Inc. of the capital shares of certain subsidiaries of Beatrice, including Polyvinyl Chemical Inc.

- *Asset Contribution Agreement dated as of December 27, 1992 between ICI Americas Inc. and ICI Chemicals Inc.* Transaction involved business reorganization/demerger that resulted in the name change of ICI Americas Inc. to Zeneca Inc.

- *Zeneca Ltd. and others and AstraZeneca and Iliad 6 Limited – Sale and Purchase Agreement relating to the Specialty Chemicals Businesses of*

Zeneca Limited – May 12, 1999. Transaction involved the sale of the specialty chemicals business of Zeneca Inc. to what is now known as Avecia Inc.

m. Not Applicable

n. Not Applicable

7. Information about others

a. Not applicable.

b. Not applicable. The nature of their responsibilities while employed by Respondent is provided above.

c. Not applicable.

8. Compliance with this Request

i - iv Maurice Bechard; Steven Osoff, Greg Kurey, Richard Alsterberg. AstraZeneca has made a good faith, yet unsuccessful efforts to contact Mr. Kennedy, Mr. Tynan and Mr. Potash. See Response to Questions 1 (a) and 4 (a).

v. Not Applicable

vi. Historical facility documents that remain in the possession or control of AstraZeneca.

vii. Iron Mountain Records Management Company in Wilmington, Delaware or AstraZeneca Environmental Law fileroom.

viii. Same as above.

The following form of declaration must accompany all information submitted by the Respondent in response to the Information Request:

DECLARATION

I declare under penalty of perjury that I am authorized to respond on behalf of

AstraZeneca Pharmaceuticals LP and that the foregoing is complete, true, and correct.

~~Respondent~~ Answering with regard to Polyvinyl Chemical Inc.

Executed on Apr. 16, 2001

Signature

Glenn Engelmann

Type Name

General Counsel, AZPLP

Title [if any]

696044
#2

ZENECA

ZENECA Inc.
Environmental Law Department
Wilmington
Delaware, 19897

Telephone (302) 886-3000
Fax (302) 886-2952

February 15, 1994

Donna T. Murray
U.S. Environmental Protection Agency
P.O. Box 180
Lowell, MA 01853-0180

Re: Saco Landfill Superfund Site

Dear Ms. Murray:

This letter responds to USEPA's request for information letter dated December 22, 1993, relative to the Saco Landfill Superfund Site ("Site"), that was submitted to Polyvinyl Chemical Industries c/o ZENECA Resins. This response is submitted by ZENECA Inc. on behalf of Polyvinyl Chemical Industries ("Polyvinyl"). By way of background, Polyvinyl was acquired by an affiliate of ICI Americas Inc. on December 12, 1984, after the time period for which USEPA is investigating. In late 1993, ICI Americas Inc. changed its name to ZENECA Inc.

This response is submitted on or before February 15, 1994, in accordance with the extension of time to respond granted by Lloyd Selbst. This response is based on currently available information and investigation to date. It is not intended to be, and should not be construed as, an admission of liability on the part of Polyvinyl or any other entity.

To the extent that the letter requests information that is overly broad, overly burdensome, speculative, or outside EPA's authority under CERCLA Section 104(e), Polyvinyl believes such requests go beyond the reasonable obligations of Polyvinyl and, on that basis, objects to such requests. Without waiving said objection, Polyvinyl responds to the specific requests for information as follows:

1. a. Polyvinyl Chemical Industries c/o ZENECA Inc.
1800 Concord Pike
Wilmington, DE 19897

b. Marjorie J. Lee
Senior Paralegal
ZENECA Inc.
1800 Concord Pike
Wilmington, DE 19897
(302) 886-7985
(302) 886-2952 (fax)

c. See response to 1.b. above.

ENV - 46804

d. 730 Main Street
Wilmington, MA 01887

e. Polyvinyl conducted business at 730 Main Street, Wilmington, Massachusetts ("730 Main Street") beginning in 1965. See response to 2.c. below.

f. Manufacture of specialty polymers for coating applications.

g. The SIC code for the Polyvinyl facility at 730 Main Street is 2821.

h. Manufacture of specialty polymers for coating applications.

i. Not applicable.

j. Not applicable.

k. Not applicable.

l. Cannons Engineering Corporation Site
Solvents Recovery Service of New England

2. a. The current number of full-time employees at 730 Main Street is approximately 182.

b. The number of employees at 730 Main Street for the period being investigated is estimated to be 119.

c. i&ii. Polyvinyl Chemical Industries, a division of Beatrice Foods Company, during period being investigated until 1985
Polyvinyl Chemicals Inc. 1985-1986
Polyvinyl Chemicals, a business unit of ICI Americas Inc. 1987-1988
ICI Resins US, a business unit of ICI Americas Inc. 1988-1993
ZENECA Resins 1993, a business unit of ZENECA Inc.

d. i. 1956
ii. Delaware

e. Not applicable.

f. Not applicable.

g. i. Polyvinyl was a subsidiary of Beatrice Chemical, Inc.
ii. Date of incorporation until transaction described below in response to 2.j.
iii. 100%
iv. Beatrice Chemical, Inc. was a subsidiary of Beatrice Companies, Inc. The address for these entities is Two North LaSalle Street, Chicago, Illinois 60602. Any

ENV - 46805

0045-0043

other affiliated entities are not relevant to these requests for information.

h. See response to 2.g. above.

i. Not applicable.

j. i. Stock Purchase Agreement dated as of December 12, 1984, among Beatrice Companies, Inc., LA Acquisition Corporation, and Imperial Chemical Industries' PLC; amended February 27, 1985 by letter agreement.
ii. Imperial Chemical Industries PLC acquired specialty chemicals companies from Beatrice Companies, Inc.
iii. Stock purchase transaction.

k. Not applicable.

l. Not applicable.

3. a. Polyvinyl has no information concerning the operation of the Site, or materials which may have been placed/disposed at the Site by any party.

b. Polyvinyl does not believe that there may be other people able to provide more detailed or more complete responses to these information requests.

c. Polyvinyl has not identified any persons who have knowledge or information concerning generation use, purchase, treatment, storage, disposal, placement, or other handling of materials at, or transportation to, the Site.

4. a. i.-iv. Listed below are the individuals contacted by me and consulted in the preparation of responses.

Maurice Bechard
730 Main Street
Wilmington, MA 01887
(508) 658-6600
Current ZENECA Employee - Safety, Health & Environmental Manager since 1990

William Kennedy
730 Main Street
Wilmington, MA 01887
(508) 658-6600
Polyvinyl and ZENECA Employee - Current Manufacturing Technical Manager; Production Manager in late 1970's

ENV - 46806

0045-0044

Harold Thoma
REDACTED - PERSONAL PRIVACY

Former Polyvinyl and ICI Americas Inc. Employee
Purchasing Manager in late 1970s (retirement in 1990)

James Tynan
REDACTED - PERSONAL PRIVACY

Former Polyvinyl and ICI Americas Inc. Employee - Safety, Health & Environmental Manager (mid-1970's - retirement in 1990)

Walter Wilson
19 Lukens Drive
New Castle, DE 19720
ZENECA Employee - Current Corporate Records Center Administrator

v. Polyvinyl and ZENECA Resins.
vi. Plant records and corporate records were reviewed.
vii. 730 Main Street, Wilmington, Massachusetts ZENECA corporate headquarters and ZENECA Records Center in Wilmington, Delaware.
viii. See response to 4.a.vii. above.

5. a. i. 1965 to present.
ii. Emulsion, suspension, and solution polymerization.

b. Not applicable.

c. Specialty polymers.

d. Types of raw materials included acrylic monomers, styrenes, isocyanates, polyols, solvents, amines, organic peroxides, inorganic persulfates, and surfactants.

e. None have been located for the period being investigated.

f. i. Materials used to clean/maintain equipment included solvents, high pressure water, and caustic soda solutions.

ii. Polyvinyl is unable to determine quantity of materials used.

g. i. Polyvinyl is unable to identify any materials spilled during the period investigated.
ii. See response to 5.g.i.
iii. See response to 5.g.i.
iv. See response to 5.g.i.

h. None have been located for the period being investigated.

ENV - 46807

0045-0045

6. a. See attached Waste Survey.
b.

i. See attached Waste Survey, and enclosed documents.
ii. See attached Waste Survey, and enclosed documents.
iii. Waste would have been white.
iv. Waste would have been odorless.
v. See attached Waste Survey, and enclosed documents.
vi. See attached Waste Survey, and enclosed documents.

c. None have been located for the period being investigated.

d. William Kennedy. See response to 4.a..

e. i. Fiber drums and steel drums
ii. Drums were stored on asphalt area on-site.

7. a. Maurice Bechard, William Kennedy, Harold Thoma and James Tynan. See response to 4.a.

b. See above.

c. See response to 7.a.

d. i.-v. See response to 4.a.
vi. They have or have had knowledge of disposal/treatment/storage/recycling/sale of Polyvinyl's waste.

e. i. Containers included fiber and steel drums.
ii. Fiber drums were tan. Steel drums were painted black.
iii. None.
iv. White labels with blue printing contained company name.
v. Some steel drums were used and were purchased from reconditioner and triple rinsed before use by Polyvinyl.

f. Polyvinyl has not located contracts or agreements for disposal, treatment, or recycling of waste during the period being investigated. With respect to arrangements for disposal, treatment or recycling of waste, see enclosed documents.

g. See enclosed documents.

h. According to enclosed documents, wastes were sent to Cannons Engineering, Bridgewater, Massachusetts; Chem-Waste, Inc., Londonderry, New Hampshire; The Liquidator Inc., Dorchester, Massachusetts, and Tewksbury, Massachusetts.

i. Cannons Engineering Corporation, Chem-Waste Inc., and The Liquidator Inc., Recycling Industries and Canelas.

j. Not applicable.

ENV - 46808

0045-0046

k. See response to 7.h.

l. According to the documents, Cannons Engineering Corporation picked up pumpable material on a monthly basis during part of 1978. Chem-Waste Inc. made approximately ten pickups in 1979. The Liquidator Inc. made 3 pickups. Polyvinyl does not have current information as to how many pickups were made by Canelas and Recycling Industries.

m. With the exception of pickups by Canelas and Recycling Industries, the enclosed documents provide volumes for carriers identified in 7.e. above. Polyvinyl does not have current information regarding the volume picked up by Canelas and Recycling Industries.

n. According to the enclosed documents, Cannons Engineering Corporation removed liquid wastes from August to November 1978. Chem-Waste Inc. picked up primarily latex and other non-solvent chemical wastes from August through October 1979. Canelas picked up such waste in 1979. The Liquidators Inc. picked up used solvents in late 1978 and early 1979. Recycling Industries picked up pumpable materials from January to February 1979.

o. See enclosed documents.

p. i. Documents indicate that tanker trucks and flatbeds were used.
ii.-iii. Polyvinyl has no current information.

q. The only available information available is contained in the enclosed documents.

r. See response to 7.h.

s. i. Purchase orders.
ii. Purchase orders.
iii. The only information available is the names contained in the enclosed documents. Contacts at Chem-Waste Inc. included Richard French and Rick Brodie.
iv. The only information available is contained in the enclosed documents.
v. D. Nickerson.
vi. The only information available is contained in the enclosed documents.

t. Enclosed documents indicate that the selection of waste disposal sites was made by waste haulers.

u. i.-v. Polyvinyl has no current information.

ENV - 46809

0045-0047

v. The facility was connected to the Town of Wilmington sewer system.

w. Not applicable.

x. Upon information and belief, Polyvinyl has no knowledge that its waste was taken to the Site.

y.
i. No.
ii. Yes. See enclosed documents for available information and responses to 7(k)-(n).
iii. Polyvinyl may have done business with John Tinkham in connection with Chem. Waste Inc. See enclosed documents.
iv. No.
v. Yes. See enclosed documents for available information and responses to 7(k)-(n).

8. a. MAD048269062.

b. U.S. Environmental Protection Agency
Region I, JFK Federal Building
Boston, MA 02203
1982, 1992

U.S. EPA
EPCRA Reporting Center
470 L'Enfant Plaza East
Suite 7103 SW
Washington, D.C. 20024
1987, 1988, 1989, 1990, 1991, 1992, 1993

U.S. EPA
Effluent Guidelines Division WH-552
Washington, D.C. 20460
1984

U.S. EPA
TSCA
Washington, D.C. 20460
1994

c. See response to 8.b. above.

d. Massachusetts DEP
Northeast Regional office
5A Commonwealth Avenue
Woburn, MA 01801

Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue
Boston, MA 02129

ENV - 46810

0045-0048

Department of Public Safety
Office of Fire Marshal
Tewksbury, MA 01876

e. Information provided to offices listed under 8.d. was provided after the period being investigated.

f. Clean Water Act - MWRA, EPA Region I and EPA HQ
EPCRA - EPA HQ, MA DEP
TSCA - EPA HQ
Clean Air Act - EPA Region I
RCRA - EPA Region I, MA DEP
MGL c. 21E (MA Superfund) - MA DEP
310 CMR 30 (MA RCRA) - MA DEP
310 CMA 7 (MA Air Regs) - MA DEP
527 CMR 9 (MA Underground Tank Pgm - State Fire Marshal)

g. See responses to 8.b. and 8.d. above for addresses.

Please contact me if you have any questions.

Very truly yours,

Marjorie J. Lee

Marjorie J. Lee
Senior Paralegal

MJL/bmr
Attachment

01259401.kdc

ENV - 46811

0045-0049

DECLARATION

I declare under penalty of perjury that I am authorized to respond on behalf of Polyvinyl Chemical Industries (Respondent) and that the foregoing is complete, true, and correct.

Executed on February 15, 1994

Marjorie J. Lee
Signature

Marjorie J. Lee
Type Name

Senior Paralegal, ZENECA, Inc.
Title [if any]

ENV - 46812

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I

Information Request Waste Survey

Name of Respondent: Polyvinyl Chemical Industries Respondent's Location: 730 Main Street Wilmington, MA Date: 2/15/94

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
Acids				
Adhesives				
Asbestos				
Adsorbents (from spills, leaks, etc.)				
Automotive Related Wastes:				
Antifreeze				
Batteries				
Brake Fluids				
Degreasers				
Lubricants				
Oils				
Oil Filters				
Transmission fluids				
other:				

ENV - 46813
0045-0051

	Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
	Batteries				
	Bleaches				
	Caustics/Alkalis				
✓	Chemicals	solid/55 gal. drums	coag, raw material bags/coagulated latex	Cannot estimate: see documents	Landfill - Tewksbury Chem-Waste Inc. (1979)
	Cleaning compounds or fluids				
	Coolants				
	Degreasers				
	Disinfectants				
	Distillation Byproducts (Still Bottoms)				
	Dyes				
	Etching Solutions				
✓	Filters	filters and filter bags/ 55 gal. drums	–	Cannot estimate: see documents	Landfill: Chem-Waste Inc. (1979)
	Flammable, Reactive, or Explosive Materials				
	Fungicides				
	Herbicides				
	Insecticides				

ENV - 46814

0045-0052

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
Insulating/Fire Proofing Materials				
Laboratory Wastes	liquid / drums	no current information	cannot estimate: see documents	Landfill: Chem-Waste Inc. (19[illegible])
Lubricants				
Metals:				
grindings				
powders				
shavings				
sludges				
solutions				
other:				
Paint and Coating Wastes:				
paint				
pigments				
stripper				
stains				
thinner				
turpentine				
varnish				

ENV - 46815

0045-0053

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
other:				
PCBs (polychlorinated biphenyls)				
Pesticides				
Photocopying Wastes:				
toners				
other:				
Photography Wastes:				
developers				
fixers				
other:				
Plating Solutions				
Pretreatment Sludges/Solutions (sewage)				
Printing Wastes:				
inks				
dyes				
other:				

ENV - 46816

0045-0054

Substance	Physical State when Disposed/Type of Container (e.g. Liquid/5 gal pails, Sludge/55 gal drums, Solid/directly in dumpster.)	Trade Name/Chemical Composition (e.g. Nitric acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (per month)	Disposal Method and Location (year) (e.g. dumpster('55-68), [Name] Landfill('69-81), [Name] Solvent Reclaimer('82-'91).
✓ Rags, Used (Indicate prior use)	drums	no current information	Cannot estimate	Landfill, Tewksbury, Chem-Waste Inc. (1979)
Rodenticides				
Septic System Wastes				
Sludges				
Soldering Solutions				
✓ Solutions of Polymers, resins, plastics	liquid/solid 55 gal. drums	See documents regarding specific shipments	Cannot estimate: see documents	Cannons Engineering Corp. (19[illegible]8) Chem-Waste Inc. (1979)
Solvent Extracts				
✓ Solvents	bulk containers 55 gal. drums	no current information	Cannot estimate: See documents	Incineration Cannons Engineering Corp. (19[illegible]) The Liquidation Inc. (1978-1979)
Waste Oils	55 gal. drums	—	Cannot estimate: See documents	Cannons Engineering Corp. (1978)
Wood Preservatives				
Other:				

ENV - 46817

0045-0055

616044 #1

cc: IS, WJK HJT, JO, DJG, HCW

Meeting Summary

Liquidators, Inc. Case

November 14, 1979
by Max Potash

This is to summarize for the record the various conversations and discussions held among Beatrice/Stahl/Beatrice Chemical personnel and the attorneys who had been called in to deal with the Grand Jury subpoena which had been served on Stahl.

The meetings were instigated by a subpoena sent to the "keeper of the records" at Stahl Finish in Peabody requesting them to appear on 11-15-79 and bring all records relating to dealings with the Liquidator company. Joe Ossoff had called Paul Shaw, Assistant Attorney General, on 11-6-79 and told him that any drums which were found on the Liquidator premises carrying a Stahl-United marking were completely outside the knowledge of anyone at Stahl, that Stahl had never done any business with Liquidator (or Irving Greenberg) and, in fact, they had not sold under the Stahl-United label for many years. Shaw heard this but still wanted someone from Stahl to appear before the Grand Jury. Ossoff had called Doug Stanard, who felt that an attorney from Chicago should get involved in order to be sure Beatrice Foods was adequately protected, and he arranged to sent Dwayne Kelly from Winston-Strawn to discuss the situation with Ossoff prior to the Grand Jury hearing. In the meantime, in the course of the discussions on some other matters, Joe asked M. Potash if he knew anything about Liquidators, and I told him we sure did, and the drums with the Stahl-United and Permuthane markings which had received wide publicity in the newspapers and television media were drums we had given to Liquidators for disposal in March 1979.

In a discussion with Don Grace it was decided that it would be more effective to have the matter handled by local counsel rather than by attorneys from Chicago, because local people would be more familiar with Massachusetts law and more importantly, with Massachusetts state legal people. I called Noel Pasternak of Burns and Levinson who said that they could handle this kind of a case, and he suggested that it would be advisable to discuss the matter in detail with Tom Peisch and Stan Wallerstein of their firm. Peisch apparently specializes in criminal law and Wallerstein was said to be very knowledgeable in environmental law, having served in Michael Harrington's office for six years (1970-76). I arranged for Peisch and Wallerstein to come out to Wilmington on 11-13-79 and meet with M. Potash, D. Grace, I. Swartz, H. Thoma and W. Kennedy.

We brought up to them our dealings with Liquidator, which commenced in December 1978. During December '78 on three different dates we sent them approximately 80-90 drums (55 gal. drums) each time for a total of 256 drums. These were properly disposed of to the best of our knowledge, and we had "Certificates of Disposal" from Chem-Waste Company, to whom Liquidators had conveyed the material

(more)

for final disposal. We also had a copy of the Log Sheet which Chem-Waste had furnished to the State of Massachusetts certifying that the material had been disposed of. On two days in January we had given to Liquidators a total of 165 drums for disposal. Almost all the material in this shipment, as well as the previous shipments, were primarily polyurethane systems, generally already gelled and useless. We had a Certificate of Disposal for this material, as well as a copy of the Log Sheet. We were fairly certain that all of this material had been disposed of, presumably by incineration, as we had stipulated before we arranged for the disposal.

Most of the problems apparently arrived with the shipment of 81 drums that we gave to Liquidators on March 14, 1979. We refused to pay their bill of March 30, 1979 because the Certificate of Disposal which accompanied the bill was made out by Liquidators, which made us suspicious, since we knew that Liquidators had no license for disposal but only for transport of hazardous wastes. Later, in the month of April, we learned that Liquidators was under investigation for handling hazardous wastes improperly, and H. Thoma in conversation with Liquidator personnel was told that "our" material was actually still on the Liquidator premises and had not been disposed of as previously alleged. These were the drums that were displayed in the media, and the subjects of several suspicious fires which had occurred in the interim. Peisch and Wallerstein were satisfied that Polyvinyl had consistently acted in a proper fashion and that the Attorney General's primary interest was getting some cooperation in prosecuting Mr. Greenberg. Peisch proposed to talk to Assistant A.G. Shaw to get his assurance that Stahl was not a target, and explain to him if he was so assured that actually Stahl had no knowledge of anything which had transpired at Liquidators, but a sister company (PCI) had done business with Liquidators and could furnish appropriate records concerning such business. Peisch felt that by offering such cooperation it might be possible to avoid any appearance before the Grand Jury by Stahl or any other Beatrice people.

On 11-14-79 Dwayne Kelly arrived in Wilmington. It was impossible to abort his visit as he was already enroute. We described to him what had transpired and what action we thought was appropriate, and he concurred with the strategy for working with the A.G.'s office. Later in the day Peisch reported that he had spoken with the A.G.'s office. They told him that they were aware of Polyvinyl dealings with Liquidators, and in fact had tentatively scheduled an appearance for someone from PCI about two or three weeks later. He did accept Tom Peisch's account of the situation, and agreed that no appearance by any Stahl people would be necessary on 11-15-79.

Sometime after the Thanksgiving holidays he will be in touch with us (or Peisch) to make some arrangement for reviewing the records we have on hand and possibly to discuss any matters with some PCI personnel. He assured Peisch that no one at Stahl or Polyvinyl was any kind of target; they were only interested in possible prosecution of Mr. Greenberg for violation of the environmental and bankruptcy laws. We can expect a call on this matter within the next several weeks.

MP/akl

Max Botash

ENV - 46819

POLY' "YL CHEMICAL INDUST"'S

INTEROFFICE MEMO.

TO: Max Potash

FROM: Angela Leech

SUBJECT: Review of Liquidators File/History

cc: DHN
HJT
IS
WJK

DATE TYPED: March 4, 1980

DATE WRITTEN

As you requested, I have checked our file on Liquidators and submit the following review as pertinent to our dealings with them.

Polyvinyl Chemical Industries has received several requests for payment for disposal services allegedly performed on March 14, 1979 by The Liquidator Inc. The latest payment request came from Leonard M. Krulewich, who has been retained by the Trustee in Bankruptcy to collect remaining accounts receivable of Liquidators. We do not feel obligated to pay this $1,620, as it is our contention that the waste material picked up in that shipment was never properly disposed of as contracted for. Should we pay this bill, and might we somehow bill Liquidators for the costs incurred by being involved with them? A brief chronology follows.

Liquidators offerred their services to us in October '78, and in a discussion with our Purchasing Agent, Harold Thoma, said they would convey and dispose of all the liquid waste generated at our plant, that all material would be incinerated; and they sent a copy of their license. Over a three-month period from December '78 to March '79 we contracted with Liquidators to dispose of three shipments of waste material, approximately 80 drums (55 gallons each) in each shipment . With the first two shipments we were provided a Certificate of Disposal issued by Chem-Waste of Londonderry, New Hampshire. We paid for these shipments.

With the third and last shipment on March 14, a Certificate of Disposal was issued by Liquidators, signed by Irving Greenberg. A copy of the Monthly Report by Liquidators to the State Division of Water Pollution Control was also sent to us, but the section regarding "method of disposal" and "location of disposal" was left blank. This led to our questioning whether or not the waste material had actually been properly disposed of. Bill Kennedy, our Plant Manager, checked with Chem-Waste and found that they had not received our March 14 material from Liquidator. Harold Thoma spoke to Greenberg who admitted that the March 14 waste materials were still on Liquidators' premises.

(More)

Our files show that Liquidators has been involved in many skirmishes with State and city agencies. During the summer of '78 they were fined $120,000 for illegally dumping chemical waste in Randolph, Mass. and for storing waste on their Dorchester lot. In March of '79 the Attorney General's office sent Greenberg a letter ordering his business closed for violation of his hazardous waste license by stockpiling wastes in Dorchester. (One of the conditions for receiving a license from the State is that the license holder have proper disposal locations.) In April '79 Greenberg was served an order by the Boston Fire Department to remove the barrels from the lot. In June '79 the Boston Board of Health ordered Liquidators' business closed and locked. In August '79 the Boston Board of Health filed a complaint asking that barrels be removed from the area.

Finally, the Boston Board of Health contracted with two other disposal firms, SCA (Boston) and Interex (Natick) to have the Dorchester lot cleaned out by December '79 (believing it to be a danger to the neighborhood) and stated they would sue Liquidators, Penn Central (owner of the lot) and Gilflex (owners of the trailers) to recover cleanup costs. In November of '79 a Grand Jury was convened to investigate possible criminal wrongdoings by Liquidator under the "Clean Water Act and Hazardous Waste Act" of Massachusetts.

Greenberg and his attorney have claimed through the press that he held the material rather than dispose of it because there was no suitable place for disposal and, if a place could be found, it was too costly. He wants to force the State to come up with a suitable location. The Attorney General's office has responded in the press that Greenberg should have had a disposal site guaranteed before he contracted to pick up material from his customers. In fact, Liquidators' license was to transport to authorized disposal and recycling facilities. It was under this assumption that we agreed to do business with Liquidators.

In December '79 we were asked by the Attorney General's office to inspect drums in Lowell, Mass. which were found when an operation was uncovered involving dumping chemical waste into the sewer. We sent Bill Kennedy there, who reported that out of some 200 drums discovered in the former auto dealership garage, only 14 drums were actually Polyvinyl's waste. There were a number of drums with Polyvinyl markings, but these contained waste from others, having evidently been reused. We have been asked to provide documentation of all dealings with Liquidator, Chem-Waste and others for the Attorney General's probe of these companies. Bill Kennedy appeared before a Grand Jury in January '80. In all of these transactions we have spent valuable time in addition to the management time spent in consultation with lawyers as we sought answers to questions raised about ownership, liability, discharge of responsibilities, etc.

If Liquidator somehow tries to sue Polyvinyl for this fee of $1,620, might we consider counter-suing for the costs to us arising from our dealings with a company who misrepresented themselves to us?

Angela Leech

ENV - 46829

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

ZENECA
OCT 28 1994
ENVIRONMENTAL LAW DEPT.

URGENT LEGAL MATTER -- PROMPT REPLY NECESSARY
CERTIFIED MAIL: RETURN RECEIPT REQUESTED

October 21, 1994

Marjorie A. Lee
Senior Paralegal
Polyvinyl Chemical Industries
c/o Zeneca Resins, Inc.
1800 Concord Pike
Wilmington, DE 19897

Re: Notice of Potential Liability at the Saco Municipal Landfill Superfund Site in Saco, Maine, hereafter referred to as the "Site"

Dear Ms. Lee:

This letter serves to notify you of the potential liability which your company has or may have incurred with respect to the above-referenced Site, and to request your voluntary participation in undertaking cleanup activities at the Site.

NOTICE OF POTENTIAL LIABILITY AND REQUEST FOR PARTICIPATION IN CLEANUP ACTIVITIES

The United States Environmental Protection Agency (EPA) has documented the release and threatened release of hazardous substances, pollutants and contaminants at the above referenced Site. EPA has spent and is considering spending public funds on actions to investigate and control such releases or threatened releases at the Site. Unless EPA reaches an agreement under which a responsible party or parties will properly perform or finance such actions, EPA will itself perform these actions pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 *et seq*. (CERCLA).

Under Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. § 9606(a) and § 9607(a); Section 7003 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6973 (RCRA), and other laws, responsible parties may be obligated to implement relief actions deemed necessary by EPA to protect the public health, welfare or environment and may be liable for all costs incurred by the government in responding to any release or threatened release at the Site. Such costs may include, but are not limited to, expenditures for investigation, planning, cleanup response, and enforcement activities. In addition, potentially responsible

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parties may be requested to pay damages for injury to, destruction of, or loss of natural resources, including the costs to assess such damages.

Responsible parties under CERCLA include persons who are current or former owners and/or operators of a site, persons who arranged for disposal of hazardous substances found at a site, or persons who accepted hazardous substances for transport to a site selected by such persons.

EPA has evaluated a large body of evidence in connection with its investigation of the Site, including site business records, state records, information obtained pursuant to Section 104(e) information requests, and extensive interviews of witnesses.

Based on evidence that has been gathered, EPA has information indicating that you are a potentially responsible party (PRP) with respect to this Site. Specifically, EPA has reason to believe that you arranged by contract, agreement or otherwise for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances found at the Site. By this letter, EPA notifies you of your potential liability with regard to this matter and encourages you, as a potentially responsible party, to reimburse EPA for the costs incurred to date and to voluntarily perform or finance the response activities described below that EPA has determined will be required at this Site.

DEMAND FOR PAYMENT OF COSTS INCURRED TO DATE

In accordance with CERCLA and other authorities, EPA has already undertaken certain actions and incurred costs in response to conditions at the Site amounting to approximately $1,148,287. Response actions have consisted of Site assessment activities, including the sampling and monitoring of ground water, surface water, and sediments, the installation of wells at the Site, seismic and electromagnetic surveys, as well as other activities. The Agency anticipates expending additional funds for response activities at the Site under the authority of CERCLA and other laws, including those response activities described below. In accordance with Section 107(a)(4)(D) of CERCLA, demand is hereby made for payment of the above amount plus any and all interest authorized to be recovered under that Section or under any other provisions of law. Demand is also hereby made under these authorities for payment of interest on all future costs that EPA may accrue in regard to the Site. In the event of bankruptcy, EPA and the United States government should be included on any mailing or notice lists used in the proceeding.

ENV - 47029

0045-0061

FORTHCOMING RESPONSE ACTIVITIES AT THE SITE

EPA is planning to conduct the following studies in response to conditions at the Site:

1. Remedial Investigations to identify the local characteristics of the Site and to define the nature and extent of soil, air, surface water and ground water contamination at the Site; and

2. Feasibility Studies to evaluate the feasibility of possible remedial actions to remove or contain hazardous substances, pollutants, and contaminants at the Site;

3. Design and implementation of the remedial action selected and approved by EPA for the Site;

4. Operation, maintenance and monitoring necessary at the Site.

In addition to those enumerated above, EPA may, pursuant to its authorities under CERCLA and other laws, decide that other clean-up activities are necessary to protect public health, welfare or the environment.

SPECIAL NOTICE AND NEGOTIATION MORATORIUM

In early December, 1994, you will receive an additional notice informing you that one or more of the above activities are pending and that your cooperation is being requested to negotiate the terms of an agreement to perform or finance those activities.

This forthcoming notice will serve to inform you that EPA is using either the CERCLA Section 122(e) Special Notice procedures to formally negotiate the terms of a consent order or consent decree to conduct or finance site response activities at the Site or it will inform you that EPA is not using such procedures pursuant to Section 122(a). If EPA does not use Section 122(e) Special Notice procedures, the Section 122(a) notice will explain why the Special Notice procedures were not appropriate in this case. Under Section 122(e), EPA has the discretionary authority to invoke Special Notice procedures if EPA determines that such procedures would facilitate an agreement between EPA and the PRPs and would expedite remedial action at the Site. Use of the Special Notice procedure triggers a moratorium on certain EPA activities at the Site. The purpose of the moratorium is to provide a period of time when PRPs and EPA may enter into formal negotiations allowing PRPs the opportunity to conduct or finance the response activities at the Site.

ENV - 47030

0045-0062

INFORMATION RELEASE

EPA would like to encourage good faith negotiations between you and the Agency and among you and other parties potentially responsible for the Site. To assist responsible parties in preparing a proposal and in negotiating with EPA concerning this matter, EPA is providing the following information:

1. A list of the names and addresses of potentially responsible parties to whom this notification is being sent. This list represents EPA's preliminary findings on the identities of potentially responsible parties. Inclusion on or exclusion from the list does not constitute a final determination by the Agency concerning the liability of any party for the hazard or contamination at the Site. (Enclosure A)

2. A summary of the evidence linking each named PRP to this Site. This information may not constitute a complete survey of all evidence held by the EPA nor is it an apportionment or other statement by EPA on the divisibility of harm or causation in connection with the Site. In addition, these summaries shall not constitute an admission by the EPA and will not be admissible as evidence in any proceeding. (Enclosure B)

PRP STEERING COMMITTEE

EPA recommends that all PRPs meet to form a PRP steering committee which will function as a group representing and pursuing the interests of the PRPs. Establishing a manageable group is a critical component of the negotiation process.

To facilitate negotiations, EPA will conduct a meeting with responsible parties on **Thursday, November 3, 1994 at 1:00 p.m., at 90 Canal Street, Boston, Massachusetts**. At the meeting, EPA will detail the existing knowledge about conditions at the Site and describe the response activities that have been taken at the Site to date.

RESPONSE TO THIS LETTER

Please respond to EPA within seven (7) days of receipt of this letter indicating the appropriate name, address, and telephone number for further contact with you. If you are already involved in discussions with state or local authorities, engaged in voluntary clean-up action, or involved in a lawsuit regarding this Site, you should continue such activities as you see fit. This letter is not intended to advise you or direct you to restrict or discontinue any such activities; however, you are advised to report the status of those discussions or actions in

ENV - 47031

0045-0063

your response to this letter and to provide a copy of your response to any other parties involved in those discussions or actions. Your response letter should be sent to:

U.S. Environmental Protection Agency
Ronald Jennings
Waste Management Division
ME & VT Superfund Section
J.F. Kennedy Federal Building, (HPS)
Boston, MA 02203
Telephone: (617) 573-5794

If you have an attorney representing you in this matter, please direct his or her questions to Marcia J. Lamel of the EPA Office of Regional Counsel at (617) 565-3435.

The factual and legal discussions in this letter are intended solely to provide notice and information, and such discussions are not to be construed as a final agency position on any matter set forth herein. Due to the seriousness of the environmental and legal problems posed by conditions at the Site, EPA urges that immediate attention and a prompt response be given to this letter.

Sincerely,

Director, Waste Management Division

Enclosures

cc: Bruce Marshall, Chief, Superfund Enforcement Support Section
Ronald Jennings, EPA Remedial Project Manager
Marcia J. Lamel, Case Attorney, Office of Regional Counsel
Dennis Harnish, Office of Maine Attorney General
Larry Brown, Maine Remedial Project Manager
Andrew Raddant, Regional Environmental Officer, Department of the Interior
Michelle T. Dillione, Environmental Attorney, ZENECA

ENV - 47032

0045-0064

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

J.F. KENNEDY FEDERAL BUILDING, BOSTON MASSACHUSETTS 02203-2211

SACO MUNICIPAL LANDFILL SUPERFUND SITE
EVIDENTIARY SUMMARIES
OCTOBER 1994

PREPARED FOR SETTLEMENT DISCUSSIONS

ENV - 47033

0045-0065

SACO MUNICIPAL LANDFILL SUPERFUND SITE
EVIDENTIARY SUMMARY

Polyvinyl Chemical Industries
c/o Zeneca Resins, Inc.
1800 Concord Pike
Wilmington, DE 19897

Contact Person: Marjorie J. Lee, Senior Paralegal; Michelle T. Dillione, Environmental Attorney

PRP Class: Generator

Nature of Business: Manufacturer of specialty polymers for coating applications.

Polyvinyl Chemical Industries' ("Polyvinyl") connection to the Saco Municipal Landfill Site (the "Site") is through transactions Polyvinyl had with Chem-Waste, Inc. ("Chem-Waste") in 1979. There is evidence documenting the pick-up of 321 drums of hazardous waste from Polyvinyl Chemical by Chem-Waste in October 1979 and transport of those drums to Robert Stanwood in Saco, Maine. There is documentary evidence as well as the statements of several witnesses that Chem-Waste did business with Robert Stanwood.

Robert Stanwood lived and did business in Saco, Maine. For a number of years in the 1970s, Stanwood's business was the purchase and resale of drums, after emptying the contents. Several witnesses state that Stanwood disposed of drums and/or the contents of drums or barrels of hazardous substances at the Saco landfill, on a regular basis, throughout all or most of the 1970s, especially the period from 1976-1980.

In early 1979, Stanwood started doing business with Chem-Waste. Chem-Waste paid Stanwood for the number of drums per week that he received from Chem-Waste. Stanwood used the Site to dispose of drums and/or their contents on a regular basis during the time he received shipments from Chem-Waste. A witness recalls that many of the barrels disposed of at the Site by Stanwood had diamond-shaped hazardous waste stickers or flammable, chlorine, corrosive, irritant and oxidizer labels on them. They contained liquids and sludges.

Documentation is provided to show:

1. Pick-up of drums of waste from Polyvinyl Chemical by Chem-Waste
2. Shipment of those drums to Saco, Maine
3. Receipt of the drum shipment by Robert Stanwood

Transactional Information:

Trans. No.	Date	Doc. No.	Type of Document
1	10/10 & 10/11/79	1-A	Trucker's pick-up record showing pick-up of drums from "Poly-vinyle" and "Poly-vinyle" to Maine
		1-B	Stanwood billing record for October 1979 showing receipt of 84 drums
		P-1	Polyvinyl drum summary from 104(e) response heade "Chem Waste" showing pick-up of 84 drums on 10/5
		P-2	Polyvinyl drum summary from 104(e) response showing pick-up of 84 drums on 10/5
2	10/16/79	2-A	Trucker's pick-up record showing pick-up of drums from "Poly vinyle"
		2-B	Stanwood billing record for October 1979 showing receipt of 89 drums on 10/16
		P-1	Polyvinyl drum summary from 104(e) response headed "Chem Waste" showing pick-up of 89 drums on 10/16
		P-2	Polyvinyl drum summary from 104(e) response showing pick-up of 89 drums on 10/16
3	10/17 & 10/19/79	3-A	Trucker's pick-up record showing pick-up of drums from "Poly vinyle" on 10/17 and "Poly vinyle" to Maine on 10/17 and 10/19
		3-B	Stanwood billing record for October 1979 showing receipt of 78 drums on 10/19
		P-1	Polyvinyl drum summary from 104(e) response headed "Chem Waste" showing pick-up of 78 drums on 10/17
		P-2	Polyvinyl drum summary from 104(e) showing pick-up of 78 drums on 10/17

Polyvinyl Evidentiary Summary
Page 3

Trans. No.	Date*	Doc. No.	Type of Document
4	10/23/79	4-A	Trucker's pick-up record showing pick-up of drums from "Polyvinle" with notation 5011
	11/01/79	4-B	Trucker's pick-up record showing "Polyvinyle to Maine 5011"
		4-C	Stanwood billing record dated Nov. 3, 1979 showing receipt of 70 drums on Nov. 1
		P-1	Polyvinyl drum summary from 104(e) response headed "Chem Waste" showing pick-up of 79 drums on 10/23
		P-2	Polyvinyl drum summary from 104(e) response showing pick-up of 79 drums on 10/23

Pd check # 2111
$2825.94
10/22

	10-9 Gloist. Load To Maine ✓	7.5	175	L?
	Pick-up ST Regis #5000	4.5	99	
	10-10 ST Regis To Maine (stopped on Route) ✓	15.5	341	
	P/u ~~[illegible]~~ #5001	3.0	66	
	10-11 Poly-vinyle To Maine ✓	6.5	175	?
	T-43 Millipore #5002	4.0	88	
	(1 hr. on 10-9 when not needed + fittings missing)			
	P/u Trailer N.H.	2.5	55	
	10-12 N.J Load #5003		735	
mack	P/u Inston #5004 } willy	3.0	54	
mack	P/u Millipore #5005 } willy	6.0	108	
mack	10-13 Trailer to Willys #5004 #5005	3.0	54	
mack	Bobtail Maine P/u Empty	6.0	108	
			2058	

Site Loads	03889	136
	02675	136
	02673	136
	02677	136
		544
		120
Last load T-41 Pulled		664

Saratoga Leasing	Change Tire on #166	20
	Load Locks	83.94
		103.94

SACO LANDFILL-FR
3007635

ENV - 47080 1-A

Stanwood & Son

-2-

#1137

SCRAP METAL DEALERS Telephone 282-2216 Jenkins Road, Saco, Maine 04072

Acct for October 1979:

	Balance Forward		$6743.00
			340
			330
Oct 1	✓68 Dr	[redacted] qlr	7413.00
	✓66 Dr	[redacted] tlr	[redacted]
	cash (check)		1000 —
			6413 —
			400 —
3	✓80 Dr	[redacted] tlr	475 —
	✓95 Dr	TRC 4052	7288
5	☆ 88 Dr	Gil Flex (Returned)	
			$375
8	✓75 Dr	[redacted] tlr	7663 — [redacted]
	check		1000
			6663
			380
9	✓76 Dr	TRC [redacted] tlr	7043
			247.50
10	✓99 30's @ 2.50		1.50
	✓30 55 @ 5 —		7440.50
			420 —
11	✓84 Dr		7860.50 [redacted]
	check		1200.00
			5860.50
			445.00
16	✓89 Dr		6305.50 [redacted]
	CK		1000 —
			5305.50
			390
19	✓78 Dr		5695.50
	cash from [redacted]		200 — [redacted]
			5495.50

(over)

1-B

ENV - 47081

0045-0070

To AAH from AKL 1/8/81

Chem Waste

10/17 78 dms Chem Waste non flam $2184

10/16 84 dms non flam. @28 $2492

10/23 79 dms ~~[illegible]~~ water ? waste

10/30 44 non flam - refunded
non haz

8/22 165 dms ~~[illegible]~~ sump slurry $3300

8/23 8/24 166 dms sump slurry 156 @ 20 $3120

8/30 78 d. solvent wst $1520

8/27 - 8/29 88 + 58 + 60 + 76 + 87 liq. wast $1560 $1740 $1760

10/3/79 76 dms liq wast sold later @28 $1960 $2128

10/5 - 84 dms. later wast Pd. @28 $2352

SACO LANDFILL
3018068

ENV - 47082

0045-0071

Summarized by [illegible] 1/13/81

Date of Pickup	# of Drums	$amount
8/22	165 drums Sump	3300
8/23 - 8/24	166 drums	3120
8/27 - 8/29	88	1760
	38+60	1960
	76	1520
	87	1740
8/30	78	1560
10/3	76	2128
10/5	84	2352
10/16	89	2492
10/17	78	2184
10/23	79	
10/30	44	

$24,116

(2212)

(?) Refunded.

$(1232) ~~$2212~~

$3444 to be paid (2)

ENV - 47083

P-2

SACO LANDFILL
3018067

0045-0072

pd ck # 104
10/29

10-15	Willy's N.H. To Woburn Drums		4.5	81
10-16	P/u ~~Polyvinyle~~ 5006		3.5	77
	P/u Millipore 5007 T-43		3.0	66
	P/u Dick's Machine Glouc.		6.5	143
10-17	Deliver Dicks Machine N.H.		3.0	66
	P/u Poly vinle 5008		3.0	66
	Poly vinle To Maine			175
	Millipore 5007 To Lowell		4.0	88
10-18	Millipore 5012		6.5	143
10-19	Poly vinle To Maine			175
				1050
	Nite Loads	0.2680	6500	130
		0.2678	6240	124.80
		0.681	6800	136
		0.2682	6768	135.36
		0.2683	6468	129.36
				655.52
				1735.52
				+ 2 wks disp.

RM 1735.52

ENV - 47084

SACO LANDFILL-FR
3007637

2-A

Stanwood & Son

-2-
#11379

SCRAP METAL DEALERS Telephone 282-2216 Jenkins Road, Saco, Maine 04072

Acct for October 1979:

Balance Forward $6743.00

Oct 1	✓68 Dr	[redacted] ylr	340
	✓66 Dr	[redacted] ylr	330
	cash (check)		7413.00 [redacted]
			1000 —
			6413 —
3	✓80 Dr	[redacted] ylr	400 —
	✓95 Dr	TRC 4052	475 —
			7288
5	☆ 88 Dr	Gil Flex (Returned.)	
8	✓75 Dr	[redacted] ylr	$375
	check		7663 — [redacted]
			1000
			6663
9	✓76 Dr	TRC [redacted] ylr	380
			7043
10	✓99	30's @ 2.50	247.50
	✓30	5's @ 5 —	1 50
			7440.50
11	✓84 Dr		420 —
	check		7860.50 [redacted]
			✓2000
			5860.50
⟷ 16	✓89 Dr		445.00
	CK		6305.50 [redacted]
			1000 —
			5305.50
19	✓78 Dr		390
	cash from [redacted]		5695.50 [redacted]
			200 ✓
			5495.50

(over)

ENV - 47085

2-B

0045-0074

To [illegible] from [illegible] 1/8/81

Chem Waste

10/17 78 dms Chem Waste non flam $2184

10/16 84 dms non flam. @28 $2492

10/23 79 dms ~~[illegible]~~ waste ? waste

10/30 44 non flam - refunded
non haz

8/22 165 dms ~~[illegible]~~ sump slurry $3300

8/23 8/24 166 dms sump slurry 156 @ 20 = $3120

8/30 78 d. solvent wst $1520

8/27 - 8/29 88 + 58 + 60 + 76 + 87 liq. waste $1560 $1740 $1760

10/3/79 76 dms liq waste solid lab @28 $1960 $2128

10/5 - 84 dms. Pd. @28 $2352

SACO LANDFILL
3018068

ENV - 47086

pd ck # 104
10/29

10-15	Willy's N.H. To Woburn Drums		4.5	81
10-16	P/u ~~Polyvinyle~~ 5006		3.5	77
	P/u Millipore 5007 T-43		3.0	66
	P/u Dick's Machine Glue.		6.5	143
10-17	Deliver Dicks Machine N.H.		3.0	66
	P/u Polyvinle 5008		3.0	66
	Polyvinle To Maine			175
	Millipore 5007 To Lowell		4.0	88
10-18	Millipore 5012		6.5	143
10-19	Polyvinle To Maine			175
				1050
	Nite Loads	0.2680	6500	130
		0.2678	6240	124.80
		0.681	6800	136
		0.2682	6768	135.36
		0.2683	6468	129.36
				655.52
				1735.52
				+ 2 wks disp.

Rm mend
$ 1735.52

ENV - 47087

SACO LANDFILL-FR
3007637

3-A

0045-0076

Summarized by [illegible] 1/13/81

Date of Pickup	# of Drums	$ amount
8/22	165 drums Sump	3300
8/23 - 8/24	166 drums	3120
8/27 - 8/29	88	1760
	38+60	1960
	76	1520
	87	1740
8/30	78	1560
10/3	76	2128
10/5	84	2352
10/16	89	2492
10/17	78	2184
10/23	79	
10/30	44	

(?) Refunded.

$24,116
(2212)
$(1232)
~~2212~~
$3444 to be paid (2)

ENV - 47088

SACO LANDFILL
3018067

D-7

Stanwood & Son

SCRAP METAL DEALERS Telephone 282-2216 Jenkins Road, Saco, Maine 04072

-2-

#113

Acct for October 1979:

	Balance Forward		$6743.00
Oct 1	✓68 Dr	[redacted]	340
	✓66 Dr	[redacted]	330
	cash (check)		7413.00
			1000 — [redacted]
			6413 —
3	✓80 Dr	[redacted]	400 —
	✓95 Dr	TRC 4052	475 —
			7288
5	☆ 88 Dr	Lil Flex (Returned)	
8	✓75 Dr	[redacted]	$375
	check		7663
			1000 — [redacted]
9	✓76 Dr	TRC [redacted]	6663
10	✓99 30's @ 2.50		380
	✓30 55 @ 5 —		7043
			247.50
			1.50
11	✓84 Dr		7440.50
	check		420 —
			7860.50
16	✓89 Dr		1000.00 [redacted]
			5860.50
	ck		445.00
19	✓78 Dr		6305.50
			1000 — [redacted]
	cash from [redacted]		5305.50
			390
			5695.50
			200 — [redacted]
			5495.50

3-B

ENV-47089

To [illegible] from [illegible] 1/8/81

Chem Waste

10/17 78 dms Chem Waste non flam $2184

10/16 84 dms non flam. @28 $2492

10/23 79 dms ~~[illegible]~~ water ? wast

10/30 44 non flam - refunded
non haz.

8/22 165 dms ~~[illegible]~~ sump slurry $3300

8/23
8/24 166 dms sump slurry 156 @ 20 = $3120

8/30 78 d. solvent wast $1520

8/27 - 8/29 88 + 58 + 60 + 76 + 87 liq. wast $1560 $1740 $1760 $1960

10/3/79 76 dms liq wast @28 $2128
solid latex

10/5 - 84 dms. Pd. @28 $2352
latex wast

SACO LANDFILL
3018068

ENV - 47090

0045-0079

Summarized by [illegible] 1/13/81

Date of Pickup	# of Drums	$ amount
8/22	165 drums Sump	3300
8/23 - 8/24	166 drums	3120
8/27 - 8/29	88	1760
	38+60	1960
	76	1520
	87	1740
8/30	78	1560
10/3	76	2128
10/5	84	2352
10/16	89	2492
10/17	78	2184
10/23	79	
10/30	44	

(?) Refunded.

$24,116
(2212)
$(1232)
~~$2212~~

{ $3444 to be paid (2)

ENV - 47091

P-2

SACO LANDFILL
3018067

0045-0080

TRC 4098

10-22	N.J Load To Maine 5003			NC
10-23	P/u Bemis Co. 5010		5.5	121
	P/u Polyvinle 5011		3.5	77
	P/u Millipore 5013		2.5	55
	P/u Eastcoast Pollut. 5009			800
10-24	Drop Millipore + Bemis		2.5	55
10-24	P/u Millipore 5015		6.0	132
10-25	N.J Load To Maine 5009			NC
10-26	P/u Eastcoast 5014			800
	P/u ST Regis 5016		4.0	88
				2128.—

Nite Loads

10-24	02685	6390
10-25	02687	5537
10-26	02691	6552
10-26	02690	6000
10-26	02689	6000
10-27	02693	6000
10-27	03890	6450

47600

42929

85858

93400 Diff.

100.00

Saratoga T-43

1 coil

5 hrs.

1898

ENV - 47092

SACO LANDFILL-FR
3007638
4-A

0045-0081

2809.16

Pd check # 123
11/3/79

10-28	5016 To Lowell	1.5	33
10-29	millipore 5017	5.5	121
10-30	P/U Polyvinle To 5018 Lowell	4.0	88
	P/U Empty Lowell	1.5	33
	Deliver EAST COAST 5014 To Low	1.5	33
	P/U Empty	1.5	33
10-31	millipore Bulk 5019	6.0	132
	P/U Empty Lowell	1.0	22
11-1	N.J Load 5020		800
	ST Regis 5021	3.5	77
	Polyvinle To Maine 5011		175
11-2	millipore Drums 5022	3.5	77
	Loader Rm 5022		30
	Switch 5022 To 5020		60
	ST. Regis To Maine 5021		175
11-3	5022 + 5020 To Maine		N.C.
	Nite Loads		1889
	10-29 03892 7500	150 -	
	10-29 03893 5800	116 -	
	10-30 03895 6408	128.16	
	10-30 03896 6400	128 -	
	10-30 03890 6550	131 -	
	10-31 05501 6550	131 -	
	11-1 05503 6800	136 -	
			920.16

SACO LANDFILL-FR
3007640

ENV - 47093

4-B

Stanwood & Son #11379

SCRAP METAL DEALERS Telephone 282-2216 Jenkins Road, Saco, Maine 04072

Nov 3, 1979

[redacted];

Enclosed is the list for this week:

Thurs: Nov 1

[redacted] Tractor
✓TRC 4052
70 Drums $350

[redacted] Tractor
STRICK Reefer
Clover Reg
RM 7583 $370
✓ 74 Drums

Fri Nov 2

[redacted] tractor
[redacted] trailer T-11
✓19 55 gal @ 5 297.50
✓81 30 gal @ 2.50

Sat Nov 3

[redacted] Tractor
Gil-Flex 3105
✓73 Dr @ 5 = $365 -

[redacted] tractor
TRC 4097
✓107 Dr @ $5 = $535 -

$1917.50

on Hec ÷ on 635.50

2553.00

A-C

ENV - 47094

[illegible] from [illegible] 1/8/81

Chem Waste

10/17 78 dms Chem Waste non flam $2184

10/16 84 dms non flam @28 $2492

10/23 79 dms ~~[illegible]~~ waste ? waste

10/30 44 non flam - refunded
non haz

8/22 165 dms ~~[illegible]~~ sump slurry $3300

8/~~23~~ 8/24 166 dms sump slurry 156 @ 20 $1520 $3120

8/30 78 d. solvent wst $1560

8/27 - 8/29 88 + 58 + 60 + 76 + 87 liq. waste $1740 $1760

10/3/79 76 dms liq waste @28 $1960 $2128

sold later

10/5 - 84 dms. Pd. @28 $2352
later waste

SACO LANDFILI
3018068

ENV - 47095

0045-0084

Summarized by [illegible] 1/13/81

Date of Pickup	# of Drums	$ amount
8/22	165 drums Sump	3300
8/23 - 8/24	166 drums	3120
8/27 - 8/29	88	1760
	38+60	1960
	76	1520
	87	1740
8/30	78	1560
10/3	76	2128
10/5	84	2352
10/16	89	2492
10/17	78	2184
10/23	79	
10/30	44	

(?) Refunded.

$24,116
(2212)
$(1232) ~~2212~~
$3444 to be paid (2)

ENV - 47096

P-2

SACO LANDFILL
3018067

0045-0085

THIS FORM REPLACES PREVIOUS FORM 3510-6 (8-92)
See Reverse for Instructions

Form Approved. OMB No. 2040-0086
Approval expires: 8-31-96

United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial Activity Under a NPDES General Permit

Submission of this Notice of Intent constitutes notice that the party identified in Section II of this form intends to be authorized by a NPDES permit issued for storm water discharges associated with industrial activity in the State identified in Section III of this form. Becoming a permittee obliges such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM

I. Permit Selection: You must indicate the NPDES Storm Water general permit under which you are applying for coverage. Check one of these.

Baseline Industrial [ ] Baseline Construction [ ] Multi-Sector (Group Permit) [X]

II. Facility Operator Information

Name: ZSC Inc Phone: 9786586600

Address: 730 Main St Status of Owner/Operator: P

City: Wilmington State: MA ZIP Code: 01887-3386

III. Facility/Site Location

Name: ZSC Inc Is the facility located on Indian Lands? (Y or N) N

Address: 730 Main St

City: Wilmington State: MA ZIP Code: 01887-3386

Latitude: 42320 Longitude: 071100 Quarter: Section: Township: Range:

IV. Site Activity Information

MS4 Operator Name: NA

Receiving Water Body: Maple Meadow Brook

If you are filing as a co-permittee, enter storm water general permit number:

SIC or Designated Activity Code: Primary: 2821 2nd: NA

Is the facility required to submit monitoring data? (1, 2, 3, or 4) [ ]

If You Have Another Existing NPDES Permit, Enter Permit Number: MAR0SA626
(Permits of Facility Seller) MAG25902

Multi-Sector Permit Applicants Only:

Based on the instructions provided in Addendum H of the Multi-Sector permit, are species identified in Addendum H in proximity to the storm water discharges to be covered under this permit, or the areas of BMP construction to control those storm water discharges? (Y or N) N

Will construction (land disturbing activities) be conducted for storm water controls? (Y or N) N

Is applicant subject to and in compliance with a written historic preservation agreement? (Y or N) N

V. Additional Information Required for Construction Activities Only

Project Start Date: NA Completion Date: NA Estimated Area to be Disturbed (in Acres): NA

Is the Storm Water Pollution Prevention Plan in compliance with State and/or Local sediment and erosion plans? (Y or N) N/

VI. Certification: The certification statement in Box 1 applies to all applicants.
The certification statement in Box 2 applies only to facilities applying for the Multi-Sector storm water general permit.

BOX 1

ALL APPLICANTS:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BOX 2

MULTI-SECTOR STORM WATER GENERAL PERMIT APPLICANTS ONLY:

I certify under penalty of law that I have read and understand the Part I.B. eligibility requirements for coverage under the Multi-Sector storm water general permit, including those requirements relating to the protection of species identified in Addendum H.

To the best of my knowledge, the discharges covered under this permit, and construction of BMPs to control storm water run-off, are not likely to and will not likely adversely effect any species identified in Addendum H of the Multi-Sector storm water general permit or are otherwise eligible for coverage due to previous authorization under the Endangered Species Act

To the best of my knowledge, I further certify that such discharges, and construction of BMPs to control storm water run-off, do not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage due to a previous agreement under the National Historic Preservation Act.

I understand that continued coverage under the Multi-Sector general permit is contingent upon maintaining eligibility as provided for in Part I.B.

Print Name: WARREN A SCOTT Date: 06/24/99

Signature:

EPA Form 3510-6 (8-98)

cc: JAK, MJB, WJK

Executive Office of Environmental Affairs
Department of Environmental Protection
Metro Boston/Northeast Regional Office

William F. Weld
Governor
Daniel S. Greenbaum
Commissioner

OCT - 5 1992

Mr. Uday Wagle
ICI Resins US
730 Main Street
Wilmington, Massachusetts 01887-0677

RE: Recycling Permit NE-92-080
Transmittal # 32000

Dear Mr. Wagle:

Enclosed please find a Class A recycling permit issued to: ICI Resins US, 730 Main Street, Wilmington, Massachusetts, which authorizes the management of regulated recyclable materials. This permit is issued pursuant to G.L. c. 21C and 310 CMR 30.200.

Please read this document carefully as it stipulates the particular activity for which this permit is issued as well as the general and specific conditions governing that activity.

Please note that all future correspondence should be directed to the Northeast Regional Office of the Department of Environmental Protection. Should you have any questions, please contact Martha Bolis at (617) 727-5194.

Very truly yours,

E. H. MacDonald

Edward H. MacDonald
Regional Engineer
for Waste Prevention

EHM/mjb

cc: DEP, Division of Hazardous Waste, One Winter St., Boston, MA 02108 - Attn: Steve Bergstrom
Fire Headquarters, 32 Church Street, Wilmington, MA 01887
Board of Health, 121 Glen Road, Wilmington, MA 01887
NERO, DEP - Kevin Mahoney

10 Commerce Way • Woburn, Massachusetts 01801 • FAX (617) 935-6393 • Telephone (617) 935-2160

ENV - 30106

0045-0087

GENERAL CONDITIONS OF RECYCLING PERMIT

1. The permittee shall have all equipment installed in accordance with all applicable federal, state and local regulations. The equipment site must have proper fire and explosion protection features, must have proper ventilation and provide easy access to all significant parts of the equipment.

2. The permittee shall install, operate and maintain recycling equipment in accordance with all recommendations provided by the manufacturer.

3. Permittee shall not alter the recycling device.

4. Permittee shall not allow materials to be introduced into the recycling device, other than those which have been specifically enumerated by the manufacturers or that would result in inadequate performance of the device.

5. The permittee shall satisfy all applicable conditions of 30.200. They include but are not limited to the following:

   a. Duty to Comply. The permittee shall comply at all times with the terms and conditions of the permit, 310 CMR 30.000, MGL c. 21C, MGL c. 21E, and all other applicable state and federal statutes and regulations.

   b. Duty to Maintain. The permittee shall always properly operate and maintain all facilities, equipment, control systems, and vehicles which the permittee installs or uses.

   c. Duty to Halt or Reduce Activity. The permittee shall halt or reduce activity whenever necessary to maintain compliance with 310 CMR 30.200 or the permit conditions, or to prevent an actual or potential threat to public health, safety, or welfare, or the environment.

   d. Duty to Mitigate. The permittee shall remedy and shall act to prevent all potential and actual adverse impacts to persons and the environment resulting from noncompliance with the terms and conditions of the permit. The permittee shall repair at his own expense all damages caused by such noncompliance.

   e. Duty to Provide Information. The permittee shall

provide the Department, within a reasonable time, any information which the Department may request and which is deemed by the Department to be relevant in determining whether a cause exists to modify, revoke, or suspend a permit, or to determine whether the permittee is complying with the terms and conditions of the permit.

f. Entries and Inspections. The permittee shall allow personnel or other authorized agents of the Department or authorized EPA representatives upon presentation of credentials or other documents as may be required by law, to:

(1) Enter at all reasonable times any premises, public or private for the purposes of investigating, sampling or inspecting any records, conditions, equipment, practice, or property relating to activities subject to MGL c. 21C, MGL c. 21E, or RCRA, as amended; and

(2) Enter at any time such premises for the purpose of protecting the public health, safety or welfare, or the environment; and

(3) Have access to and copy at all reasonable times all records that are required to be kept pursuant to the conditions of the permit, and all other records relevant to the permittee's hazardous waste activity or to the permittee's activity involving regulated recyclable material.

g. Records. All records and copies of all applications, reports, and other documents required by 310 CMR 30.200 shall be kept by the permittee for at least three (3) years from the expiration of the permit. This period shall be automatically extended for the duration of any enforcement action. This period may be extended by order of the Department. All record-keeping shall be incompliance with 310 CMR 30.007.

h. Continuing Duty to Inform. The permittee shall have a continuing duty to immediately:

(1) correct any incorrect facts in an application; and

(2) report or provide any omitted facts which should have been submitted; and

(3) in advance, report to the Department each planned change in the permitted facility or activity which might result in noncompliance with 310 CMR 30.200 or with a term or condition of the permit;

and

(4) report to the Department any cessation of the permitted activity.

i. Preventing and Reporting Releases into the Environment. No materials that are to be recycled shall be intentionally released into the environment or otherwise disposed of within Massachusetts except in full compliance with all applicable provisions of 310 CMR 30.000 and c. 21C. All accidental releases of recyclable material shall be immediately reported to the Department and to all other persons to whom such releases must be reported pursuant to state or federal laws or regulations.

j. Compliance with the Application and the Terms of the Permit. Except where 310 CMR 30.200 or other conditions of the permit provide otherwise, the materials that are to be recycled shall be recycled in the manner described in the application for the permit and in no other manner, and in compliance with all conditions of the permit. There shall be no change in the procedure of recycling without the prior express written approval of the Department.

k. Transportation of Recyclable Material. Unless otherwise specified, all transportation of recyclable material, and preparation of all recyclable material for transportation, shall be in full compliance with U.S. Department of Transportation and other federal regulations, and all state regulations, governing the transportation of hazardous materials.

l. Annual Reporting. All permittees shall submit to the Department an annual report covering all recyclable material they handle. Each annual report shall be submitted to the Department no later than March 1 for the

preceding calendar year. The permittee shall use the form prescribed by the Department for Annual Reports submitted in compliance with 310 CMR 30.205(12). All annual reports shall include at least the following information.

(1) The EPA identification number of the generator; and

(2) The name, address, and EPA identification number of the facility to which recyclable material was sent; and

(3) Identification of all recyclable material recycled at the site of generation. Such identification shall include the EPA listed name or description, the EPA hazardous waste number, the DOT hazard class, the amount of recyclable material transported, and the facility to which it was transported; and

(4) Identification of all recyclable material shipped to off-site facilities. Such identification shall include the EPA listed name or description, the EPA hazardous waste number, the DOT hazard class, the amount of recyclable material transported, and the facility to which it was transported; and

(5) The name and EPA identification number of the transporters used.

m. Dust Suppression and Road Treatment. The use of regulated recyclable material for dust suppression or road treatment is prohibited. The provisions set forth in 310 CMR 30.205(9) shall apply to such activity.

n. Speculative Accumulation. Speculative accumulation is prohibited. The permittee shall make and keep records that will adequately demonstrate that there has occurred no speculative accumulation. Such records shall include, but not be limited to, the following:

(1) records showing the amount of material being accumulated or stored at the beginning of the calendar year.

(2) records showing the amount of material received or generated during the calendar year, and

(3) records showing the amount of materials being accumulated or stored at the end of the calendar year.

o. Personnel Training. The permittee shall instruct, or give on-the-job training to, personnel involved in any activity authorized by the permit, so that such instruction or on-the-job training teaches such personnel how to comply with the conditions of the permit and to carry out the authorized activity in a manner that is not hazardous to public health, safety or welfare, or the environment.

p. Emergency Prevention and Response. The permittee shall plan and prepare for fires, explosions, or other occurrences that might result in release of oil or hazardous materials to the environment or otherwise constitute a potential hazard to public health, safety, or welfare, or the environment. Without limiting the generality of the foregoing, if the permit authorizes the operation of a recycling facility, the design and operation of the recycling facility shall be in compliance with the requirements set forth in 310 CMR 30.524(1).

q. Storage and Accumulation in Tanks and Containers. Regulated recyclable materials shall be stored or accumulated only in tanks or containers. If the permittee stores or accumulates the regulated recyclable material in tanks, such tanks shall be in compliance with the requirements set forth or referred to in 310 CMR 30.692. If the permittee stores or accumulates the regulated recyclable material in containers, such containers shall be in compliance with the requirements set forth or referred to in 310 CMR 30.683 through 30.685.

6. All hazardous waste generated from recycling activities shall be subject to all applicable regulations including 310 CMR 30.000.

7. All residues or by-products of recycling will be considered hazardous waste unless demonstrated otherwise.

8. Failure to comply shall be grounds for enforcement action including without limitation, permit suspension and revocation.

9. Within 6 months prior to the expiration of this permit, the permittee shall re-apply to the Department. In accordance with General Law Chapter 30A Section 13 re-application will allow the continued operation of the approved recycling activity until a new permit is issued or denied. Failure to re-apply will result in immediate suspension of all approved recycling activities on the expiration date of this permit.

10. Appeal Rights and Time Limits. This permit is an action of the Department. If you are aggrieved by this action you may request an adjudicatory hearing. A request for a hearing must be made in writing within 21 days of the date on which the permittee receives the permit.

11. Contents of Hearing Request. Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request and the relief sought. Additionally, the request must state why the permit is not consistent with applicable laws and regulations.

12. Filing Fee and Address. The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of $100 must be mailed to:

    Commonwealth of Massachusetts
    Department of Environmental Protection
    P.O. Box 4062
    Boston, MA 02211

    The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

13. Exemptions. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

14. Waiver. The Department may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

SPECIAL CONDITIONS

(1) The permittee is authorized only to handle the Class A regulated recyclable material described in this permit. The Department must be notified immediately of any changes or modifications in material composition, amount or operation of recycling activities.

(2) Each tank or container in which regulated recyclable material is being accumulated or stored and each outside container into which small containers are packed shall be clearly marked and labelled throughout the period of accumulation or storage in accordance with 310 CMR 30.206(1).

(3) Shipment of Class A regulated recyclable materials to facilities other than those stated in this permit require prior authorization of this Department. Without prior authorization those materials must be handled as hazardous waste pursuant to 310 CMR 30.000 and therefore are no longer considered regulated recyclable materials under this permit.

(4) Please note that the Department reserves the right to revoke or suspend this permit if the above special conditions are not met.

THIS PERMIT AUTHORIZES ONLY THE NAMED PERMITTEE TO ENGAGE IN THE ACTIVITIES DESCRIBED ABOVE. THIS PERMIT DOES NOT GRANT ANY RIGHTS NOT OTHERWISE GRANTED BY FEDERAL, STATE OR LOCAL STATUTES, ORDINANCES, OR REGULATIONS. THE PERMITTEE SHALL COMPLY AT ALL TIMES WITH ALL STATE AND FEDERAL REGULATIONS AND STATUTES APPLICABLE TO THE MANAGEMENT OF REGULATED RECYCLABLE MATERIALS.

E H MacDonald
Edward H. MacDonald
Regional Engineer for
Waste Prevention

5 OCT 92
Date

ENV - 30114

The Commonwealth of Massachusetts
Department of Environmental Protection
Division of Hazardous Waste
10 Commerce Way
Woburn, Massachusetts 01801

RECYCLING PERMIT

Name of Permitee:	ICI RESINS US	Effective Date:	10-5-92
Mailing Address:	730 MAIN STREET WILMINGTON, MA 01887	Expiration Date:	10-5-97
Contact Person:	UDAY WAGLE	Class:	A, LEVEL 1
Telephone Number:	(508) 658-6600	Permit Number:	NE-92-080

This is to certify that the above named company is authorized to manage regulated recyclable materials pursuant to Regulation 310 CMR 30.200 and General Laws, Chapter 21C.

This permit authorizes recycling of the following materials only:

Material Description	EPA Waste Code	Amount
SPENT ALKALINE CLEANING SOLUTION	D002	20,000 GAL/YR

Description of Recycling Operations

SPENT ALKALINE CLEANING SOLUTION IS USED AS A SUBSTITUTE FOR COMMERCIAL CAUSTIC SOLUTION IN THE ADJUSTMENT OF WASTEWATER pH BEFORE ENTERING THE WASTEWATER TREATMENT PLANT.

Location of Recycling Operations

In-State Locations:	Out-of-State Locations:
ICI RESINS US 730 MAIN STREET WILMINGTON, MA 01887-0677 MAD048269062	N/A

ENV - 30115

0045-0096

Notification for Underground Storage Tanks

1

MAIL TO: DEPARTMENT OF PUBLIC SAFETY, U.S.T.
P. O. BOX 490
TEWKSBURY, MA 01876

FIRE DEPT. ID Number | STATE USE ONLY | FIRE DEPT. CERTIFICATION

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means:

(a) in the case of an underground storage tank in use on November 8, 1984 or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances; and

(b) in the case of any underground storage tank in use before November 8, 1984 but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must by completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 2

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity): ICI Resins US

Street Address: 730 Main Street

County: Middlesex

City: Wilmington, MA | State | ZIP Code: 01887

Area Code: 508 | Phone Number: 658-6600

Type of Owner (*Mark all that apply* ☒)

- ☒ Current
- ☐ Former
- ☐ State or Local Gov't
- ☐ Federal Gov't (GSA facility I.D. no. _____)
- ☒ Private or Corporate
- ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☒)

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) | State | ZIP Code

Indicate number of tanks at this location: 12

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐): James F. Tynan

Job Title: Manager, Safety, Health & Enviornment

Area Code: 508 | Phone Number: 658-6600

IV. TYPE OF NOTIFICATION

☒ Mark box here only if this is an amended or subsequent notification for this location

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature	Date Signed
DR W. BARTON DIRECTOR OF MANUFACTURING	W Barton	10/26/89

CONTINUE ON REVERSE SIDE

ENV - 49874

0045-0097

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 1 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. 4	Tank No. 5
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	X	X	X	X	X
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86	X	X	X	X	X
2. Estimated Age (Years)	1	1	1	1	1
3. Estimated Total Capacity (Gallons)	8,000	8,000	8,000	8,000	8,000
4. Material of Construction (Mark one ☒)					
Steel	X	X	X	X	X
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X	X	X	X
Unknown					
Other, Please Specify	Double Wall	Double Wall	D/W	D/W	D/W
6. External Protection (Mark all that apply ☒)					
Cathodic Protection	X	X	X	X	X
Painted (e.g., asphaltic)	X	X	X	X	X
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify	Double Wall	Double Wall	D/W	D/W	D/W
7. Piping (Mark all that apply ☒)					
Bare Steel	X	X	X	X	X
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	Ethyl Acrylate	Isobutyl Methacrylate	Acrylo-nitrile	2-Ethylhexyl Acrylate	Methyl Methacrylate
c. Hazardous Substance	X	X	X	X	X
Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No.	140-88-5	97-86-9	107-13-1	103-11-7	80-62-6
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49875

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 2 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 6	Tank No. 7	Tank No. 8	Tank No. 9	Tank No. 10
1. Status of Tank *(Mark all that apply ☒)* — Currently in Use	X	X	X	X	X
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86	X	X	X	X	X
2. Estimated Age (Years)	1				
3. Estimated Total Capacity (Gallons)	8,000	16,000	8,000	8,000	10,000
4. Material of Construction *(Mark one ☒)* — Steel	X	X	X	X	X
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection *(Mark all that apply ☒)* — Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X	X	X	X
Unknown					
Other, Please Specify	Double Wall	D/W.	D/W.	D/W	D/W.
6. External Protection *(Mark all that apply ☒)* — Cathodic Protection	X	X	X	X	X
Painted (e.g., asphaltic)	X	X	X	X	X
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify	Double Wall	D/W.	D/W.	D/W.	D/W.
7. Piping *(Mark all that apply ☒)* — Bare Steel	X	X	X	X	X
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume *(Mark all that apply ☒)* — a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	Methyl Methacrylate	N-Butyl Methacrylate	Styrene	Styrene	N-Butyl Acrylate
c. Hazardous Substance	X	X	X	X	X
Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No.	80-62-6	97-88-1	100-42-5	100-42-5	141-32-2
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service) — a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49876

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 3 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. A	Tank No. B	Tank No.	Tank No.	Tank No.
1. Status of Tank *(Mark all that apply ☒)*					
Currently in Use	X	X			
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86					
2. Estimated Age (Years)	22	13			
3. Estimated Total Capacity (Gallons)	7,500	500			
4. Material of Construction *(Mark one ☒)*					
Steel	X	X			
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection *(Mark all that apply ☒)*					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X			
Unknown					
Other, Please Specify					
6. External Protection *(Mark all that apply ☒)*					
Cathodic Protection					
Painted (e.g., asphaltic)	X	X			
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify					
7. Piping *(Mark all that apply ☒)*					
Bare Steel	X	X			
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume *(Mark all that apply ☒)*					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	No. 2 Fuel Oil	No. 2 Fuel Oil			
c. Hazardous Substance	X	X			
Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No.	068476-30-2	068476-30-2			
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49877

Notification for Underground Storage Tanks

2 Submit to: LOCAL FIRE DEPARTMENT

FIRE DEPT. I.D. Number | STATE USE ONLY | FIRE DEPT. CERTIFICATION

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances; and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

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2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or wastewater collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. **This form must by completed for each location containing underground storage tanks.** If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 3

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity): ICI Resins US

Street Address: 730 Main Street

County: Middlesex

City: Wilmington | State: MA | ZIP Code: 01887

Area Code: 508 | Phone Number: 658-6600

Type of Owner (*Mark all that apply* ☒)

- [X] Current
- [ ] Former
- [ ] State or Local Gov't
- [ ] Federal Gov't (GSA facility I.D. no. _____)
- [X] Private or Corporate
- [ ] Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here [X])

Facility Name or Company Site Identifier, as applicable:

Street Address or State Road, as applicable:

County:

City (nearest): | State: | ZIP Code:

Indicate *number of* tanks at this location: 12

Mark box here if tank(s) *are located on land within* an Indian reservation or on other Indian trust lands: [ ]

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here [ ]): James F. Tynan

Job Title: Manager, Safety, Health & Environment

Area Code: 508 | Phone Number: 658-6600

IV. TYPE OF NOTIFICATION

[X] Mark box here only if this is an amended or subsequent notification for this location

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative: DR W. BARTON DIRECTOR OF MANUFACTURING

Signature: W Barton

Date Signed: 10/26/89

CONTINUE ON REVERSE SIDE

ENV - 49878

0045-0101

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 1 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. 4	Tank No. 5
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	X	X	X	X	X
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86	X	X	X	X	X
2. Estimated Age (Years)	1	1	1	1	1
3. Estimated Total Capacity (Gallons)	8,000	8,000	8,000	8,000	8,000
4. Material of Construction (Mark one ☒)					
Steel	X	X	X	X	X
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X	X	X	X
Unknown					
Other, Please Specify	Double Wall	Double Wall	D/W	D/W	D/W
6. External Protection (Mark all that apply ☒)					
Cathodic Protection	X	X	X	X	X
Painted (e.g., asphaltic)	X	X	X	X	X
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify	Double Wall	Double Wall	D/W	D/W	D/W
7. Piping (Mark all that apply ☒)					
Bare Steel	X	X	X	X	X
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	Ethyl Acrylate	Isobutyl Methacrylate	Acrylo-nitrile	2-Ethylhexyl Acrylate	Methyl Methacrylate
c. Hazardous Substance	X	X	X	X	X
Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No.	140-88-5	97-86-9	107-13-1	103-11-7	80-62-6
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49879

0045-0102

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 2 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 6	Tank No. 7	Tank No. 8	Tank No. 9	Tank No. 10
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	X	X	X	X	X
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86	X	X	X	X	X
2. Estimated Age (Years)	1				
3. Estimated Total Capacity (Gallons)	8,000	16,000	8,000	8,000	10,000
4. Material of Construction (Mark one ☒)					
Steel	X	X	X	X	X
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X	X	X	X
Unknown					
Other, Please Specify	Double Wall	D/W.	D/W.	D/W.	D/W.
6. External Protection (Mark all that apply ☒)					
Cathodic Protection	X	X	X	X	X
Painted (e.g., asphaltic)	X	X	X	X	X
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify	Double Wall	D/W.	D/W.	D/W.	D/W.
7. Piping (Mark all that apply ☒)					
Bare Steel	X	X	X	X	X
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	Methyl Methacrylate	N-Butyl Methacrylate	Styrene	Styrene	N-Butyl Acrylate
c. Hazardous Substance	X	X	X	X	X
Please Indicate Name of Principal CERCLA Substance					
OR Chemical Abstract Service (CAS) No	80-62-6	97-88-1	100-42-5	100-42-5	141-32-2
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49880

0045-0103

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 3 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. A	Tank No. B	Tank No.	Tank No.	Tank No.
1. Status of Tank (Mark all that apply ☒) Currently in Use	X	X			
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86					
2. Estimated Age (Years)	22	13			
3. Estimated Total Capacity (Gallons)	7,500	500			
4. Material of Construction (Mark one ☒) Steel	X	X			
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒) Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X			
Unknown					
Other, Please Specify					
6. External Protection (Mark all that apply ☒) Cathodic Protection					
Painted (e.g., asphaltic)	X	X			
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify					
7. Piping (Mark all that apply ☒) Bare Steel	X	X			
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒) a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	No. 2 Fuel Oil	No. 2 Fuel Oil			
c. Hazardous Substance	X	X			
Please Indicate Name of Principal CERCLA Substance					
OR Chemical Abstract Service (CAS) No.	068476-30-2	068476-30-2			
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service) a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49881

Notification for Underground Storage Tanks

3 Copy to be certified by local fire department and: POSTED AT STORAGE FACILITY

FIRE DEPT. I.D Number | STATE USE ONLY | FIRE DEPT. CERTIFICATION

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances; and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or wastewater collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must by completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 3

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity): ICI Resins US

Street Address: 730 Main Street

County: Middlesex

City: Wilmington | State: MA | ZIP Code: 01887

Area Code: 508 | Phone Number: 658-6600

Type of Owner (Mark all that apply ☒)

- ☒ Current
- ☐ Former
- ☐ State or Local Gov't
- ☐ Federal Gov't (GSA facility I.D. no _____)
- ☒ Private or Corporate
- ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☒)

Facility Name or Company Site Identifier, as applicable:

Street Address or State Road, as applicable:

County:

City (nearest): | State: | ZIP Code:

Indicate number of tanks at this location: 12

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐): James F. Tynan

Job Title: Manager, Safety, Health & Environment

Area Code: 508 | Phone Number: 658-6600

IV. TYPE OF NOTIFICATION

☒ Mark box here only if this is an amended or subsequent notification for this location

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative: DE W BARTON, DIRECTOR OF MANUFACTURING

Signature: D W Barton

Date Signed: 10/26/89

CONTINUE ON REVERSE SIDE

ENV - 49882

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 1 of 3 Pages

VI DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. 4	Tank No. 5
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	X	X	X	X	X
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86	X	X	X	X	X
2. Estimated Age (Years)	1	1	1	1	1
3. Estimated Total Capacity (Gallons)	8,000	8,000	8,000	8,000	8,000
4. Material of Construction (Mark one ☒)					
Steel	X	X	X	X	X
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X	X	X	X
Unknown					
Other, Please Specify	Double Wall	Double Wall	D/W.	D/W.	D/W.
6. External Protection (Mark all that apply ☒)					
Cathodic Protection	X	X	X	X	X
Painted (e.g., asphaltic)	X	X	X	X	X
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify	Double Wall	Double Wall	D/W.	D/W.	D/W.
7. Piping (Mark all that apply ☒)					
Bare Steel	X	X	X	X	X
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	Ethyl Acrylate	Isobutyl Methacrylate	Acrylo-nitrile	2-Ethylhexyl Acrylate	Methyl Methacrylate
c. Hazardous Substance	X	X	X	X	X
Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No.	140-88-5	97-86-9	107-13-1	103-11-7	80-62-6
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49883

0045-0106

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 2 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 6	Tank No. 7	Tank No. 8	Tank No. 9	Tank No. 10
1. Status of Tank (Mark all that apply ☒) Currently in Use	X	X	X	X	X
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86	X	X	X	X	X
2. Estimated Age (Years)	1				
3. Estimated Total Capacity (Gallons)	8,000	16,000	8,000	8,000	10,000
4. Material of Construction (Mark one ☒) Steel	X	X	X	X	X
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒) Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X	X	X	X
Unknown					
Other, Please Specify	Double Wall	D/W.	D/W.	D/W.	D/W.
6. External Protection (Mark all that apply ☒) Cathodic Protection	X	X	X	X	X
Painted (e.g., asphaltic)	X	X	X	X	X
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify	Double Wall	D/W.	D/W.	D/W.	D/W.
7. Piping (Mark all that apply ☒) Bare Steel	X	X	X	X	X
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒) a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	Methyl Methacrylate	N-Butyl Methacrylate	Styrene	Styrene	N-Butyl Acrylate
c. Hazardous Substance	X	X	X	X	X
Please Indicate Name of Principal CERCLA Substance					
OR Chemical Abstract Service (CAS) No.	80-62-6	97-88-1	100-42-5	100-42-5	141-32-2
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service) a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49884

Owner Name (from Section I) ICI Resins US Location (from Section II) Same Page No. 3 of 3 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. A	Tank No. B	Tank No.	Tank No.	Tank No.
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	X	X			
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86					
2. Estimated Age (Years)	22	13			
3. Estimated Total Capacity (Gallons)	7,500	500			
4. Material of Construction (Mark one ☒)					
Steel	X	X			
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X			
Unknown					
Other, Please Specify					
6. External Protection (Mark all that apply ☒)					
Cathodic Protection					
Painted (e.g., asphaltic)	X	X			
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify					
7. Piping (Mark all that apply ☒)					
Bare Steel	X	X			
Galvanized Steel					
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)					
Used Oil					
Other, Please Specify	No. 2 Fuel Oil	No. 2 Fuel Oil			
c. Hazardous Substance	X	X			
Please Indicate Name of Principal CERCLA Substance					
OR Chemical Abstract Service (CAS) No.	068476-30-2	068476-30-2			
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

ENV - 49885

4

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

APPLICATION FOR PERMIT TO MAINTAIN AN EXISTING/NEW UNDERGROUND STORAGE FACILITY

To: Head of Fire Department

Wilmington _____ 19
City or Town — Date

Application is hereby made for a permit to maintain an existing/new underground storage facility as required by 527CMR9.00: Permits.

Location of property: 730 Main Street, Wilmington, Mass.
Street address

Owner of property: ICI Resins US
Full name of person, firm or corporation

Signature of owner or authorized representative: _____

Fee:$_____ (M.G.L.A. Chapt. 148 Sec. 10A)

(Fire Department's Copy to be Filed with F.P.290 part 2)

Form F.P. 290
Part 4

4

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

PERMIT

_____ 19
Date

TO MAINTAIN AN EXISTING/NEW UNDERGROUND STORAGE FACILITY

In accordance with the provisions of 527CMR9.24 this permit to maintain an existing/new underground storage facility is granted to:

Location of property: 730 Main Street, Wilmington, Mass.
Street address

Owner of property: ICI Resins US
Full name of person, firm or corporation

Restrictions: _____

Fee Paid:$_____ (M.G.L.A. Chapt. 148 Sec. 10A)

ENV - 49886

Form F.P. 290
Part 4

This permit will expire _____ 19
Date — Signature of Head of Fire Dept. or appointed designee

(Owner's Copy to be posted at the storage facility with F.P.290 Part 3)

APPENDIX G

Outside Contractor Spill Response Plan

ENV - 38400

9-6-2

FUEL BURNING EQUIPMENT REGISTRATION Dec 23, 195

Form AP - 1 DEQE 82

Send original to DEQE office, retain a copy.

Department of Environmental Quality Engineering
Division of Air Quality Control

For Period Jan. 1 to Dec. 31, 19

CONFIDENTIAL ACKNOWL.

STACK NO.

BOILER NO.

This area to be completed by

ZONE ___ UTM x ___ y ___

SOURCE ID. NO. REVIEWED B

	LEGAL NAME	ADDRESS	PHONE
FIRM	Beatrice Foods Co.	2 North LaSalle St., Chicago, ILL 60602	(312)782-3
DIVISION	Polyvinyl Chemical Industries	730 Main St., Wilmington, MA 01887	(617)658-6
AGENT			
LOCATION	Wilmington, Mass 01887		658-6

FUEL BURNING EQUIPMENT	TYPE (E.G. BOILER, SPACE HEATER, DRYER, PROCESSING EQUPT.) Boiler (2)	MANUFACTURER Orr & Sembower	MODEL NO. 3 LG	DATE EQUIPMENT (BOILER, ETC.) PUT IN SERVICE: 2 (sep stack
AIR POLLUTION CONTROL EQUIP.	TYPE (SCRUBBER, ESP, ETC.) None	MANUFACTURER	MODEL NO.	PURPOSE / EFFICIENCY

TYPES OF FUEL USED

FUEL	GRADES	SULFUR CONTENT	ASH CONTENT DRY WEIGH	ANNUAL USAGE TONS, GALS, FEET³ JAN 1 TO DEC 31	MAXIMUM HOURLY FIRING RATE EFF UNIT (2) BTU/HR	FUEL SUPPLIER NAME	CITY OF
COAL ☐	Bituminous	. %	. %				
	Anthracite	. %	. %				
OIL ☒	(2)	. %		30,000 gal.	45.5 g/hr	Belcher Oil	Revere,
	4	. %					
	5	. %					
	6	. %					
MFTD GAS ☐							
NAT. GAS ☒				28,000,000 cu.ft.	6,270 cfh	Lowell Gas Co.	Lowell,
WOOD ☐							
Other (specify)		. %	. %				

FUEL ADDITIVE USED (IF ANY): Manufacturer None Trade na

FUEL USAGE BREAKDOWN: % used for heating 40 % used for cooling 0 % used for generic electricity 0 % used for process 60

BURNER EQUIPMENT: Manufacturer(s) 1 Orr & Sembower 2 " " Size and model no. 1 366 2 366 Date of installation 1 1966 2 1966

TYPE OF SOLID FUEL BURNER: ☐ Hand fired ☐ Under feed stoker ☐ Traveling grate ☐ Chain grate ☐ Spreader stoker ☐ Stoker w/ [illegible] ☐ Cyclone ☐ Pulverized ☐ Other (specify)

TYPE OF GAS/OIL BURNER: ☐ Rotary cup ☐ Mechanical atomizer ☐ Steam atomizer ☒ Air atomizer ☐ Other (specify): Viscosity controller? ☒ No ☐ Yes - - Type

DRAFT TYPE: ☒ Forced ☐ Induced ☐ Natural ☐ Combination of and Rain hat on stack? ☐ Yes ☒ No

EQUIPMENT INFORMATION: Breeching gas temp 500 °F Economizer? ☐ Yes - Exit temp. ___ °F ☐ No Equipment operating hours 24 per day 5 days per week 6000 Total hrs / yea

STACK INFORMATION: Exit direction ☐ Horiz ☒ Vert Exit dimensions (inches) Diameter [redacted] x w. Height above ground 30 ft Lining ☒ Metal ☐ Refractory ☐ Other specify):

Smoke indicator? ☒ No ☐ Yes - Make and model no: Indicator: Recorder: Type of alarm Soot blowing: How often? ___ per day at ___ m. / ___ per week

REMARKS

General Information

Number of employees at installation ___ Standard Industrial Classif. code

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete. (Signature subjects signer to provisions of the (Statutes regarding false and misleading statements)

0045-0111

PROCESS / MANUFACTURING REGISTRATION
Form AP - 1 DEQE 82
Send original to DEQE Regional Office, retain a copy.

Commonwealth of Massachusetts
Department of Environmental Quality Engineering
Division of Air Quality Control
For Period Jan. 1 to Dec. 31, 19 ____

This area to be completed by D.E.Q.
Zone _____ Source ID no.
U.TM x _____ Reviewed by
y _____

	LEGAL NAME	ADDRESS	PHONE
FIRM	Beatrice Foods Co.	2 No. LaSalle St., Chicago, ILL 60602	(312)782-382
DIVISION	Polyvinyl Chemical Industries	730 Main St., Wilmington, MA	(617)658-660
AGENT			
LOCATION	730 Main Street, Wilmington, MA 01887		658-660

PROCESS STEP NO.	1	2	3	4	5
LOCATION OF EQUIP.	Process Bldg. 1st & 2nd Floor	Warehouse, 1st Floor			
MAJOR STEPS IN PROCESS	Polymerization	Drying			
OPERATING SCHEDULE					
Hours per day	24	24			
Days per week	5	5			
Weeks per year	50	50			
TYPE OF EQUIP'T USED	Reactors, Tanks	Fluid Bed Driers			
RAW MATERIAL - TYPE	Liquid Monomers	Water wet bead solids			
Maximum per hour					
Total per year					
FINISHED MATERIAL-TYPE	Emulsion Sol'n polm	Dry bead solids			
Maximum per hour					
Total per year					
STACK/VENT DATA					
Stack number	2	3			
Exit direction	vertical	vertical			
Inside diameter at top	1.5 ft.	1.5 ft.			
Height above ground	12	25-30 ft.			
GAS EXIT TEMPERATURE	75°	80°F			
GAS QTY. (ACFM)	1500	2500			
EMISSION CONTROL Type and date installed	Catalytic combustion (heated catalyst bed)	wet scrubbers (Roto-Clones):1975 & 1980			
Manufacturer	Catalytic Comb. Co.	American Air Filter			
Efficiency	99+	98.75%			
EMISSIONS					
Pollutant emitted	Hydrocarbons	Negligible			
Tons per [illegible] emitted	less than one	Negligible			

Provide a plan [illegible] the roof, showing location of stacks and vents, and indicate the height of same. | Standard Industrial Classification code for installation

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete. (Signature subjects signer to provisions of the Statutes regarding false and misleading statements)

T.E. Kooken _____ T.E. Kooken _____ Director of Manufacturing _____ DATE

0045-0112

INCINERATOR REGISTRATION
Form AP - 3 DEQE 82
Send original to DEQE Regional Office, retain a copy.

Department of Environmental Quality Engineering
Division of Air Quality Control
For Period Jan. 1 to Dec. 31, 19 ___

Zone ___
UTM x ___
y ___

Source ID no. ___
Reviewed by ___

	LEGAL NAME	BUSINESS ADDRESS	PHON
FIRM			
DIVISION			
AGENT			
LOCATION			

MAJOR ACTIVITY OF FIRM: ☐ Manufacturing ☐ Veterinary Hospital ☐ Retail store ☐ School or church ☐ Hotel/Motel ☐ Hospital/Lab ☐ Residence ☐ Other:

EQUIPMENT: INCINERATOR MANUFACTURER | MODEL NO. | AIR POLLUTION CONTROL EQUIPMENT USED? ☐ NO ☐ YES - TYPE: | AUTOMATIC FEEDER USED? ☐ NO ☐ YES | DATE INSTALL

DESCRIPTION:
TYPE: ☐ INDUSTRIAL ☐ MUNICIPAL ☐ SLUDGE ☐ PATHOLOGICAL ☐ COMMERCIAL
AIR: ☐ EXCESS ☐ CONTROLLED ☐ STARVED
CHAMBERS: ☐ ONE ☐ TWO ☐ >TWO
HEAT RECOVERY? ☐ YES ☐ NO
NO. OF HEARTHS ___
TOTAL HEARTH AREA ___ FT.
HAZARDOUS WASTE? ☐ YES ☐ NO
DESCRIBE WASTE:

WASTE TYPES (0 thru 6): TYPE: ___ | MAXIMUM POUNDS / HOUR: ___ | TONS/YEAR: ___

AUXILIARY FUEL: ☐ GAS ☐ OIL FUEL NO. | QUANTITY USED PER YEAR (GAL. OR FT³):

BURNERS: PRIMARY: QUANTITY ___ BTU/HR | SECONDARY: QUANTITY ___ BTU/HR

DRAFT: ☐ FORCED | ☐ INDUCED ☐ NATURAL ☐ COMBINATION OF ___ & ___

DRAFT CONTROL: ☐ BAROMETRIC ☐ SLIDING DOOR ☐ BUTTERFLY ☐ GUILLOTINE ☐ OTHER (SPECIFY)
LOCATION: ☐ UP PASS ☐ BREECHING ☐ FLUE CONNECTOR ☐ OTHER (SPECIFY)

OPERATING SCHEDULE: HRS/DAY ___ DAYS/WEEK ___ WEEKS/YEAR ___

EMISS. CONTROL EQUIP.: TYPE: | MAKE: | MODEL | % EFFICIENCY ___ | DATE INSTALLED:

APPROVAL: APPROVED BY THE DEQE? ☐ YES ☐ NO | DATE OF APPROVAL: ___

COMBUSTION: 2ND OR FINAL CHAMBER TEMP. ___ °F TO ___ °F RESIDENCE TIME AT SECONDARY CHAMBER TEMP. ___ SECONDS

STACK INFORMATION: HEIGHT ABOVE GROUND ___ FT. | INSIDE DIAMETER AT TOP (DIA. OR L x W) ___ FT. | BREECHING TEMPERATURE AFTER AIR POLLUTION CONTROL EQUIPMENT ___ °F.

DISPOSAL OF ASH: State the method of disposal:

REMARKS

General Information:
Number of employees at installation ___
Standard Industrial Classification code ___

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete. (Signature subjects signer to provisions of the Statutes regarding false and misleading statements)

SIGNATURE ___ | T.E. Kooken (PRINTED NAME) | Director of Manufacturing (TITLE) | DATE ___

0045-0113

Form AP - 4 DEQE 82
Page 1
Send original to DEQE Regional Office, retain a copy

TANK NOS. ___ thru ___

Department of Environmental Quality Engineering
Division of Air Quality Control
For Period Jan. 1 to Dec. 31, 19 ___

UTM x ___ y ___

Reviewed by

	LEGAL NAME	BUSINESS ADDRESS	PHO
FIRM	Beatrice Foods Co.	2 LaSalle St., Chicago, ILL 60602	(312) 782-382
DIVISION	Polyvinyl Chemical Industries	730 Main St., Wilmington, MA 01887	(617) 658-660
AGENT			
LOCATION	730 Main Street, Wilmington, MA 01887		658-660

MATERIAL STORAGE DATA

	A. MATERIAL STORED AND TRUE VAPOR PRESSURE @60 F	B. ANNUAL THRUPUT (GALS.) JAN 1 TO DEC 31	C. CONTAINER TYPE	D. CONTAINER CAPACITY	NO. OF IDENTICAL CONTAINERS	LOCATION
1	N. Butyl Methacrylate (.095)	265,000	Storage Tank	15,000 gal.	1	Tank Farm
2	Butyl Acrylate (.064)	164,000	" "	15,000	1	" "
3	Methyl Methacrylate (.541)	252,000	" "	15,000	1	" "
4	Styrene (.101)	172,000	" "	15,000	1	" "
5	Isobutyl Methacrylate (.095)	25,000	" "	6,000	1	" "
6	Isobutyl Acrylate (.064)	21,000	" "	6,000	1	" "
7	Acrylonitrile (1.601)	25,000	" "	3,000	2	" "
8	Ethyl Acrylate (.599)	80,000	" "	6,000	1	" "

	E. TYPE OF COVER/ ROOF	F. TANK AGE	G. TYPE OF TANK CONSTRUCTION	H. TANK DIAMETER	I. TANK COLOR
1	Fixed	15 yrs.	Welded	10.5 ft.	Black
2	"	15	"	10.5	"
3	"	15	"	10.5	"
4	"	15	"	10.5	"
5	"	15	"	8.5	"
6	"	15	"	8.5	"
7	"	15	"	8.5	"
8	"	15	"	8.5	"

STACK/ VENT DATA

	A. VAPOR CONTROL SYSTEM, TYPES AND EFFICIENCIES: STORAGE	% EFF.	FILL	% EFF.	WITHDRAWAL	% EFF.	B. VENT HEIGHT ABOVE GROUND	C. VENT DIAMETER	D. TOTAL EMISSION RATE STORAGE	TRA
1	Conservation Vent	Unk.	Closed Loop	100	Cons. Vent	100	7 ft.	2 in.	Unknown	Negligi
2	"	"	" "	"	" "	"	"	"	"	"
3	"	"	" "	"	" "	"	"	"	"	"
4	"	"	" "	"	" "	"	"	"	"	"
5	"	"	" "	"	" "	"	"	"	"	"
6	"	"	" "	"	" "	"	"	"	"	"
7	"	"	" "	"	" "	"	"	"	"	"
8	"	"	" "	"	" "	"	"	"	"	"

REMARKS

General Information: Number of employees at installation ___
Standard Industrial Classification code ___

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete. (Signature subjects signer to provisions of the Gene Statutes regarding false and misleading statements)

T. F. Kooken Director of Manufacturing

0045-0114

Form AP - 4 DEQE 82
Page 2
Send original to DEQE Regional Office, retain a copy

TANK NOS. ___ thru ___

Department of Environmental Quality Engineering
Division of Air Quality Control
For Period Jan. 1 to Dec. 31, 19 ___

UTM x _____ y _____

Reviewed by

	LEGAL NAME	BUSINESS ADDRESS	PHO
FIRM	Beatrice Foods Co.	2 LaSalle St., Chicago ILL 60602	(312) 782-382
DIVISION	Polyvinyl Chemical Industries	730 Main St., Wilmington, MA 01887	(617) 658-660
AGENT			
LOCATION	730 Main Street, Wilmington, MA 01887		658-660

MATERIAL STORAGE DATA

	A. MATERIAL STORED AND TRUE VAPOR PRESSURE @60 F	B. ANNUAL THRUPUT (GALS.) JAN 1 TO DEC 31	C. CONTAINER TYPE	D. CONTAINER CAPACITY	NO. OF IDENTICAL CONTAINERS	LOCATION
1	2-Ethyl Hexyl Acrylate	(.003) 25,000 gal.	Storage Tank	6,000 gal.	1	Tank Farm
2	Solvesso 100 (neg)	25,000	" "	10,000	1	"
3	Methyl Cellosolve (.116	8,000	" "	10,000	1	"
4	Toluene (.423)	55,000	" "	10,000	1	"
5	Butyl Cellosolve (.015)	33,000	" "	10,000	1	"
6	Methyl Ethyl Ketone (1.	354) 2,000	" "	10,000	1	"
7	Xylene (.116)	71,000	" "	10,000	1	"
8	---					

	E. TYPE OF COVER/ ROOF	F. TANK AGE	G. TYPE OF TANK CONSTRUCTION	H. TANK DIAMETER	I. TANK COLOR
1	Fixed	15 yrs.	Welded	8.5	Black
2	"	8	"	10.5	White
3	"	"	"	"	"
4	"	"	"	"	"
5	"	"	"	"	"
6	"	"	"	"	"
7	"	"	"	"	"
8	---				

STACK/ VENT DATA

	A. VAPOR CONTROL SYSTEM, TYPES AND EFFICIENCIES: STORAGE	% EFF.	FILL	% EFF.	WITHDRAWAL	% EFF.	B. VENT HEIGHT ABOVE GROUND	C. VENT DIAMETER	D. TOTAL EMISSION RATE STORAGE	TR
1	Conserv.Vent	Unk.	Closed Loop	100	Cons.Vent.	100	7 ft.	2 in.	Unknown	Negligib
2	"	"	"	"	"	"	"	"	"	"
3	"	"	"	"	"	"	21 ft.	"	"	"
4	"	"	"	"	"	"	"	"	"	"
5	"	"	"	"	"	"	"	"	"	"
6	"	"	"	"	"	"	"	"	"	"
7	"	"	"	"	"	"	"	"	"	"
8										

REMARKS

General Information: Number of employees at installation _____
Standard Industrial Classification code _____

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete. (Signature subjects signer to provisions of the Gene Statutes regarding false and misleading statements)

T. E. Kooker

0045-0115

Form AP - 4 DEQE 82
Page 3
Send original to DEQE Regional Office, retain a copy

TANK NOS. ___ thru ___

Department of Environmental Quality Engineering
Division of Air Quality Control
For Period Jan. 1 to Dec. 31, 19 ___

Zone ___ UTM x ___ y ___

Source ID no. ___

Reviewed by ___

	LEGAL NAME	BUSINESS ADDRESS	PHO
FIRM	Beatrice Foods Co.	2 LaSalle St., Chicago, ILL 60602 (312)	782-382
DIVISION	Polyvinyl Chemical Industries	730 Main St. Wilmington MA 01887 (617)	658-660
AGENT			
LOCATION	730 Main St., Wilmington, MA 01887		658-660

MATERIAL STORAGE DATA

	A. MATERIAL STORED AND TRUE VAPOR PRESSURE @ 60 F	B. ANNUAL THRUPUT (GALS.) JAN 1 TO DEC 31	C. CONTAINER TYPE	D. CONTAINER CAPACITY	NO. OF IDENTICAL CONTAINERS	LOCATION
1	Polymer Solution (1.354)	80,000	Storage Tank	5,000 gal.	1	Outside Process Bld
2	Toluene Di isocyanate (neg)	17,000	" "	4,800 gal.	1	" " "
3	Methacrylic Acid (.039)	34,000	" "	1,750 gal.	1	" " "
4						
5						
6						
7						
8						

	E. TYPE OF COVER/ ROOF	F. TANK AGE	G. TYPE OF TANK CONSTRUCTION	H. TANK DIAMETER	I. TANK COLOR
1	Fixed	2 yrs	Welded	8.5	Silver
2	"	17 yrs.	Welded	7.6	Silver
3	"	17 yrs.	Welded	5	Silver
4					
5					
6					
7					
8					

STACK/ VENT DATA

	A. VAPOR CONTROL SYSTEM, TYPES AND EFFICIENCIES: STORAGE	% EFF.	FILL	% EFF.	WITHDRAWAL	% EFF.	B. VENT HEIGHT ABOVE GROUND	C. VENT DIAMETER	D. TOTAL EMISSION RATE STORAGE	TRA
1	Cons. Vent	Unk	Cons. Vent	Unk	Closed Loop	100	15	2 in.	Unknown	Negligil
2	" "	"	Closed Loop	100	cons. Vent	100	15	"	"	"
3	" "	"	" "	"	"	100	12	"	"	"
4										
5										
6										
7										
8										

REMARKS

General Information: Number of employees at installation ___
Standard Industrial Classification code ___

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete. (Signature subjects signer to provisions of the Gene Statutes regarding false and misleading statements)

0045-0116

Send original to DEQE Regional Office, retain a copy.

Department of Environmental Quality Engineering
Division of Air Quality Control
For Period Jan. 1 to Dec. 31, 19 ___

This area to be completed by DEQE.
New Source ☐ Existing source

STATE COUNTY AQCR PLANT SEQ PROC VE DATE CAN RPA ID CITY UTM ZONE OWN FC UTM Coordinates HORIZ VERTIC

Facility Identification 2821

PERSON TO CONTACT: T.E. Kooken — AREA CD 617 — PHONE NUMBER 558 6600

Update code 03

BUSINESS NAME (E.g. UNION PUMP PARTS DIVISION): CHYVINYL CHEMICAL IND

BUSINESS ADDRESS (E.g. 14 ROWE ST. BOSTON): 730 Main Williamstown

NO. OF EMPL. 120 (zero fill to left) — 02

MAILING ADDRESS: STREET NUMBER AND NAME: 730 Main Street — CITY OR TOWN: Williamstown — STATE: MA — ZIPCODE: 01867 — 03

Usage no. ▶	1	2	3	4
Usage category	Chem. Mfg.	Equipment Cleaning	Chem. Mfg.	Prod. Formulati
Type of material coated, cleaned, processed	Polymer Prods.	Polymer Residue	Polymer Products	Polymer Product
Description of process equipment or coating method	Closed Reactor System	Closed Reactor Systems	Closed Reactor Systems	Closed Mixing Tanks
Amt. of material processed per yr.	20,000,000 lb.*	15,000 gal.	1,500,000 lb.**	15,000,000 lbs.
Drying method (air, drying oven, etc)	NA	NA	NA	NA
Annual usage of VOC containing formulation (gal per yr)	1,063,000	15,000	145,000	50,000
Weight % of VOC in formulation	100	100	100	100
Chemical name of VOC	Monomers	Mek, Xylene, Toluene, Solvesso	Mek, Xylene, Toluene, Solvesso	Methyl & Butyl Cellosolve, Solves
Density of VOC containing formulation shown in item 6 (lbs per gal)	7.6	7.2	7.2	7.6
Density of component VOC shown in item 8 (lbs per gal)	7.6	7.2	7.2	7.6
Chemical name of solvent thinner added to above formulation	None	None	None	None
Volume of thinner used (gal per yr)	NA	NA	NA	NA
Density of VOC thinner (lbs per gal)	NA	NA	NA	NA
Wt. of recovered, reclaimed, or disposed VOC (off-site) which was not emitted to ambient air (lbs per year)	162,000	103,960	None	None
Recovery, reclamation, or disposal method	Coagulum waste disposed of as non-hazardous	Recovery by off-site contractor (distillation)	NA	NA
Wt. of VOC combined with product and not emitted to ambient air (lbs/yr)	7,876,400		1,037,940	377,980
Type of add-on control equipment	Catalytic Burner	Catalytic Burner	Catalytic Burner	Catalytic Burner
Total control efficiency	99%	99%	99%	99%
Weight of VOC controlled (lbs/yr)	40,000	4000	6,000	2000
VOC emissions (tons per year)	.20	.02	.03	.01
Indicate applicable stack numbers AP-2 or general ventilation	Stack 2	Stack 2	Stack 2	Stack 2

Please list the name and address of the companies from whom you purchase, or contract to dispose, recover or reclaim the above VOC containing formulations:

COMPANY	ADDRESS	TYPE OF MATERIAL	PURPOSE OF CONTRACT
Solvent Recovery Service	Southington, CT 06489	Mixed solvent washed	Reclaim solvent

Total, how many gallons of VOC containing formulations, such as cleaning fluids, thinner, adhesives, inks, or solvents are purchased by this facility annually? 1,130,000 gallons per year

Remarks.

*Product averages 40% polymer solids, 60% water
**Product averages 40% polymer solids, 60% solvent

CERTIFICATION I certify that I have examined the above and to the best of my knowledge it is true and complete.
(Signature subjects signer to provisions of the General Statutes regarding false and misleading statements)

T.E. Kooken — Thomas E. Kooken — Director of Manufacturing

0045-0117

SPILL CONTROL AND SLUG DISCHARGE PLAN

ICI RESINS US

730 MAIN STREET

WILMINGTON, MA

ENV - 38384

Revision 00 11/05/91

0045-0118

DESCRIPTION OF DISCHARGE PRACTICES

ICI Resins US discharges continuously from one of two 10,000 gallon settling basins on site. Process waters are collected from various areas of the site as shown in Appendix A. The site operates 3 shifts per day, 5 days per week. Process discharge occurs continuously between the hours of 11:30 PM on Sunday and 11:30 PM on Friday, excepting legal holidays. The rate of discharge may vary, but averages 60,000 gallons per day.

DESCRIPTION OF STORED CHEMICALS

A list of the chemicals stored or used on site is given in Appendix B. These materials are used in the Process Building and are stored in various locations as shown in Appendix C.

MWRA NOTIFICATION PROCEDURE

In case of a noncomplying discharge, MWRA is notified immediately by the following procedure.

Recognition of Noncomplying Discharge
Laboratory and manufacturing employees are trained in the recognition of noncompliant discharges. These include organic chemicals, high or low pH materials, materials which may solidify in the sewer system, petroleum products, sludges, hazardous wastes, and metal containing compounds. Further, they are trained in methods of recognition recognition of when a discharge to the sewer might have occurred. These include unexpected loss of volume in a container, chemical spill to drains, odors from drains, and observation of flow to a drain.

Discharge Notification
An employee who suspects a discharge has occurred notifies his/her supervisor. The supervisor immediately investigates the incident and takes appropriate measures to stop the discharge if it is ongoing. The supervisor notifies the Plant Shift Supervisor who determines what has been discharged, whether the discharge constitutes a violation of MWRA regulations, and, if so, notifies the MWRA immediately at (617) 242-7310 (nights and weekends (617) 846-5800). The SHE Department is consulted for guidance as needed. Home telephone numbers of members of the SHE Department are listed on the site emergency contact list. Information provided to MWRA is:

- material discharged
- concentration
- volume discharged
- duration of noncompliance
- if noncompliance is ongoing, expected time when compliance will be regained
- steps taken to reduce, eliminate and prevent recurrence of the noncompliance.

The Plant Shift Supervisor notifies the Plant Manager of the details of the incident no later than the next business day. The Plant Manager ensures that the incident is thoroughly investigated and that all necessary actions to prevent recurrence are taken. The Plant Manager sends a written statement within 15 days of the noncompliance to the authority at the address listed below. This statement reiterates the information in the verbal report, makes any needed correction to the initial report, and details how recurrence of noncompliance will be prevented.

The written report is sent to:

MA Water Resources Authority
Attn: Leos Heller
Toxic Reduction and Control Department
Charlestown Navy Yard
100 First Avenue
Boston, MA 02129

SPILL CONTROL

Upon notification of a spill to the sewer, the supervisor informs the Plant Shift Supervisor. The Plant Shift Supervisor immediately closes all effluent valves leading from the settling basins and shuts down all operations generating waste water. The Plant Shift Supervisor secures the affected discharge valve(s) in the closed position and arranges for the sampling and analysis of the affected sump(s). Based upon information obtained from the Plant Shift Supervisor, analytical data, and with consultation of any appropriate experts, the Plant Manager decides upon the proper disposition of the materials in the sump and ensures that it is disposed of as he has decided appropriate.

Inspection and Maintenance of Storage Areas

The warehouse, catalyst shed, warehouse annex, raw material storage area, above ground tank farm, underground tank farm areas, and transfer lines to and from the tank farms are inspected three times per day. An inspection checklist (see Appendix D) is utilized to ensure completeness and uniformity. Any noted spills or threats of release are remediated immediately. Each laboratory is inspected daily for leaking containers. Any such containers are remediated immediately.

Handling and Transfer of Materials

Materials are stored and moved in closed containers. Materials may be stored in fixed containers, such as tanks, or in portable containers, such as drums and totes. Materials stored in tanks are transferred by closed pipe systems to the point of use. Materials in portable containers are brought to the point of use, then transferred by hose line to the appropriate vessel. Miscellaneous materials in small quantities are manually decanted from portable containers and added to the appropriate vessel.

Loading and Unloading Operations

Materials arrive by tank truck for loading to the raw material storage tanks. Off loading is performed in a bermed area designed to contain more than the capacity of one tank truck. Storm water collected in this area is not discharged to the MWRA system nor could it foreseeably infiltrate the MWRA system. Raw materials arriving in drums or totes are off loaded from trucks into the warehouse area. The drums or totes are then moved to the appropriate storage area in the warehouse, catalyst shed, warehouse annex, or raw material storage area.

Control of Plant Site Runoff

Storm water from the active areas of the site is collected in the pond at the north east corner of the property. In addition, there are five areas where spilled materials may enter the process sewer. These are the floor drains in the Process Building, the floor drains in the warehouse annex, the floor drains in the warehouse, the floor drains in the raw material storage area, and laboratory sinks and drains. Procedures in place to prevent entry of spilled materials into the process sewer are as follows.

Process Building Floor Drains
Floor drains in this area are piped to a central point and pass through a valve before flowing to one of the main settling basins. This valve is normally kept in the closed position. Each Plant Shift Supervisor is responsible to ensure that the valve is in the closed position at the start of the shift. When it is necessary to release process water to the main settling basin, the Plant Shift Supervisor evaluates the water to be discharged. If the water is deemed acceptable for discharge, the Plant Shift Supervisor opens the valve allowing the water to drain to the main settling basin and closes the valve upon completion. Such discharges are logged by the Plant Shift Supervisor (see Appendix E).

Warehouse and Warehouse Annex Floor Drains
Floor drains in this area are piped to a central point and must be pumped to a discharge line entering one of the main settling basins. This pump is normally kept de-energized and the power source is locked out. Only the Plant Shift Supervisor has key access to the lockout device. Each Plant Shift Supervisor is responsible to ensure that the pump is de-energized and locked out at the start of the shift. When it is necessary to release process water to the main settling basin, the Plant Shift Supervisor evaluates the water to be discharged. If the water is deemed acceptable for discharge, the Plant Shift Supervisor energizes the pump, supervises the discharge of water, then de-energizes and locks out the pump. Such discharges are logged by the Plant Shift Supervisor (see Appendix E).

Raw Material Storage Area Floor Drains
Floor drains in this area are piped to a central point and pass through a valve before flowing to one of the main settling basins. This valve is normally kept in the closed position. Each Plant Shift Supervisor is responsible to ensure that the valve is in the closed position at the start of the shift. When it is necessary to release process water to the main settling basin, the Plant Shift Supervisor evaluates the water to be discharged. If the water is deemed acceptable for discharge, the Plant Shift Supervisor opens the valve allowing the water to drain to the main settling basin and closes the valve upon completion. Such discharges are logged by the Plant Shift Supervisor (see Appendix E).

Laboratory Sinks and Drains
The Manager of each laboratory area ensures that all process wastes in the laboratories are collected in appropriate containers and disposed of properly. Each laboratory area has immediate access to spill control equipment which is adequate to absorb the quantities and types of spills likely to be encountered. Raw materials are stored in such a manner that leakage from the container would not result in discharge to the drain. Only glassware washings and cooling water are discharged to the laboratory drains.

Worker Training
Workers in the laboratory and manufacturing areas receive training at the time of hire regarding spill recognition and response. Affected personnel receive on the job training regarding standard operating procedures related to the administrative controls cited above. The training is refreshed annually. Plant Shift Supervisors receive annual training in their duties regarding spill notification, spill control, and evaluation of runoff. See Appendix F for the contents of the training modules.

Containment Structures or Equipment
A number of containment structures exist on site. Each is constructed so as to decrease the likelihood that an accidental discharge will reach the municipal sewer system.

Floor drains in the warehouse, warehouse annex, raw material storage area, and process building are normally isolated from the sewer system. This isolation is broken only after determination that the water to be discharged is compliant and under the direct supervision of the Plant Shift Supervisor.

Solvent traps are included in the main settling basins. These traps would capture the majority of insoluble organic compounds accidentally discharged to the sewer system.

Tanker off loading area for the tank farms is bermed and able to capture more than the volume of a tank truck.

Raw material storage tanks are provided with secondary containment dikes in order to prevent the discharge of materials to the sewer should primary containment fail.

The raw material storage area is bermed to prevent or slow migration of spilled materials out of the area.

Surface water from the active area of the property drains to the pond at the north east corner of the property. The outlet of the pond can be closed to minimize migration of materials.

Measures for Containing Toxic Pollutants
See above.

Measures and Equipment For Emergency Response
The site maintains spill response equipment consisting of several hundred pounds of Speedi-Dri or similar absorbent, a number of self contained breathing apparatus, chemical protective clothing, and a variety of sorbent socks, shovels, brooms, etc. Arrangements have been made for emergency spill response and clean up with Franklin Environmental Service of Franklin, MA (Appendix G). Training of an on site chemical spill response team is ongoing.

APPENDIX A

Site Plan Showing Sewer Line Connections

APPENDIX B

List Of Chemicals Stored On Site

APPENDIX C

Storage Area Description

Raw Material Storage Area
Materials in this area are stored in portable containers such as bags, drums, or totes. All flammable materials in such portable containers are stored in this area.

Warehouse and Warehouse Annex
Non-flammable materials whose quality would be adversely affected by moisture or temperature extremes are stored in this area. Raw materials in drums and bags as well as finished product in tanks are stored in this area.

Plant Yard
Non-flammable materials in drums are stored in an area west of the Process Building. These materials are neither sensitive to moisture nor extremes of temperature.

Process Building
Raw materials are staged in the Process Building and are transferred from portable containers to reaction vessels in this area.

Solvent Tank Farm
Six 10,000 gallon above ground storage tanks hold various solvents. The tank farm area is contained within a sealed dike whose capacity is approximately 20,000 gallons. Storage capacities are as follows:

Methyl ethyl ketone	20,000 gallons
N-methyl pyrrolidone	10,000 gallons
Toluene	10,000 gallons
Butyl Cellosolve	10,000 gallons
Isopar G	10,000 gallons

Monomer Tank Farm
Ten underground storage tanks are used for the storage of acrylic and styrene monomers. Each tank is double walled with interstitial leak detection monitors installed. Storage capacities are as follows:

Ethyl acrylate	6,500 gallons
Isobutyl methacrylate	6,500 gallons
Acrylonitrile	6,500 gallons
2-ethylhexyl acrylate	6,500 gallons
Methyl methacrylate	13,000 gallons
n-Butyl methacrylate	6,500 gallons
Styrene	13,000 gallons
n-Butyl acrylate	8,000 gallons

Process Building Tanks
Several tanks abut the Process Building. Containment is provided around the base of each of these tanks. Storage capacities are as follows:

Desmodur W aliphatic isocyanate	4,200 gallons
Sipex 8208s	3,500 gallons
Acrylic acid	1,350 gallons
Methacrylic acid	4,200 gallons

Laboratories
Each laboratory stores materials appropriate to its operations. Amount of material stored is minimized. Quarterly lab pack disposal occurs to keep quantities of obsolete materials to a minimum. Flammable liquids are stored in flammable liquid storage containers or cabinets away from drains. Non-hazardous materials are stored in such a way as to minimize the possibility of inadvertent discharge to the drain.

APPENDIX D

Storage Area Inspection Checklist

ICI Resins US

Plant Storage Area Inspection Log

DATE:_____ TIME:_____ BY:_____

	STORAGE AREA							
	RM	WH	WA	YD	PB	ST	MT	PT
All containers secure and leak free (Y/N)?	___	___	___	___	___	___	___	___
All containers clearly labeled?	___	___	___	___	___	___	___	___
All containers tightly closed?	___	___	___	___	___	___	___	___
Adequate aisle space to inspect containers?	___	___	___	___	___	___	___	___
All line connections tight and leak free?	___	___	___	___	___	___	___	___

NOTE:
RM=Raw material storage area (back pad)
WH=Warehouse
WA=Warehouse annex
YD=Plant yard west of process building
PB=Process building annex
ST=Solvent storage tanks
MT=Monomer storage tanks
PT=Process building tanks

Valve in line from Process Building to sump closed and locked out? ___

Valve in line from raw material storage area to sump closed and locked out? ___

Transfer pump from warehouse and warehouse annex off and locked out? ___

REMEDIAL ACTION TAKEN *(REQUIRED FOR ALL "NO" RESPONSES)*:

_____
_____
_____
_____
_____

ENV - 38394

APPENDIX E

Containment Area Discharge Log

ENV - 38395

ICI Resins US

Process Water Discharge Log

DATE:_____ BY:_____

Discharged from (circle one):

Process building floor drains

Warehouse annex floor drains

Warehouse floor drains

Raw material storage area (back pad) floor drains

Other (specify): _____

DESCRIBE ODOR: _____

pH PAPER READING: _____

SHEEN ON WATER (Y/N)? _____

NOTE: If odor is detected, pH is less than 6, pH is greater than 9, or there is a sheen on the water, DO NOT DISCHARGE THE WATER WITHOUT APPROVAL OF THE PLANT MANAGER!

Time valve was opened: _____ (AM/PM)

Time valve was closed: _____ (AM/PM)

Valve/pump secured in closed/off position by: _____

ADDITIONAL NOTES: (*REQUIRED IF PLANT MANAGER APPROVAL NEEDED*):

_____
_____
_____
_____
_____
_____
_____

ENV - 38396

0045-0130

APPENDIX F

Training Materials

APPENDIX F-1

Training Handouts

ENV - 38398

APPENDIX F-2

Training Audio-Visuals

ENV - 38399

Commonwealth of Massachusetts Department of Environmental Quality Engineering

Potential Oil/Hazardous Material Release Site

PRELIMINARY ASSESSMENT REPORT

For DEQE Use Only
Case No. ____
File Name ____
Date Listed ____
Disposition ____

I. PROPERTY NAME AND LOCATION (See Supplementary Instructions)

Property Name [1]: ICI Resins US
Address: 730 Main Street, Wilmington, MA 01887

UTM Coordinates [3]: N 4711250 M; E 323600 M

Latitude/Longitude: 42 31 45 N; 71 09 30 W

Municipality [2]	Zip Code	USGS Quad(s) [4]
Middlesex County Wilmington - Town	01887	Wilmington, MA

II. OWNERS/OPERATORS

	Date Acquired	Specific Property Use/Activity [6]
Present Owner: [5] ICI Resins US Address: 730 Main Street, Wilmington, MA 01887 Contact: Dr. Robert Kruger Tel. 508-658-6600	2/85	Resins Manufacturing SIC # 2821 ☒ Active ☐ Inactive
Present Operator: Same as above Address: Contact: Tel. - -		SIC # ____ ☒ Active ☐ Inactive
Previous Owner: Beatrice Food Corporation Address: Tel. - -	From/To Dates 3/65-2/85	SIC # ____ Resins Manufacturi
Previous Operator: Polyvinyl Corporation, Inc. Address: Tel. - -	From/To Dates	SIC # ____

Additional Owner/Operator Information is: ___ Attached ___ Unknown X Not Pertinent

III. GENERAL PROPERTY/AREA INFORMATION

Site Locus Map Attached [7] ☒

Property/Area Use [6]	Property Present	Property Past	Surrounding Area
Industrial	X	X	X
Commercial	___	___	X
Residential	___	___	___
Agricultural	___	___	___
Undeveloped	___	___	X

Check if property is or ever was a known:
- ___ Refuse/Waste Disposal Area
- ___ Gasoline (Service) Station
- ___ Fuel Storage Depot
- X Industrial Manufacturing Facility
- ___ Check if Property is Planned for Developme

IV. REVIEW OF AVAILABLE RECORDS/INFORMATION

Municipal: Date Reviewed 1/3/90 By Christopher Bozzini Of S E A Consultants Inc.
Information Source(s): Town of Wilmington Assessor's Office, Conservation Commission Engineering Departm
Contact Person(s): Ilene Flaherty, Conservation Commission Telephone: 508-658-3311

State: [8] Date Reviewed 1/3/90 By Christopher Bozzini Of S E A Consultants Inc.
Information Source(s): DEP - Woburn Office Site Assessment Files
Contact Person(s): Renee' Mason Telephone: 935-2160

Owner/Operator: [10] Date Reviewed 1/9/90 By Christopher Bozzini Of S E A Consultants Inc.
Information Source(s): Plant records
Contact Person(s): David Campanella Telephone: 508-658-6600

Other: [11] Date Reviewed ____ By ____ Of ____
Information Source(s): ____
Contact Person(s): ____ Telephone: ____

Additional Information/Information Sources are attached: ☒ Yes ☐ No

IV. SURVEY OF AVAILABLE RECORDS/INFORMATION (Continued.)

Based upon records and available information, have petroleum products or hazardous materials been used, treated, stored, or disposed of, on the property?

☒ Yes ☐ No X Petroleum X Hazardous Materials

Underground Storage Tanks: [12] Records/Evidence of Present/Former Use: ☒ Yes ☐ No

Indicate Number of Tanks:	Gasoline	Fuel Oil	Waste/Other Oil	Hazardous Materials	Unknown
Presently On-site		2		15	
Removed					
With Capacity 1100 Gallons		1		15	
Over 10 Years Old		2		9	
Total Number:		2		15	

See attached tank farm diagram.

Wastewater: [13]	Generated?	Composition	Disposal
Present	☒ Yes ☐ No ☐ Unknown	☒ Sanitary ☒ Industrial	☒ Municipal Sewer ☐ On-site ☐ Other
Past	☒ Yes ☐ No ☐ Unknown	☒ Sanitary ☒ Industrial	☐ Municipal Sewer ☐ On-site ☐ Other

Comments: A wastewater pre-treatment plant is being designed by S E A Consultants Inc.

Is there currently an on-site water supply well? ☐ Yes ☒ No ☐ Unknown. Active? ☐ Yes ☒ No.
Other existing means for sampling groundwater? ☐ Yes ☒ No

Indicate Present or Past Federal/State Environmental Permits/Regulations at the Property.

☐ N.P.D.E.S. ☐ Groundwater Discharge ☒ R.C.R.A. Generator ☐ R.C.R.A. TSD ☐ Air Quality ☒ Other

Comments: MWRA discharge permit. #4004688 - 0 Category I

Is/are there any record(s) of Criminal, Civil, or Administrative Actions, at the property due to (alleged) violations of environmental statute or regulation? ☐ Yes ☒ No Comments:

V. PROPERTY RECONNAISSANCE

Property Reconnaissance by Owner/Operator/Consultant [14] (Circle one.)

Date 12/21/89 By Christopher Bozzini Of S E A Consultants Inc.

Evidence of a Release of Oil or Hazardous Materials? ☐ Yes ☒ No ☐ Potential

If Yes/Potential, Based upon: ☐ visual ☐ olfactory ☐ analytical/screening

Comments: Note: Two spills occurred on 7/27/89 and 3/14/89. The spills were contained and soil in cont with the spill material was removed. At the time of the reconnaissance, there was no evidence of a relea of hazardous materials. See attached.

FOR DEQE USE ONLY:

___ On-site Reconnaissance ___ Off-site Reconnaissance By EPA/DEQE/Contractor: (Circle one.)

Date _____ By _____ Of _____

Evidence of a Release of Oil or Hazardous Materials? ☐ Yes ☐ No ☐ Potential

Comments:

VI. PRELIMINARY ASSESSMENT SUMMARY/REPORTING MATRIX

Based upon a review and evaluation of available records, information, and field observations, indicate and summarize applicable property conditions. Abbreviations and table headings are explained at the bottom of the page; additional guidance is contained in direction section. Please note that responses are mandatory in shaded columns.

SOURCE	Past/Present Existence [16]			Test Data Available [16]			Evidence of OHM Contamination/Release [17]				COMMENTS [18]
	Yes	No	Information Source (f)	Yes	No	Describe (g)	Rec.	Obs.	Test	None	
On-Site (Non-Liquid) Waste Disposal (a)	☐	☒	Records	☐	☒		☐	☐	☐	☒	
Surficial OHM Discharge or Spillage	☒	☐	Records from ICI Resins	☒	☐	Analytical data from 12/28/88, 3/22/89, and 12/21/89	☒	☐	☐	☐	Laboratory analysis has not detected acrylonitrite in the soil samples.
Surficial Wastewater Discharge (b)	☐	☒	Records	☐	☒		☐	☐	☐	☒	
Subsurface OHM Discharge (c)	☐	☒	Records	☐	☒		☐	☐	☐	☒	
Subsurface Wastewater Discharge (d)	☐	☒	Records	☐	☒		☐	☐	☐	☒	
Underground Storage Tank(s) - Oil - (e)	☒	☐		☐	☒		☐	☐	☐	☒	
Underground Storage Tank(s) - Haz. Materials -	☒	☐	Records	☒	☐		☐	☐	☐	☒	
Above-Ground Oil/Haz. Material Storage Tank(s)	☒	☐	Records	☐	☒		☐	☐	☐	☒	
Other:	☐	☒		☐	☒		☐	☐	☐	☒	
Unknown Source but Evidence of Contamination	☒	☐	Analytical data from 12/28/88 and 3/22/89	☒	☐	Analytical data from 12/28/88 and 3/22/89	☐	☐	☐	☐	See note below.

FOOTNOTES: (a) includes refuse, demolition wastes, sludges, hazardous wastes; (b) includes domestic or industrial sewage, surface impoundments; (c) via dry wells, leach fields, injection wells, etc.; (d) includes domestic or industrial sewage leach fields/pits; (e) note: waste oil is considered a "hazardous material"; (f) records, field observation, etc.; (g) includes tank testing data, geophysical data, analytical data, etc.

ABBREVIATIONS: Rec = Records; Obs = Observations; OHM = Oil or Hazardous Material

ADDITIONAL COMMENTS: [19] The results from the 12/28/88 and 3/22/89 analyses indicate methylene chloride, trichloroethylene, and tetrachloroethylene at combined levels of 0.1 ppm or less. The latest analytical data (12/21/89) do not indiate the presence of any of these materials. All analytical results with pertinent MDL's are attached.

☐ Governmental ☐ Military

VII. CONCLUSIONS AND CERTIFICATIONS

Based upon all available information and data, pursuant to MGL Chapter 21E, is there evidence that a release of oil or hazardous materials has or is occurring at the property? ☒ Yes ☐ No ☐ Unknown at this time

Do property conditions constitute a threat of release? ☐ Yes ☐ No ☒ Potential

If either of above is "Yes", are immediate site actions necessary to abate an imminent hazard to public health, safety, welfare, or the environment, due to:

____	Proximity to known potable water supplies?	☐ Yes	☒ No
____	Potential for direct human contact and exposure?	☐ Yes	☒ No
____	Potential for fire or explosion?	☐ Yes	☒ No
____	Proximity to fisheries/critical habitats?	☐ Yes	☒ No
____	Other: ____	☐ Yes	☐ No

If a release has been confirmed, are immediate actions necessary to initiate abatement, containment, or recovery actions, in order to avoid a situation where a delay in remedial actions will substantially decrease the efficiency and/or degree of ultimate cleanup? ☐ Yes ☒ No

Have remedial actions already been taken at the site? ☒ Yes ☐ No

NOTE: If immediate actions are needed, or if remedial actions have already been taken at the site, append complete details on nature o problem and proposed/completed site actions.

Owner/Operator/Private Party (Circle one.)

Name: Dr. Robert Kruger
Title: General Manager
Company: ICI Resins US
Date: ____
Property Affiliation: ____

Professional Environmental Consultant

Name: Alan Hanscom, P.E.
Title: Senior Project Manager
Firm: S E A Consultants Inc.
Date: 1/16/90

☒ Additional information attached to Form

Indicate Name(s) of Environmental Assessment Report(s) prepared for Property: A limited Site Investigation Report will completed by the end of January, 1990.

If Form completed by Private Party and/or Professional Environmental Consultant, please sign:

I hereby certify that the information furnished in and with this Form, to the best of my knowledge, is true, accurate, and complete.

Signature: ____ (Owner/Operator/Private Party)

Signature: Alan H. Hanscom (Consultant)

VIII. DISPOSITION OF CASE

FOR DEQE USE ONLY:

Form completed by: PRP/Consultant/DEQE/DEQE Contractor/Other (Circle one.) Date Received: ____

If not compiled by DEQE, is provided information: ☐ Adequate ☐ Insufficient ☐ Inaccurate

Conclusions: ☐ No Evidence of Release ☐ Release Confirmed ☐ Potential Release - Further Investigation Required

Disposition of Case: ☐ No Action ☐ Re-do P.A. ☐ Perform S.I. ☐ Perform IRM ☐ Other

Enforcement Position: ☐ N.A. ☐ Send N.O.R. ☐ N.O.R. sent ____ ☐ Other

Comments: ____

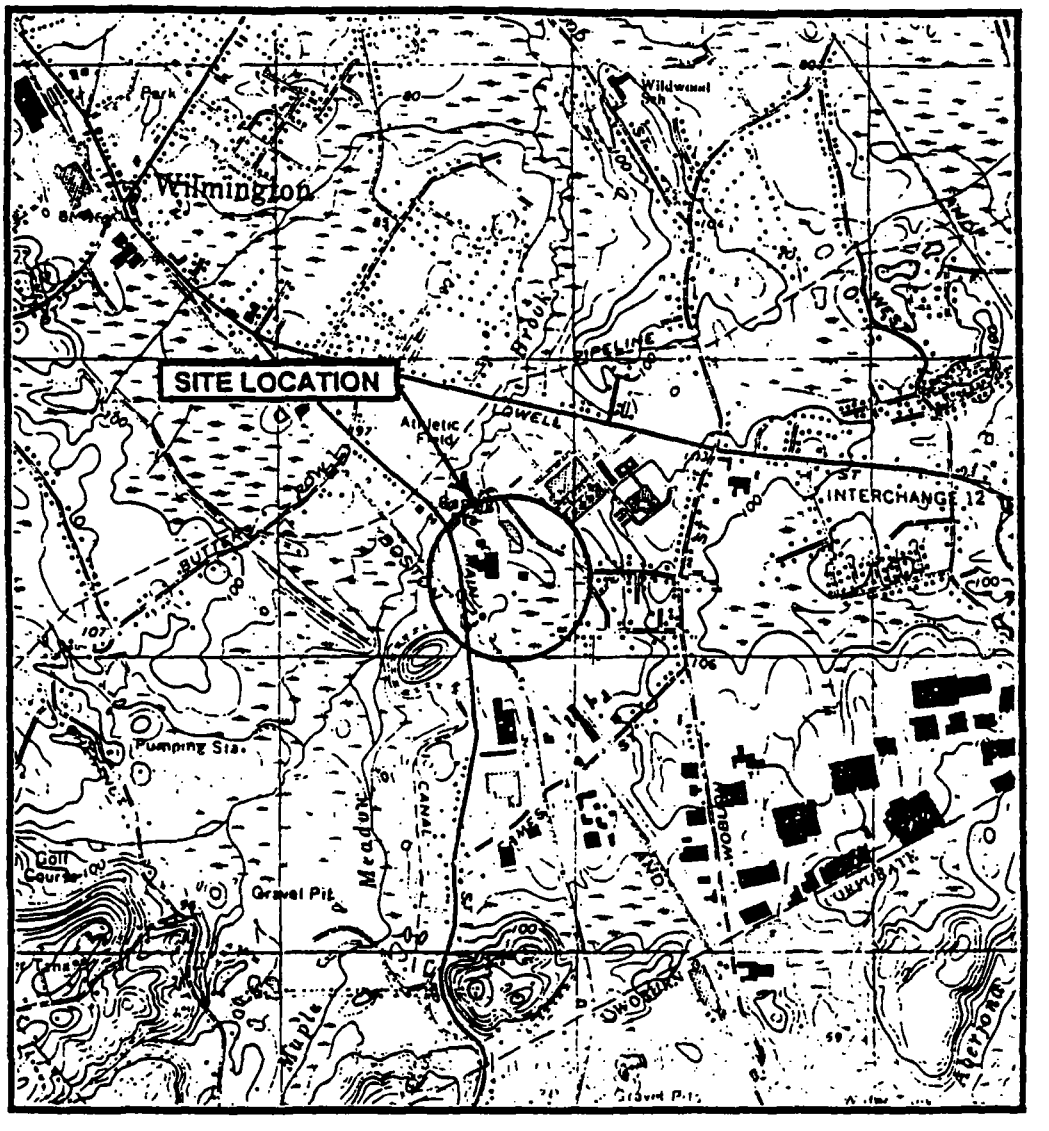
0045-0137

DEQE STAFF: ____ TITLE: ____

SIGNATURE: ____ DATE: ____

Pag

FIGURES



Reference:
From the U.S.G.S.Topographic Map of the Wilmington, Massachusetts Quadrangle

0' 2083'

Scale in feet

N

UTM Coordinates
E 3 23600 M
N 47 11250 M
Latitude / Longitude
71° 9' 30" W
42° 31' 45" N

FIGURE 1.
Locus Map
ICI Resins
Wilmington, Massachusetts

SEA Consultants Inc.
Engineers/Architects

0045-0139

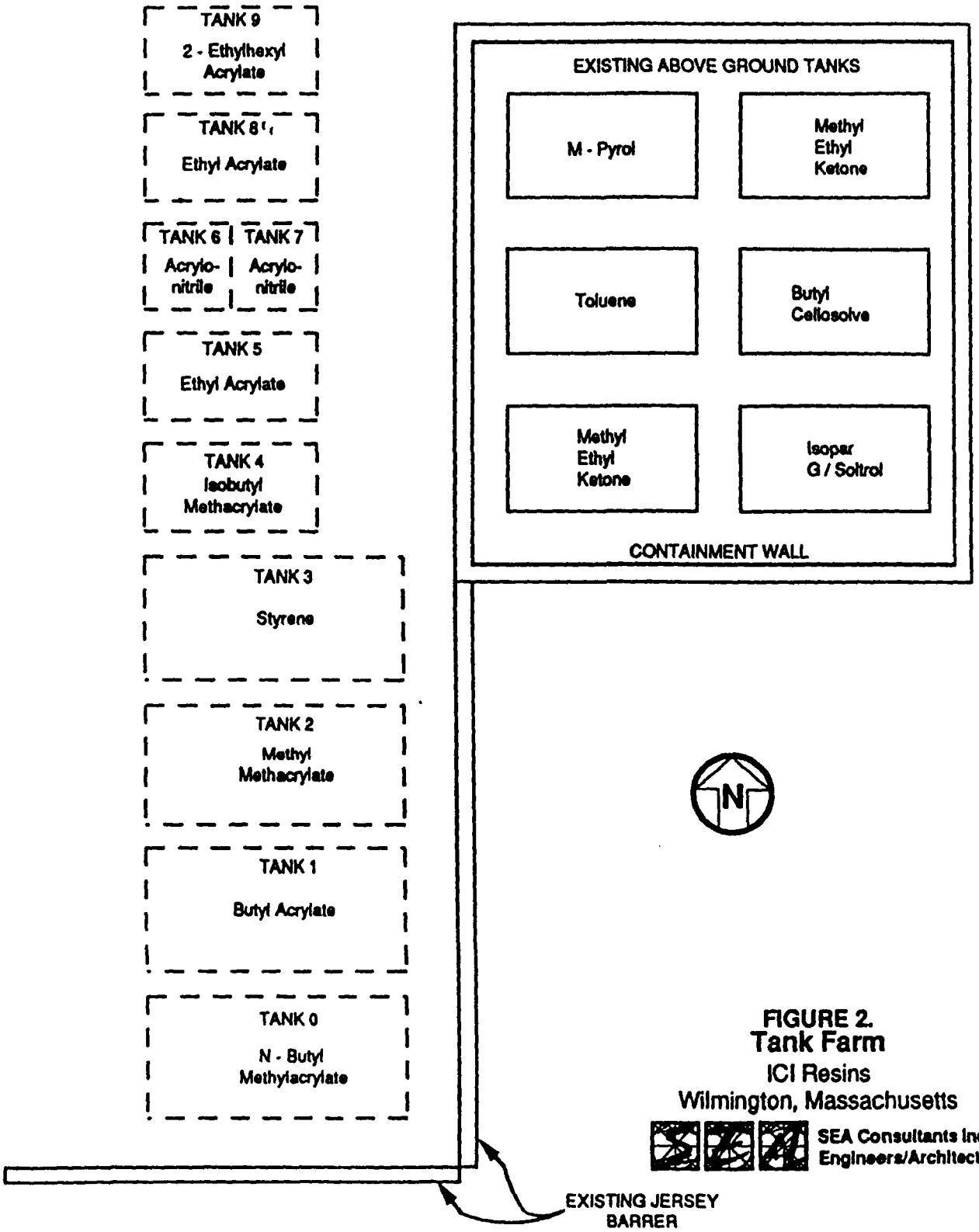
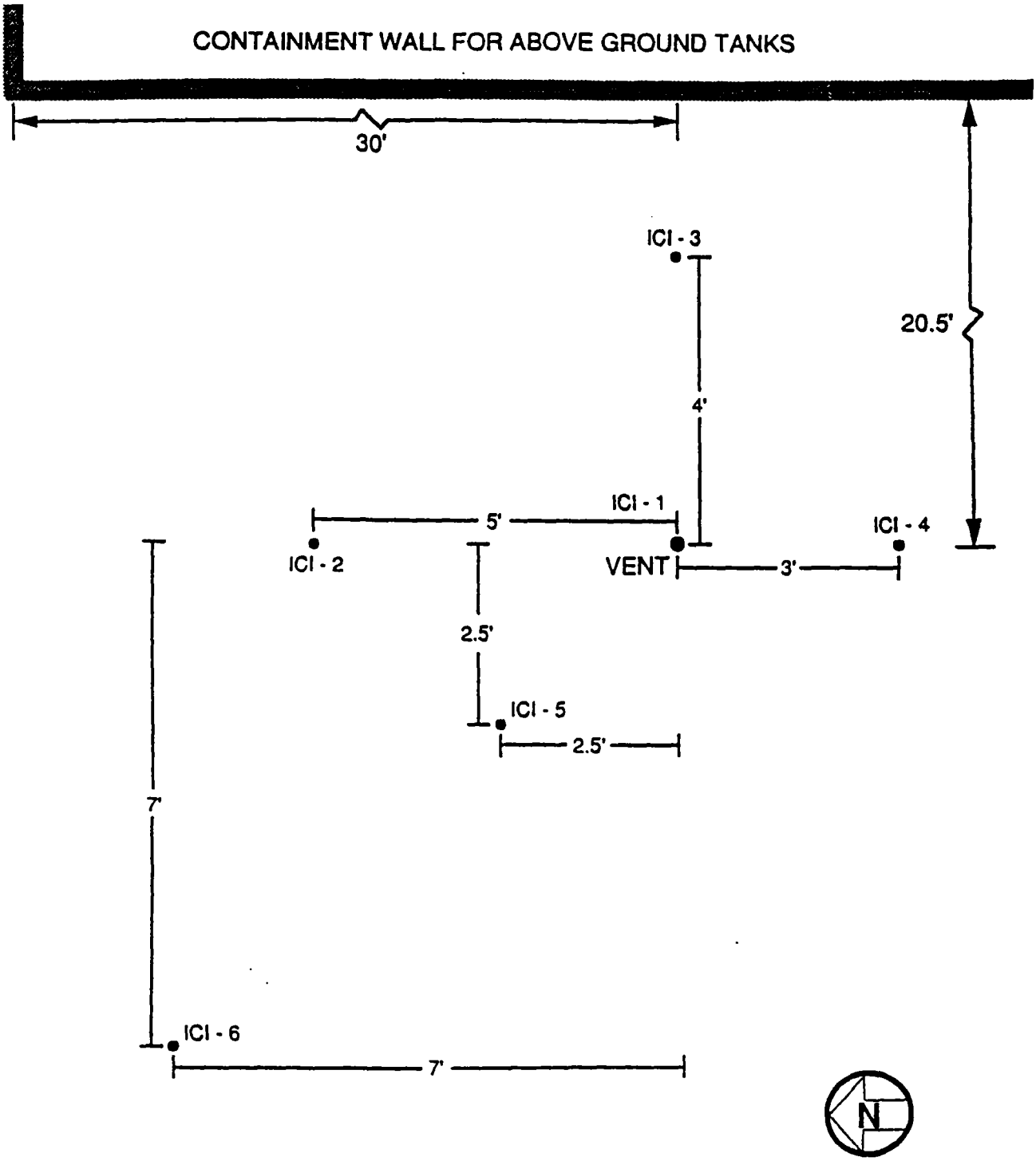


FIGURE 2.
Tank Farm
ICI Resins
Wilmington, Massachusetts

SEA Consultants Inc.
Engineers/Architects

ICI RESINS
WILMINGTON, MASSACHUSETTS



Sample	Depth (in.)
ICI - 1	15
ICI - 2	36
ICI - 3	18
ICI - 4	24
ICI - 5	24
ICI - 6	18

FIGURE 3.
Sampling Plan
ICI Resins
Wilmington, Massachusetts

SEA Consultants Inc
Engineers/Architect

0045-0141

ANALYTICAL RESULTS
(12/21/89 Sample Data)

ALPHA ANALYTICAL LABORATORIES
Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Address: 485 Massachusetts Avenue
Cambridge, MA 02139

Attn: Chris Durfee

Job Number: 894365

Invoice Number: 10967

Date In: 12/21/89

Date Reported: 01/04/90

Sample Description: Six soil samples

SEA Proj. #90007.1W

REFERENCES:

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

2. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 16th Edition. 1985.

3. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-82-055. 1983.

4. Oil Spill Identification System. CG-D-52-77 U. S. Coast Guard. 1977.

5. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

Authorized by: Scott McLean—Laboratory Director

kmg

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.1

Analysis Requested: HSL Volatile Organics, Acrolein and Acrylonitrile

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 1
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: Glass jar, VOA vials
Field Prep: None

# of Containers: 3

PARAMETER	RESULT	UNITS	MDL*	INST	REF**	METHOD	EXTRACT	ANALYSIS
HSL Volatile Organics **	ND	ug/Kg	1*	GC/MS	1	8240	------	12/29/89
Acrolein	ND	ug/Kg	500	GC	1	603	------	01/03/90
Acrylonitrile	ND	ug/Kg	500	GC	1	603	------	01/03/90

** Note: All compounds were below the detection limits except those listed above.

1* A list of HSL volatile organics analyzed for and their detection limits accompanies this report.

* MDL—Method Detection Limits (same units as the Results)
** REF—Reference as cited on the cover (first) page of this report.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.2

Analysis Requested: Acrolein and Acrylonitrile

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 2
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: Glass jar
Field Prep: None

# of Containers: 1

PARAMETER	RESULT	UNITS	MDL*	INST	REF**	METHOD	EXTRACT	ANALYSIS
Acrolein	ND	ug/Kg	500	GC	1	603	———	01/03/90
Acrylonitrile	ND	ug/Kg	500	GC	1	603	———	01/03/90

* MDL—Method Detection Limits (same units as the Results)
** REF—Reference as cited on the cover (first) page of this report.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.3

Analysis Requested: Acrolein and Acrylonitrile

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 3
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: Glass jar
Field Prep: None

# of Containers: 1

PARAMETER	RESULT	UNITS	MDL*	INST	REF**	METHOD	EXTRACT	ANALYSIS
Acrolein	ND	ug/Kg	500	GC	1	603	———	01/03/90
Acrylonitrile	ND	ug/Kg	500	GC	1	603	———	01/03/90

* MDL--Method Detection Limits (same units as the Results)
** REF--Reference as cited on the cover (first) page of this report.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.4

Analysis Requested: Acrolein and Acrylonitrile

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 4
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: Glass jar
Field Prep: None

# of Containers: 1

PARAMETER	RESULT	UNITS	MDL*	INST	REF**	METHOD	EXTRACT	ANALYSIS
Acrolein	ND	ug/Kg	500	GC	1	603	———	01/03/90
Acrylonitrile	ND	ug/Kg	500	GC	1	603	———	01/03/90

* MDL--Method Detection Limits (same units as the Results)
** REF--Reference as cited on the cover (first) page of this report.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.5

Analysis Requested: Acrolein and Acrylonitrile

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 5
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: Glass jar
Field Prep: None

# of Containers: 1

PARAMETER	RESULT	UNITS	MDL*	INST	REF**	METHOD	EXTRACT	ANALYSIS
Acrolein	ND	ug/Kg	500	GC	1	603	———	01/03/90
Acrylonitrile	ND	ug/Kg	500	GC	1	603	———	01/03/90

* MDL--Method Detection Limits (same units as the Results)
** REF--Reference as cited on the cover (first) page of this report.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.6

Analysis Requested: HSL Volatile Organics, Acrolein and Acrylonitrile

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 6
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: Glass jar, VOA vials
Field Prep: None

# of Containers: 3

PARAMETER	RESULT	UNITS	MDL*	INST	REF**	METHOD	EXTRACT	ANALYSIS
HSL Volatile Organics **	ND	ug/Kg	1*	GC/MS	1	8240	———	12/29/89
Acrolein	ND	ug/Kg	500	GC	1	603	———	01/03/90
Acrylonitrile	ND	ug/Kg	500	GC	1	603	———	01/03/90

** Note: All compounds were below the detection limits except those listed above.

1* A list of HSL volatile organics analyzed for and their detection limits accompanies this report.

* MDL—Method Detection Limits (same units as the Results)
** REF—Reference as cited on the cover (first) page of this report.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Client: SEA Consultants

Sample Number: 894365.1 & .6

Analysis Requested: HSL Volatile Organics (Surrogate Recovery)

Date Received: 12/21/89

Date Reported: 01/04/90

Client Ident: ICI 1 and ICI 6
Sample Location: Wilmington, MA
Sample Description: Soil
Sample Container: VOA vials
Field Prep: None

# of Containers: 4

COMPOUNDS	894365.1	894365.6
1,2-Dichloroethane-d4	93%	94%
Toluene-d8	93%	91%
4-Bromofluorobenzene	98%	97%

* MDL--Method Detection Limits (same units as the Results)
** REF--Reference as cited on the cover (first) page of this report.

HSL VOLATILE ORGANICS BY GC/MS
METHOD 624

PARAMETER	METHOD DETECTION LIMIT
Methylene chloride	2.8 ug/L
1,1-Dichloroethane	4.7 ug/L
Chloroform	1.6 ug/L
Carbon tetrachloride	2.8 ug/L
1,2-Dichloropropane	6.0 ug/L
Dibromochloromethane	3.1 ug/L
1,1,2-Trichloroethane	5.0 ug/L
2-Chloroethylvinyl ether	10.0 ug/L
Tetrachloroethene	4.1 ug/L
Chlorobenzene	6.0 ug/L
Trichlorofluoromethane	5.0 ug/L
1,2-Dichloroethane	2.8 ug/L
1,1,1-Trichloroethane	3.8 ug/L
Bromodichloromethane	2.2 ug/L
Trans-1,3-Dichloropropene	5.0 ug/L
Cis-1,3-Dichloropropene	5.0 ug/L
Bromoform	4.7 ug/L
1,1,2,2-Tetrachloroethane	6.9 ug/L
Benzene	6.0 ug/L
Toluene	6.0 ug/L
Ethyl benzene	7.2 ug/L
Xylenes	10.0 ug/L
Chloromethane	8.0 ug/L
Bromomethane	7.0 ug/L
Vinyl chloride	6.5 ug/L
Chloroethane	7.5 ug/L
1,1-Dichloroethene	2.8 ug/L
1,2-Dichloroethene	1.6 ug/L
Trichloroethene	1.9 ug/L
1,2-Dichlorobenzene	10.0 ug/L
1,3-Dichlorobenzene	10.0 ug/L
1,4-Dichlorobenzene	10.0 ug/L
Acetone	500.0 ug/L
Carbon disulfide	20.0 ug/L
2-Butanone	30.0 ug/L
Vinyl acetate	30.0 ug/L
4-Methyl-2-pentanone	20.0 ug/L
2-Hexanone	20.0 ug/L
Styrene	10.0 ug/L
o-Xylene	10.0 ug/L

NOTE: Detection limits in soil and sediment are 50X higher.

ATTACHMENT A

(RELEASE INCIDENT NO. 1)

On July 27, 1988, a release of acrylonitrile occurred as the result of incorrect set valving on a split-compartment underground storage tank. Approximately 16 gallons or 108 pounds of monomer were released through the tank's vent pipe. The spill was contained in circular area about 6 feet in diameter.

ICI notified the DEP of the release and worked with the Department to develop appropriate response actions and sampling activities to verify that the release was thoroughly addressed. Reference is made to ICI's 9/07/88 letter to the DEP.

On September 9, 1988, DEP issued a notice of responsibility indicating that ICI was responsible for the release and requested additional information. ICI implemented the necessary response actions and provided the required information to DEP in a letter dated October 5, 1988. ICI performed soil sampling and testing to activities to confirm the absence of acrylonitrile in soil remaining after clean-up. The results of the analysis indicated that no residual acrylonitrile was present; however, 63 ppb of tetrachloroethylene, 20 ppb methylene chloride and 24 ppb of trichloroethylene were found. ICI does not use chlorinated hydrocarbons and could not explain their presence in the analyses.

No further action was required at that time.

The following is a listing of documentation submitted in support of the PAF:

9/07/88 - ICI letter to DEP confirming response activities.
9/09/88 - DEP Notice of Responsibility/Request for Tech. Information.
10/05/88 - ICI Response letter to DEP.
2/09/89 - ICI letter to DEP transmitting analytical results of 12/28/88 sampling.

Specialty Chemicals

ICI Americas Inc.
Wilmington, Delaware 19897
Tel. (302) 575-3000
Telex 4945649

September 7, 1988

Mr. Roger Chu
Department of Environmental
Quality Engineering
5 Commonwealth Avenue
Woburn, MA 01801

Dear Mr. Chu:

As we agreed in our recent phone conversation, ICI Resins will conduct the following activities:

1. Perform the sampling discussed in our meeting of August 30, 1988. This will serve to provide ICI Resins with the necessary information to complete the excavation of contaminated soil. Samples will be run in the ICI Resins lab using their sampling methods.

2. The contaminated soil will be removed and shipped off for disposal in accordance with all state and federal regulations. You will be notified prior to the commencement of these activities.

3. After excavation is complete, we will meet with you to determine the sampling locations to certify that the remediation is complete.

4. We will contract an independent laboratory to take samples of the locations selected in step 3. They will use sampling and analysis protocol in accordance with MA DEQE and U.S. EPA accepted practice. A copy of their report will be submitted to you.

This approach should assure an expeditious and effective remediation of the spill site while providing the MA DEQE with independent verification that the clean-up was successful. We will keep you appraised of progress. In the meantime, if you have any questions, I can be reached at (302) 575-2207.

Sincerely,

Stephen K. Harvey
Manager Environmental Affairs

SKH:jlw
G8090688JLW102

cc: Mr. J. F. Tynan

SEP 1. [illegible]

The Commonwealth of Massachusetts

Department of Environmental Quality Engineering
Metropolitan Boston - Northeast Region
5 Commonwealth Avenue
Woburn, Massachusetts 01801

DANIEL GREENBAUM
Commissioner

935-2160

September 9, 1988

Mr. Jim Tynan
1C1 Resins US
730 Main Street
Wilmington, MA 01887

RE: WILMINGTON - ERB-N88-1097
Hazardous Material Release
at 730 Main Street
NOTICE OF RESPONSIBILITY/REQUEST
FOR TECHNICAL INFORMATION PURSUA
TO M.G.L. CHAPTER 21E

Dear Mr. Tynan:

On July 27, 1988, Department personnel investigated reports concerning the release of approximately 37 gallons of acrylonitrile into the ground at the referenced site.

The Department's investigation found that during your routine product (acrylonitrile) transfer from one tank to another, an overfilling of acrylonitril had occurred. Subsequently, the said product was released from the vent pipe into ground.

Such incident is governed by Chapter 21E of the General Laws of Massachusett: (hereinafter "M.G.L. Chapter 21E"), the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, which was enacted on March 24, 1983.

Chapter 21E identifies as responsible parties the current owner or operator site at which there has been a release or threat of release of oil or a hazardou: material; the past owner or operator of a site where a release of hazardous mate has occurred; any person who directly or indirectly arranged for the transport, disposal, storage or treatment of hazardous materials to or at such a site; and person who caused or is legally responsible for a release or a threat of release oil or a hazardous material at such a site. Such parties are liable without reg to fault; the nature of this liability is joint and several. (M.G.L. Chapter 21 Section 5a).

This letter is to inform you in writing that:

(1) The Department has determined that a release or threat of release of hazardous material has occurred at the subject site.

(2) Information available to the Department indicates that you as operator/o of the subject site, are a liable and "responsible" party pursuant to Section 5(a) of Chapter 21E.

(3) Additional information is needed to better evaluate the need for further emergency response action at this site.

(4) Should you fail to implement those actions deemed necessary by this Offi the Department may, pursuant to M.G.L. Chapter 21E, take or arrange for and all necessary actions at the site. If public funds are expended und such conditions, Chapter 21E, Section 11 stipulates that the Attorney General of the Commonwealth of Massachusetts may initiate legal action against the responsible party(s) to recover all costs incurred by the Department in the assessment, containment, and removal of any release or threat of release of oil or hazardous materials.

(5) The liability of responsible parties in (4) above includes:

a. Administrative costs incurred by the Department in handling this mat (in simple spill cases, administrative costs incurred by the Department prior to formal legal action are at least $1,000);

b. Interest charges on the total liability at the statutory rate of 12' compounded annually;

c. Treble damages (i.e., three (3) times the total amount of response the Department incurs); and

d. All damages for the injury, destruction or loss of natural resource to the release.

This liability constitutes a debt to the Commonwealth. The debt, together w interest, creates a lien on all your property in the Commonwealth. In addition the foreclosure remedy provided by the lien, the Attorney General of the Commonw may recover that debt or any part of it in an action against you. You may also liable under M.G.L. C.21E Section 11 for up to $100,000 in fines or penalties fo each violation of C.21E as well as for additional penalties or damages pursuant other statutes or common law.

On July 27, 1988, at approximately 6:30 a.m., Department personnel verbally notified you of your responsibility for such release/threat of release [and gave y one copy of a document prepared by the Department and entitled "Brief Synopsis of M.G.L. Chapter 21E, the Massachusetts Oil and Hazardous Material Release Preventio and Response Act". You accepted such responsibility at that time.

Your acceptance of responsibility for such release means that: (1) you have entered into a contract with a cleanup contractor, approved by the Department name Inland Pollution Control, Inc. of Rockland, Massachusetts to take all necessary emergency remedial response actions (containment, assessment and/or removal action relative to such release; and (2) pay for all response costs incurred by the Department due to such release.

Pursuant to the Department's authority to perform information-gathering activities and its authority to investigate, sample and inspect records, conditior equipment, practices or property under M.G.L. C.21E Sections 2, 4 and 8, you are directed to provide to the Department, within fifteen (15) days of the date of th letter:

(1) a brief account of why, how and where such release/threat of release occurred; and

(2) a brief description of all assessment, containment and/or removal action that have been and/or will be taken relative to such release/threat of release; and

(3) an estimate, to the best of your knowledge, of the quantity of oil/hazar material released; and

(4) photocopies of all waste manifests for the oil/hazardous material releas and

(5) laboratory results from a DEQE-approved laboratory of soil/water sample taken from the cleaned up environmental media impacted by the release; a

(6) a detailed description and a timetable of measures you plan to implemen prevent future recurrence of such incidents.

You are hereby notified that failure to respond to this letter may subject y legal action including criminal prosecution, court-imposed civil penalties, administrative orders or civil administrative penalties assessed by the Departme

It is to your advantage to respond to this request for information in an ade and timely manner, demonstrating that you have acted appropriately in taking necessary response actions relative to this release/threat of release of oil and hazardous materials.

Depending on the information generated by the above work, the Department may require additional investigations, studies and actions. If you fail to take these actions or if you fail to perform these tasks in accordance with the standards of t Department, the Department may perform response actions in your stead and recover : costs from you in accordance with the provisions described above.

Your response to the requested information and any further questions regarding this matter should be directed to Roger Chu at the letterhead address or 935-2160 : refer to case number ERB-N88-1097.

Very truly yours,

Richard J. Chalpin
Deputy Regional
Environmental Engineer

RJC/RC/ae

cc: Frank Sciannameo, DEQE, OIR, One Winter St., Boston, MA 02108
Chief Daniel C. Wandell, 34 Church St., Wilmington, MA 01887
Gregory Erickson, CHO, Dir., 121 Glen Rd., Wilmington, MA 01887

Enclosures: (1) Minimal Standards for the Submission of Analytical Data

ICI Resins

ICI Resins US
730 Main Street
Wilmington
Massachusetts 01887
Telephone (617) 658
Telex 200240
Fax (617) 657-7978

October 5, 1988

Mr. Roger Chu
Department of Environmental
Quality Engineering
5 Commonwealth Avenue
Woburn, MA 01801

RE: Wilmington-ERB-N88-1097

Dear Mr. Chu:

Included is review of the Acrylonitrile spill incident and a progress report on the clean-up and site assessment as we discussed during our recent telephone conversation, and in response to Mr. Chalpin's letter of Sept. 9, 1988.

1. The release occurred when the valving on a split-compartment underground storage tank was incorrectly set, resulting in monomer being transferred from a nearly empty 3,000 gal. compartment into a nearly filled 3,000 gal. compartment, instead of into the plant process vessels. The transfer pumps are on automatic, approximately one-minute time cycles. The pump rate is 50 G.P.M. When the operator perceived that no material was delivered an immediate check of the tank farm area showed that liquid had been discharged from the tank vent onto the gravel atop the tank.

2. An immediate containment was made with personnel in full protective gear. Tarpaulins were placed over the spill as rain was imminent and air sampling with indicator tubes was made. Regulatory agencies were notified. The spill was contained in a circular area about 6 feet in diameter in the gravel covering the tank. There was no air release.

3. The amount spilled by inventory figures obtained by direct stick readings of the tank compartments was a maximum of 16 gals. At 20°C the specific gravity of Acrylonitrile is 0.806. Therefore 16 gals. is 108 lbs. This is a maximum estimate of the spill, and the amount released could have been somewhat less.

4. Photocopies of the hazardous waste manifests from the clean-up are enclosed. Inland Pollution Control, Inc. has to date removed 11 drums of contaminated soil for incineration. Clean-up costs to date total $21,963.31.

5. Samples have been taken and are being tested for a site assessment as outlined in Mr. Harvey's letter of Sept. 7, 1988, a copy of which is enclosed, and the final touches to the clean-up will proceed as he has indicated.

6. Countermeasures to preclude any recurrence have been implemented. The crossover connection which permitted pumping from one compartment to another has been locked out and separate pumps and transfer lines are in place on each compartment. This establishes each compartment as an independent tank. Physical removal of the crossover connection will be accomplished during a plant shut down later this year.

Please let me know if there are any questions.

Sincerely,

James F. Tynan, Manager
Safety, Health and
Environment

JFT:eam
Enclosures

cc: Richard J. Chalpin, Deputy Regional Engineer, DEQE, Woburn, Mass.
Frank Sciannameo, DEQE, OIR, One Winter St., Boston, MA 02108
Chief Daniel C. Wandell, 34 Church St., Wilmington, MA 01887
Gregory Erickson, CHO, Dir., 121 Glen Rd., Wilmington, MA 01887

bcc: RAK TEK ML JHK
WPB WJK JFT
SKH-fax copy

Resins

February 9, 1989

ICI Resins US
730 Main Street
Wilmington
Massachusetts 01887-0
Telephone (617) 658-6
Telex 200240
Fax (617) 657-7978

The Commonwealth of Massachusetts
Department of Environmental Quality Engineering
Metropolitan Boston-Northeast Region
5 Commonwealth Avenue
Woburn, MA 01801

Attn: Mr. Roger Chu, Environmental Engineer

RE: Wilmington - ERB-N88-1097

Dear Mr. Chu:

Confirming our telephone conversation of Tuesday, Feb. 9, 1989, there is enclosed a copy of the analysis report from Cambridge Analytical Associates on soil sampling from the spill site taken by them on Dec. 28, 1988. They report no detectable amounts of acrylonitrile. A diagram of the sampling sites is described on page 8 of the enclosed report and shown on an attachment.

The absence of acrylonitrile in these samples is reassuring, and shows that the clean-up of the contaminated soil is completed. Inland Pollution Control, Inc. has handled the clean-up and disposal.

We cannot explain the trace amounts of chlorinated hydrocarbons reported, as we have never used these substances. I suspect that they are analytical artifacts.

If there are any further questions, please call either John Kibbee, the plant manager, or me.

Sincerely,

James F. Tynan, C.S.P.
Manager, Safety, Health
and Environment

JFT:eam
Enclosures
Certified Mail
Return Receipt Requested

CC: S. Harvey
J. Kibbee

FEB 7 198

JFT

R E P O R T T O

ICI Resins U.S.
730 Main Street
Wilmington, MA 01887-0677

Attn: Mr. John Kibbee

Work ID: Acrylonitrile Spill
P.O. No.: 27260
Work Order: 88-12-326

Cambridge Analytical Associates
Environmental Division
1106 Commonwealth Avenue
Boston MA 02215

REPORT

Work Order # 88-12-326

'ed: 12/28/88

02/06/89 16:45:11

)RT ICI Resins U.S.
TO 730 Main Street
Wilmington, MA 01887-0677

'EN Mr. John Kibbee

:NT ICIRESINS_MA SAMPLES 7
ANY ICI Resins U.S.
[TY 730 Main Street
Wilmington, MA 01887-0677

ID Acrylonitrile Spill
KEN By J. Ehret
ANS Hand Delivered
YPE Soil
. # 27260
. # 18251

PREPARED Cambridge Analytical Assoc.
BY Environmental Division
1106 Commonwealth Avenue
Boston, MA 02215
ATTEN
PHONE 617-232-2207

Kristin Reed
CERTIFIED BY

CONTACT REID

This report is approved for release by the following staff:
Laboratory Director: Michael Delaney
Inorganic Laboratory:
Organic Laboratory:

MPLE IDENTIFICATION
AB 1
AB 2
AB 3
AB 4
AB 5
AB 6
MPLING CHARGE

TEST CODES and NAMES used on this report

V624_S VOC-waste/soil SW-846/8240

0045-0162

REPORT

Work Order # 88-12-326

ed: 12/28/88

Results by Sample

ID GRAB 1 FRACTION 01A TEST CODE V624_S NAME VOC-waste/soil SW-846/8240

Date & Time Collected 12/28/88 Category SOIL

sis
ted: 1/6/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
romethane		2-Chloroethylvinyl Ether	
omethane		Bromoform	
l Chloride		1,1,2,2-Tetrachloroethane	
roethane		Tetrachloroethylene	16
ylene Chloride		Toluene	
-Dichloroethylene		Chlorobenzene	
-Dichloroethane		Ethylbenzene	
s-1,2-Dichloroethylene		total Xylenes	
roform			
-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
,1-Trichloroethane			
bon Tetrachloride			
modichloromethane		Carbon Disulfide	
-Dichloropropane		2-Butanone (MEK)	
ns-1,3-Dichloropropene		Vinyl Acetate	
chloroethylene	7	2-Hexanone (MPK)	
orodibromomethane		4-Methyl-2-pentanone (MIBK)	
,2-Trichloroethane		Styrene	
zene			
-1,3-Dichloropropene		DETECTION LIMIT	5*

0045-0163

(a). - Concentrations less than the detection limit are left blank

REPORT

Work Order # 88-12-326

ıd: 12/28/88

Results by Sample

ID GRAB 2 FRACTION 02A TEST CODE V624_S NAME VOC-waste/soil SW-846/8240

Date & Time Collected 12/28/88 Category SOIL

ɜis

:ed: 1/6/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
romethane		2-Chloroethylvinyl Ether	
omethane		Bromoform	
l Chloride		1,1,2,2-Tetrachloroethane	
roethane		Tetrachloroethylene	34
ylene Chloride	10	Toluene	
Dichloroethylene		Chlorobenzene	
Dichloroethane		Ethylbenzene	
s-1,2-Dichloroethylene		total Xylenes	
roform			
Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1-Trichloroethane			
on Tetrachloride			
odichloromethane		Carbon Disulfide	
Dichloropropane		2-Butanone (MEK)	
s-1,3-Dichloropropene		Vinyl Acetate	
hloroethylene	11	2-Hexanone (MPK)	
rodibromomethane		4-Methyl-2-pentanone (MIBK)	
2-Trichloroethane		Styrene	
ene			
1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

REPORT

Work Order # 88-12-326

ed: 12/28/88

Results by Sample

ID GRAB 3

FRACTION 03A TEST CODE V624_S NAME VOC-waste/soil SW-846/8240

Date & Time Collected 12/28/88 Category SOIL

sis
ted: 1/7/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
romethane		2-Chloroethylvinyl Ether	
omethane		Bromoform	
l Chloride		1,1,2,2-Tetrachloroethane	
roethane		Tetrachloroethylene	23
ylene Chloride		Toluene	
Dichloroethylene		Chlorobenzene	
Dichloroethane		Ethylbenzene	
s-1,2-Dichloroethylene		total Xylenes	
roform			
Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1-Trichloroethane			
on Tetrachloride			
odichloromethane		Carbon Disulfide	
Dichloropropane		2-Butanone (MEK)	
s-1,3-Dichloropropene		Vinyl Acetate	
hloroethylene	16	2-Hexanone (MPK)	
rodibromomethane		4-Methyl-2-pentanone (MIBK)	
2-Trichloroethane		Styrene	
ene			
1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

0045-0165

REPORT

Work Order # 88-12-326

ɜd: 12/28/88

Results by Sample

ID GRAB 4

FRACTION 04A TEST CODE V624_S NAME VOC-waste/soil SW-846/8240

Date & Time Collected 12/28/88 Category SOIL

sis
ted: 1/6/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
romethane		2-Chloroethylvinyl Ether	
omethane		Bromoform	
l Chloride		1,1,2,2-Tetrachloroethane	
roethane		Tetrachloroethylene	63
ylene Chloride	20	Toluene	
Dichloroethylene		Chlorobenzene	
Dichloroethane		Ethylbenzene	
s-1,2-Dichloroethylene		total Xylenes	
roform			
Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1-Trichloroethane			
on Tetrachloride			
odichloromethane		Carbon Disulfide	
Dichloropropane		2-Butanone (MEK)	
s-1,3-Dichloropropene		Vinyl Acetate	
hloroethylene	24	2-Hexanone (MPK)	
rodibromomethane		4-Methyl-2-pentanone (MIBK)	
2-Trichloroethane		Styrene	
ene			
1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

REPORT

Work Order # 88-12-326

ed: 12/28/88

Results by Sample

ID GRAB 5 FRACTION 05A TEST CODE V624_8 NAME VOC-waste/soil SW-846/8240

Date & Time Collected 12/28/88 Category SOIL

sis
ted: 1/7/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
romethane		2-Chloroethylvinyl Ether	
omethane		Bromoform	
l Chloride		1,1,2,2-Tetrachloroethane	
roethane		Tetrachloroethylene	52
ylene Chloride	5	Toluene	
-Dichloroethylene		Chlorobenzene	
-Dichloroethane		Ethylbenzene	
s-1,2-Dichloroethylene		total Xylenes	
roform			
-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1-Trichloroethane			
on Tetrachloride			
odichloromethane		Carbon Disulfide	
-Dichloropropane		2-Butanone (MEK)	
s-1,3-Dichloropropene		Vinyl Acetate	
hloroethylene	29	2-Hexanone (MPK)	
rodibromomethane		4-Methyl-2-pentanone (MIBK)	
,2-Trichloroethane		Styrene	
zene			
-1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

REPORT

Work Order # 88-12-326

ıd: 12/28/88

Results by Sample

ID GRAB 6 FRACTION 06A TEST CODE V624_8 NAME VOC-waste/soil SW-846/8240

Date & Time Collected 12/28/88 Category SOIL

sis
ted: 1/7/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
romethane		2-Chloroethylvinyl Ether	
omethane		Bromoform	
l Chloride		1,1,2,2-Tetrachloroethane	
roethane		Tetrachloroethylene	45
ylene Chloride	5	Toluene	
Dichloroethylene		Chlorobenzene	
Dichloroethane		Ethylbenzene	
s-1,2-Dichloroethylene		total Xylenes	
roform			
Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1-Trichloroethane			
on Tetrachloride			
odichloromethane		Carbon Disulfide	
Dichloropropane		2-Butanone (MEK)	
s-1,3-Dichloropropene		Vinyl Acetate	
hloroethylene	24	2-Hexanone (MPK)	
rodibromomethane		4-Methyl-2-pentanone (MIBK)	
2-Trichloroethane		Styrene	
ene			
1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

REPORT

ad: 12/28/88 02/06/89 16:45:11 Work Order # 88-12-326

sins U.S.

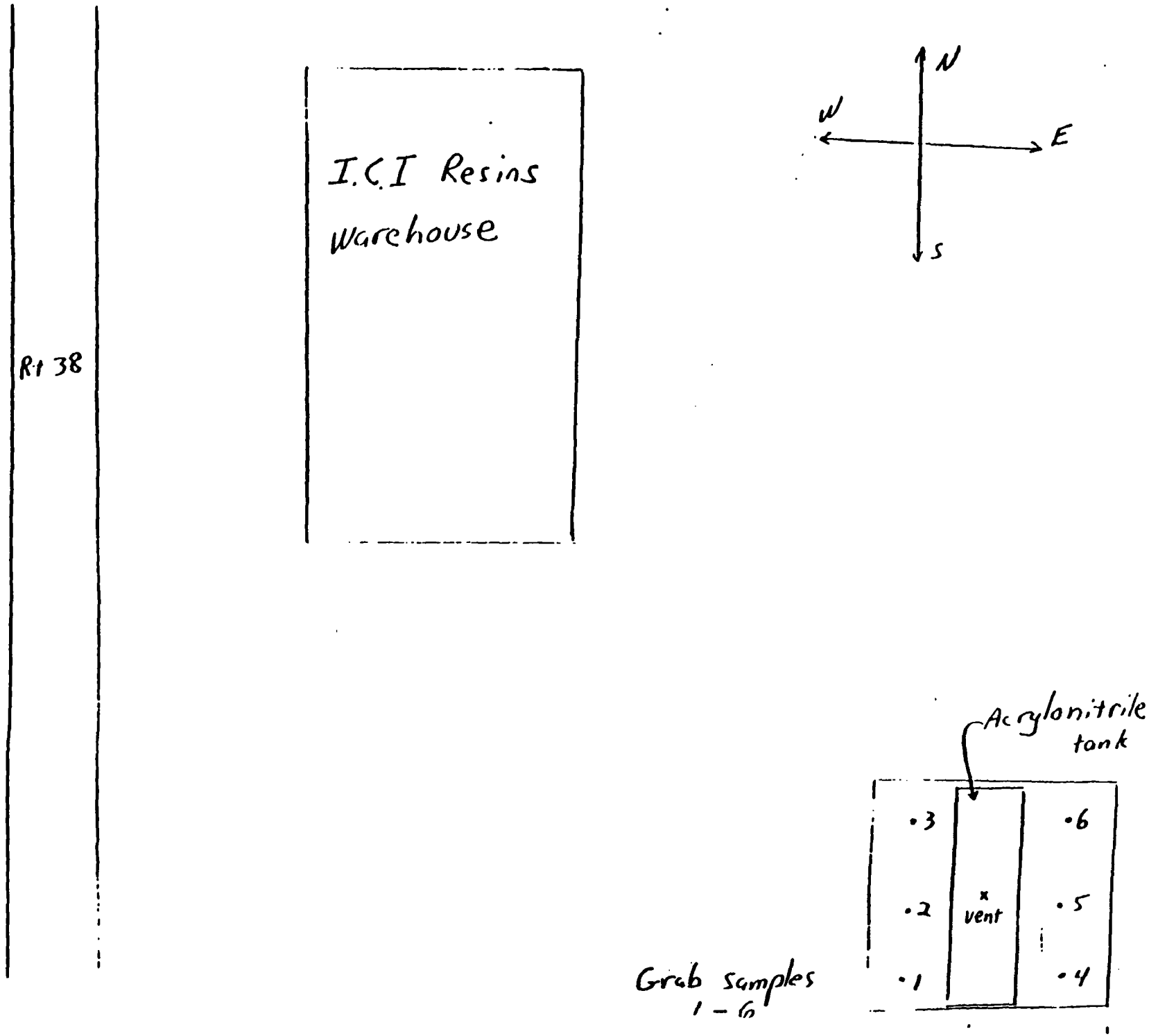
S ON VOLATILE ANALYSES

er the request of John Kibbee from ICI Resins, Acrylonitrile was searched all the samples. The instrument was calibrated for acrylonitrile daily. nitrile was not detected in any of the six Grab samples at an estimated ion limit of 20 ppb.

n addition, two tentatively identified compounds were detected in sample . The sample contains 1-Hexanol at an estimated concentration of 10 ug/kg Pentene,4,4-dimethyl at an estimated concentration of 12 ug/kg. The Grab 1 also contains acetone at an estimated concentration of 2 ug/kg.

NG:

n December 28, 1988 Jay Ehret, of Cambridge Analytical Associates, ted six grab samples for acrylonitrile analyses. The soil samples ollected from a pit approximately 2 feet deep and 16 feet wide. samples were collected on each side of the acrylonitrile tank. A m of the area is attached.


Rt 38
I.C.I Resins
warehouse
N
W
E
S
Acrylonitrile
tank
•3
•6
•2
vent
•5
•1
•4
Grab samples
1 – 6

0045-0170

REPORT

Work Order # 88-12-326

ıd: 12/28/88

Test Methodology

)DE V624_S NAME VOC-waste/soil SW-846/8240

Reference: U.S. EPA, 1982. Test Methods for Evaluating Solid
'hysical/Chemical Methods. Second Edition. SW-846. EPA/Office of Solid
Washington, D.C. Method 5030/8240, test method for volatile organic
ıds.

Description: The analytes in a solid/waste sample are isolated and
:rated by purging the sample with inert gas and trapping them on an
ınt. The absorbant is thermally desorbed into a gas chromatograph (GC)
:he analytes are separated and detected with a mass spectrometric (MS)
ɔr.

/ Control Procedures: The GC/MS is tuned daily with bromofluorobenzene
Instrument response is calibrated daily using EPA traceable standard
ıce solutions. Analytes are quantified using the internal standard
. Surrogate standard compounds are added to every sample to monitor
performance. Additional quality control includes the analysis of matrix
, duplicate matrix spikes and blanks.

F CUSTODY RECORD

AME I C I Resins

Y

(Print Name) J Ehret — Signature J Ehret

(Print Name) — Signature

(Print Name) — Signature

Cambridge Analytical Associates
1106 Commonwealth Avenue / Boston, Massachusetts 02215
(617) 232-2207

88 12326

DATE	TIME	SAMPLE LOCATION	SIZE	G/P	GRAB	COMP	NO. OF CONTAINERS	SAMPLE MATRIX	PRESERVATIVE	Volatile Organics	Extractable Organics	Pesticides/PCBs	Metals	Cyanide	Phenols	COMMENTS
[illegible]			[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	X						
↓			↓	↓	↓		↓	↓	↓	X						
										X						
										X						
										X						
										X						

Y	Date / Time	Received by	Relinquished by	Date / Time	Received by
J Ehret	11/25/88 12:20 PM	[signature]			
Y	Date / Time	Received by	Relinquished by	Date / Time	Received for Laboratory by

Shipment

JE

Remarks:

Library search Acrylonitrile estimated conc. < 5 ppm

0045-0172

ATTACHMENT B

(RELEASE INCIDENT NO. 2)

On March 14, 1989 a spill of acrylonitrile resulting from operator error of pumping monomer into a nearly full tank. The amount of release was 64 gallons or 431 pounds, determined from inventory figures obtained from the tanks. ICI contracted Chemical Waste Management to clean-up the spill. ICI sampled the area to confirm the completeness of soil removal. These results did not detect the presence of acrylonitrile, but did show the presence of trichloroethylene (30 ppb) and methylene chloride (9 ppb). ICI could does not store or even use chlorinated hydrocarbons on the subject property.

The DEP reviewed the results and information concerning the ICI site. On October 23, 1989, DEP issued a Notice of Responsibility to ICI indicating that the site will be listed as a location to be investigated pursuant to the Massachusetts Contingency Plan. A decision on the final disposition of the site will be made by the Site Management Branch of DEP after all pertinent data and actions have been evaluated. DEP ordered ICI to conduct a Preliminary Assessment and a Limited Site Investigation and submit the results to the Site Management Branch.

The following is a listing of documentation submitted in support of the PAF:

3/27/89 - ICI letters to DEP outlining spill response activities.
3/23/89 - Clean Harbors Manifest Document.
3/15//89 - DEP's Notice of Responsibility.
4/19/89 - ICI letter to DEP transmitting analytical results of clearance sampling.
10/23/89 - DEP notification of ICI's placement on LTBI.

Resins

ICI Resins US
[illegible] Main Street
Wilmington
Massachusetts 01887-[illegible]
Telephone (508) 658-[illegible]
Telex 200240
Fax (508) 657-7978

March 27, 1989

Mr. Michael Gorrasi
Department of Environmental
Quality Engineering
Five Commonwealth Avenue
Woburn, MA 01801

I. R. Number: N89-351

Dear Mr. Gorrasi:

Included is the review of the Acrylonitrile spill incident of 6:30 p.m. on the night of March 14, 1989 and a progress report on the clean-up as required on your Notice of Responsibility.

(1) The spill resulted from an overfill of one half of a 6,000 gallon divided storage tank with material drawn from the other half. The two 3,000 gallon halves are plumbed and equipped as independent tanks with individual pumps, delivery and return lines, flame arrestors and conservation vents. The overfill of a nearly full tank from a nearly empty one was caused by an operator error. While attempting to draw monomer, the operator failed to open the valve to the vessel he was using and the material was pumped, from one tank, through a manifold, and back through the delivery line to the other storage tank. A security guard clocking in at the tank farm observed an intermittent liquid spray from the conservation vent of the overfilled tank and alerted the shift supervisor who shut down the operation. The spill was confined to an area about six feet in diameter in the gravel on top of the tank just below the vent.

(2) Immediate containment was made by personnel in full protective gear. The security guard, who was about thirty feet from the tank, was sent to the Hospital for medical observation. Regulatory agencies were notified immediately. Sampling with Dräger type detector indicated no air release. There was no off-site exposure and no injuries. The security guard was cleared by medical personnel to return to work. Chemical Waste Management was called at once and clean-up was started by about 10:30 p.m.

(3) By inventory figures obtained from the tanks, the amount of monomer was 431 lbs. or 64 gallons. Physical evidence from the spill site suggested that

considerably less was actually lost. This is at least partially because measurement in both tanks was taken in areas of the greatest possible error, that — is full and almost empty, respectively.

(4) A photocopy of the Hazardous Waste Manifest is enclosed. Of the items listed on the manifest, a total of 16 30-gallon polyethylene drums and 5 50-gallon steel drums of contaminated gravel have been collected from this release for incineration. Clean-up costs to date, exclusive of waste disposal, are $12,125.25.

(5) Analysis by Gas Chromatography of soil samples from the spill site were found to be free of Acrylonitrile and Cambridge Analytical Labs was called in to take sampling for confirmation on March 20, 1989. The D.E.Q.E. was notified so that the agency had the opportunity to witness this sampling. Test results of the analysis of these samples will be forwarded as soon as they are available.

(6) Countermeasures include both short term and long term. The former includes valve lock-outs on the delivery lines, with supervisors' permitting only one line in use at any time, and additional training reinforcement with operators. Longer term, with the installation of the new tank farm partially completed, redundant high level alarms and check valves soon will preclude overfilling of tanks.

If you have further questions, please notify either John Kibbee, the Plant Manager, or myself.

Sincerely yours,

James F. Tyman, C.S.P.
Manager, Safety, Health
and Environment

JFT:eam
Enclosure
Via Certified Mail
Return Receipt Requested

CC: Chief Daniel Wandell,
Wilmington Fire Dept.
Greg Erickson, Wilmington L.E.P.C.

BCC: S. Harvey, ICI w/attachments
Will Barton w/o attach
TEK/ML/WPB "
WJK/DGM/JFT "

JOB# 9877
WORK ORDER #

M AD 0 4 8 2 6 9 0 5 2 0 6 4 3 9 1

ICI Resins US
730 Main Street, Wilmington, MA 01887
617 658-0638

MA C496439

same

Chemical Waste Management, Inc. I L D 0 9 9 2 0 2 6 8 1 MA670 121
617 843-

Clean Harbors, Inc.
385 Quincy Ave., Braintree, MA
02184

M A D 0 5 3 4 5 2 6 3 7

617 849-1

Waste Poison B Solid, NOS
Poison B UN 2811

DM 1 1 0 5 5 P

Waste Poison B Solid, n.o.s.
Poison B UN 2811

05600 P

Soil contaminated w/
acrylonitrile
Soil contaminated w/
acrylonitrile

In the event of emergency, notify Tom Peery at (617) 843-7110

Printed/Typed Name

Signature

Month

Transporter Acknowledgement of Receipt

Printed/Typed Name

Signature

Month

Transporter Acknowledgement of Receipt

Printed/Typed Name

Signature

Month

19 Discrepancy Indication Space

0045-0176

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING

NOTICE OF RESPONSIBILITY
PURSUANT TO M.G.L. CHAPTER 21E

Att: James Tynan

TO: ICI Resins US
730 Main St.
Wilmington Ma 01887-0677

IR #: N89-351

On 3/14/89 at 10:45 (p.m./a.m.) the Department of Environmental Quality Engineering (Department) responded to a release/threat of release of oil/hazardous material at 730 Main St in Wilmington, Massachusetts (the site).

Preliminary indications are that pursuant to section 5 of M.G.L. Chapter 21E ICI Resins US is/are a party responsible for assessment, containment and removal actions necessitated by this incident.

Massachusetts General Laws, Chapter 21E, places liability on responsible parties to: (1) pay for all response action costs associated with the incident and (2) compensate for any damage to natural resources resulting from the incident.

You may assume responsibility for emergency response actions/costs by paying for all response costs incurred by the Department relative to this incident and immediately performing the items checked off below:

- [x] Hire a soil cleanup contractor acceptable to the Department to take all necessary emergency response actions (i.e. assessment, containment and/or removal) as required by the Department.
- [ ] Dispose of the contaminated soil generated at the site in conformance with the Department's current policies for management of virgin petroleum-contaminated soils. Written approval must be obtained from the Department prior to removal of the soil.
- [x] Collect soil/water samples before and after cleanup, from the impacted environmental media and submit results of a certified laboratory analysis for: GC Analysis for Acrylonitrile
- [x] Submit a report providing an accurate description of the incident, response actions taken relative thereto, and site conditions (including supporting documents) immediately or upon receipt of analytical results.
- [ ] Other

The above actions must be performed immediately and/or completed no later than 4/1/89. Depending on the information/data generated by the above work, the Department may require additional remedial response actions.

If you fail to complete the response action(s) required by the Department within the required timeframe, the Department will take appropriate response actions and seek to recover all costs, charges and damages.

By accepting responsibility for conducting the required response actions now you can:

- minimize administrative costs incurred by the Department in handling this matter (in spill cases, administrative costs incurred by the Department are at least $1,000.00);
- avoid interest charges on the total liability at the statutory rate of 12% compounded annually; and
- avoid treble damages (i.e., 3 times the total amount of response costs the Department incurs).

This liability constitutes a debt to the Commonwealth. The debt, together with interest, creates a lien on all your property in the Commonwealth. In addition to the foreclosure remedy provided by the lien, the Attorney General of the Commonwealth may recover that debt or any part of it in an action against you. You may also be liable under M.G.L. C. 21E, section 11 for up to $100,000 in fines or penalties for each violation of C. 21E as well as for additional penalties or damages pursuant to other statutes or common law.

The Department encourages potentially responsible parties to provide or arrange for response actions to minimize the Department's response action costs for which you may be liable. The Department's objective is to ensure public health and safety and to protect the environment. Only with your help can this goal be achieved.

Please submit the requested information and direct any questions regarding this matter to Michael Gorrasi at the Northeast Regional Office, 5 Commonwealth Ave. Woburn, Massachusetts, telephone # (617) 935-2160

Very truly yours,

Michael Gorrasi EAI

Name and Title of DEQE Official

On 3/15/89 at approximately 1:00 pm I, Michael Gorrasi of the above DEQE Office served upon ICI Resins US personally ✓ by certified mail a copy of the above "Notice of Responsibility". Person on-scene ✓ agrees ____ does not agree to take the response actions deemed necessary by the Department.

Copy Distribution: White/Potential Responsible Party Yellow/Boston Pink/Region Golden Rod/Region

0045-0177

Resins

ICI Resins US
730 Main Street
Wilmington
Massachusetts 01887
Telephone (508) 658-6
Telex 200240
Fax (508) 657-7973

April 19, 1989

Mr. Michael Gorrasi
Department of Environmental Quality Engineering
Five Commonwealth Avenue
Woburn, MA 01801

I. R. Number: N89-351

Dear Mr. Gorrasi:

Confirming my telephone call of this date, there is enclosed the analytical report from the soil samples taken following the Acrylonitrile spill clean-up of March 14, 1989. Acrylonitrile was not detected in any of the samples taken by Cambridge Analytical Associates (Page 7), indicating that clean-up of contaminated soil is complete.

As we discussed, I cannot explain the trace amounts of chlorinated hydrocarbons detected. We have never used these materials. I believe that they are analytical artifacts.

If you have any questions, please call the Plant Manager, John Kibbee, or me.

Sincerely,

James F. Tynan, C.S.P.
Manager, Safety, Health
and Environment

JFT:eam
Enclosure
Via Certified Mail
Return Receipt Requested

CC: Chief Daniel Wandell,
Wilmington Fire Dept.

Greg Erickson,
Wilmington Local Emergency
Planning Committee

BCC: RAK wo/a
TEK/ML/NPB wo/a
S.K. Harvey, ICIA
W. Barton
J. KIBBEE wo/a

JFT

R E P O R T T O .

ICI Resins U.S.
730 Main Street
Wilmington, MA 01887-0677

Attn: Mr. Bill Kennedy

Work ID: Acrylonitrile Search:Grab 1-5
P.O. No.: 30813
Work Order: 89-03-307

Cambridge Analytical Associates
Environmental Division
1106 Commonwealth Avenue
Boston MA 02215

REPORT

Work Order # 89-03-307

'ed: 03/22/89

04/13/89 13:58:05

)RT ICI Resins U.S.
TO 730 Main Street
Wilmington, MA 01887-0677

'EN Mr. Bill Kennedy

ENT ICIRESINS_MA SAMPLES 6
ANY ICI Resins U.S.
ITY 730 Main Street
Wilmington, MA 01887-0677

ID Acrylonitrile Search:Grab 1-5
KEN By B. Holmen
ANS Hand delivered
YPE Soil
. # 30813
ICE under separate cover

PREPARED BY Cambridge Analytical Assoc.
Environmental Division
1106 Commonwealth Avenue
Boston, MA 02215

ATTEN

PHONE 617-232-2207

Kristin Reid
CERTIFIED BY

CONTACT REID

This report is approved for release by the following staff:
Laboratory Director: Michael F. Delaney
Inorganic Laboratory:
Organic Laboratory:

MPLE IDENTIFICATION
AB 1
AB 2
AB 3
AB 4
AB 5
nimum Sampling Charge

TEST CODES and NAMES used on this report
V624_S VOC-waste/soil SW-846/8240

REPORT

Work Order # 89-03-307

ed: 03/22/89

Results by Sample

E ID GRAB 1

FRACTION 01A TEST CODE V624_S NAME VOC-waste/soil SW-846/8240

Date & Time Collected 03/22/89 Category SOIL

ysis
eted: 3/27/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
oromethane		2-Chloroethylvinyl Ether	
omomethane		Bromoform	
yl Chloride		1,1,2,2-Tetrachloroethane	
oroethane		Tetrachloroethylene	
hylene Chloride		Toluene	
-Dichloroethylene		Chlorobenzene	
-Dichloroethane		Ethylbenzene	
ns-1,2-Dichloroethylene		total Xylenes	
loroform			
-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1,1-Trichloroethane			
rbon Tetrachloride			
omodichloromethane		Carbon Disulfide	
2-Dichloropropane		2-Butanone (MEK)	
ans-1,3-Dichloropropene		Vinyl Acetate	
ichloroethylene		2-Hexanone (MPK)	
lorodibromomethane		4-Methyl-2-pentanone (MIBK)	
1,2-Trichloroethane		Styrene	
nzene			
s-1,3-Dichloropropene		DETECTION LIMIT	5*

0045-0181

(a) - Concentrations less than the detection limit are left blank

3 REPORT Work Order # 89-03-307
ved: 03/22/89 Results by Sample

E ID GRAB 2 FRACTION 02A TEST CODE V624_8 NAME VOC-Waste/soil SW-846/8240
Date & Time Collected 03/22/89 Category SOIL

ysis
eted: 3/29/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
oromethane		2-Chloroethylvinyl Ether	
momethane		Bromoform	
yl Chloride		1,1,2,2-Tetrachloroethane	
oroethane		Tetrachloroethylene	
hylene Chloride		Toluene	
-Dichloroethylene		Chlorobenzene	
-Dichloroethane		Ethylbenzene	
ns-1,2-Dichloroethylene		total Xylenes	
oroform			
-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
,1-Trichloroethane			
bon Tetrachloride			
modichloromethane		Carbon Disulfide	
-Dichloropropane		2-Butanone (MEK)	
ns-1,3-Dichloropropene		Vinyl Acetate	
chloroethylene	22	2-Hexanone (MPK)	
orodibromomethane		4-Methyl-2-pentanone (MIBK)	
,2-Trichloroethane		Styrene	
zene			
-1,3-Dichloropropene		DETECTION LIMIT	5*

0045-0182

(a) - Concentrations less than the detection limit are left blank

REPORT

Work Order # 89-03-307

ed: 03/22/89

Results by Sample

ID GRAB 3

FRACTION 03A TEST CODE V624_S NAME VOC-waste/soil SW-846/8240

Date & Time Collected 03/22/89 Category SOIL

sis
ted: 3/31/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
oromethane		2-Chloroethylvinyl Ether	
momethane		Bromoform	
yl Chloride		1,1,2,2-Tetrachloroethane	
oroethane		Tetrachloroethylene	
hylene Chloride	9	Toluene	
-Dichloroethylene		Chlorobenzene	
-Dichloroethane		Ethylbenzene	
ns-1,2-Dichloroethylene		total Xylenes	
oroform			
-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
,1-Trichloroethane			
bon Tetrachloride			
modichloromethane		Carbon Disulfide	
-Dichloropropane		2-Butanone (MEK)	
ns-1,3-Dichloropropene		Vinyl Acetate	
chloroethylene	30	2-Hexanone (MPK)	
orodibromomethane		4-Methyl-2-pentanone (MIBK)	
,2-Trichloroethane		Styrene	
zene			
s-1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

5

.ved: 03/22/89

REPORT

Results by Sample

Work Order # 89-03-307

.E ID GRAB 4

FRACTION 04A TEST CODE V624_8 NAME VOC-waste/soil SW-846/8240

Date & Time Collected 03/22/89 Category SOIL

lysis
leted: 3/30/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
loromethane		2-Chloroethylvinyl Ether	
omomethane		Bromoform	
nyl Chloride		1,1,2,2-Tetrachloroethane	
loroethane		Tetrachloroethylene	
thylene Chloride		Toluene	
1-Dichloroethylene		Chlorobenzene	
1-Dichloroethane		Ethylbenzene	
ans-1,2-Dichloroethylene		total Xylenes	
loroform			
2-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1,1-Trichloroethane			
rbon Tetrachloride			
omodichloromethane		Carbon Disulfide	
2-Dichloropropane		2-Butanone (MEK)	
ans-1,3-Dichloropropene		Vinyl Acetate	
ichloroethylene	31	2-Hexanone (MPK)	
lorodibromomethane		4-Methyl-2-pentanone (MIBK)	
1,2-Trichloroethane		Styrene	
nzene			
s-1,3-Dichloropropene		DETECTION LIMIT	5*

0045-0184

(a) - Concentrations less than the detection limit are left blank

6
ved: 03/22/89

REPORT
Results by Sample

Work Order # 89-03-307

E ID GRAB 5

FRACTION 05A TEST CODE V624_8 NAME VOC-waste/soil SW-846/8240
Date & Time Collected 03/22/89 Category SOIL

ysis
eted: 3/28/89

COMPOUND	ug/kg(ppb)-wet(a)	COMPOUND	ug/kg(ppb)-wet(a)
oromethane		2-Chloroethylvinyl Ether	
omomethane		Bromoform	
yl Chloride		1,1,2,2-Tetrachloroethane	
oroethane		Tetrachloroethylene	
hylene Chloride		Toluene	
-Dichloroethylene		Chlorobenzene	
-Dichloroethane		Ethylbenzene	
ns-1,2-Dichloroethylene		total Xylenes	
loroform			
2-Dichloroethane		The following are non-priority pollutant Hazardous Substance List compounds.	
1,1-Trichloroethane			
rbon Tetrachloride			
omodichloromethane		Carbon Disulfide	
2-Dichloropropane		2-Butanone (MEK)	
ans-1,3-Dichloropropene		Vinyl Acetate	
ichloroethylene	11	2-Hexanone (MPK)	
lorodibromomethane		4-Methyl-2-pentanone (MIBK)	
1,2-Trichloroethane		Styrene	
nzene			
s-1,3-Dichloropropene		DETECTION LIMIT	5*

(a) - Concentrations less than the detection limit are left blank

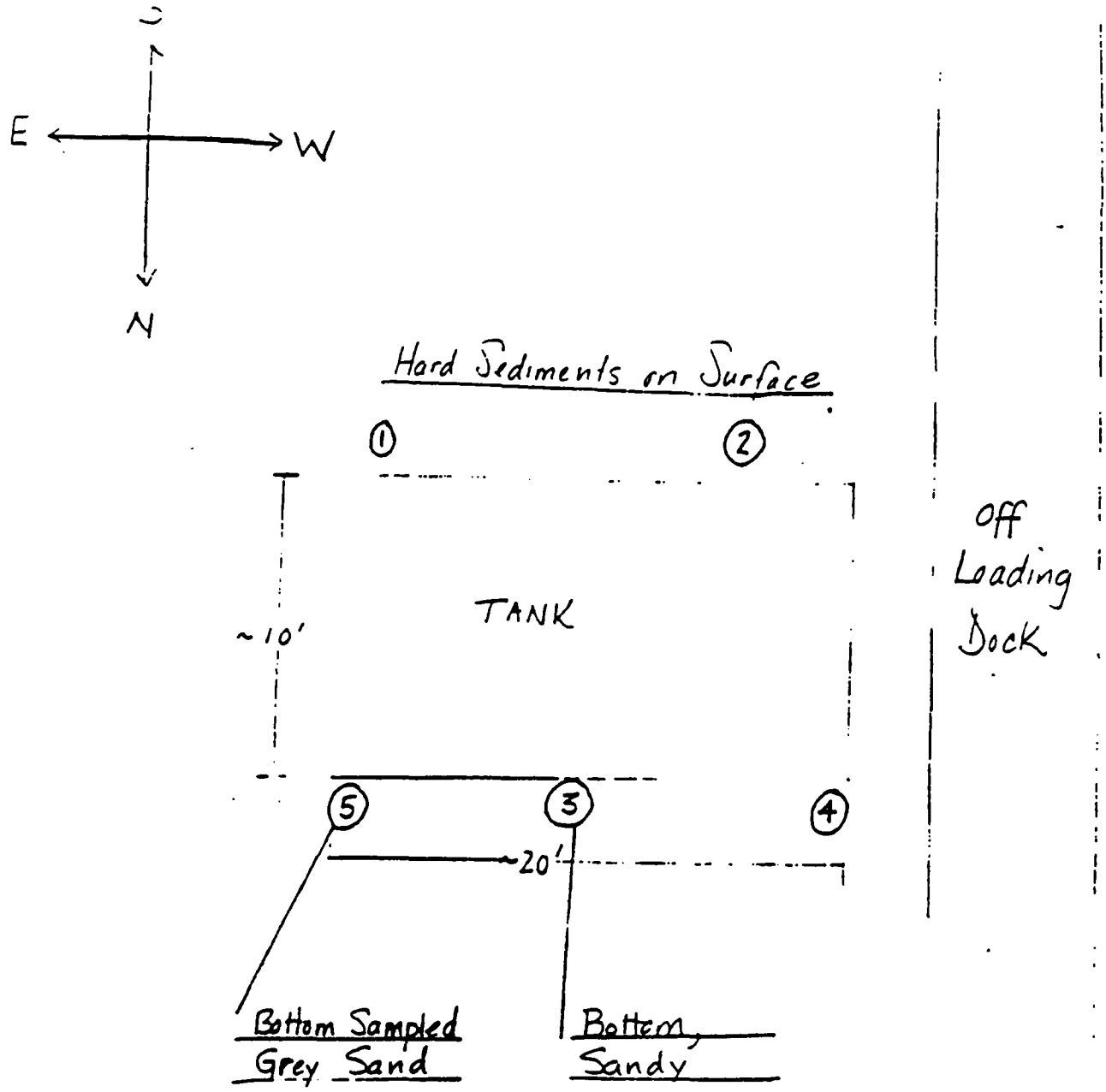
esins U.S.

'ES ON VOLATILE ANALYSES

Per the request of John Kibbee from ICI Resins, Acrylonitrile was searched .n all the samples. The instrument was calibrated for acrylonitrile daily. .onitrile was not detected in any of the five Grab samples at an estimated :tion limit of 20 ppb.

.ING:

On March 22, 1988 Britt Holmen, of Cambridge Analytical Associates, :cted five grab samples of sandy sediment from around an acrylonitrile tank ıcrylonitrile analyses. The tank had been excavated to approximently 3 feet and 10 feet wide with terraced sides. A diagram of the sampling area is :hed.


S
E
W
N
Hard Sediments on Surface
1
2
TANK
~10'
Off Loading Dock
5
3
4
~20'
Bottom Sampled Grey Sand
Bottom, Sandy

CODE V624_S NAME VOC-waste/soil SW-846/8240

d Reference: U.S. EPA, 1982. Test Methods for Evaluating Solid
-Physical/Chemical Methods. Second Edition. SW-846. EPA/Office of Solid
, Washington, D.C. Method 5030/8240, test method for volatile organic
unds.

d Description: The analytes in a solid/waste sample are isolated and
ntrated by purging the sample with inert gas and trapping them on an
bant. The absorbant is thermally desorbed into a gas chromatograph (GC)
the analytes are separated and detected with a mass spectrometric (MS)
tor.

ity Control Procedures: The GC/MS is tuned daily with bromofluorobenzene
). Instrument response is calibrated daily using EPA traceable standard
rence solutions. Analytes are quantified using the internal standard
od. Surrogate standard compounds are added to every sample to monitor
od performance. Additional quality control includes the analysis of matrix
es, duplicate matrix spikes and blanks.

OF CUSTODY RECORD

NAME ICI RESINS

CAA

Cambridge Analytical Associates
1106 Commonwealth Avenue / Boston, Massachusetts 02215
(617) 232-2207

8903307

BY B. HOLMÉN (Print Name) — Brett Holmén (Signature)

(Print Name) — Signature

(Print Name) — Signature

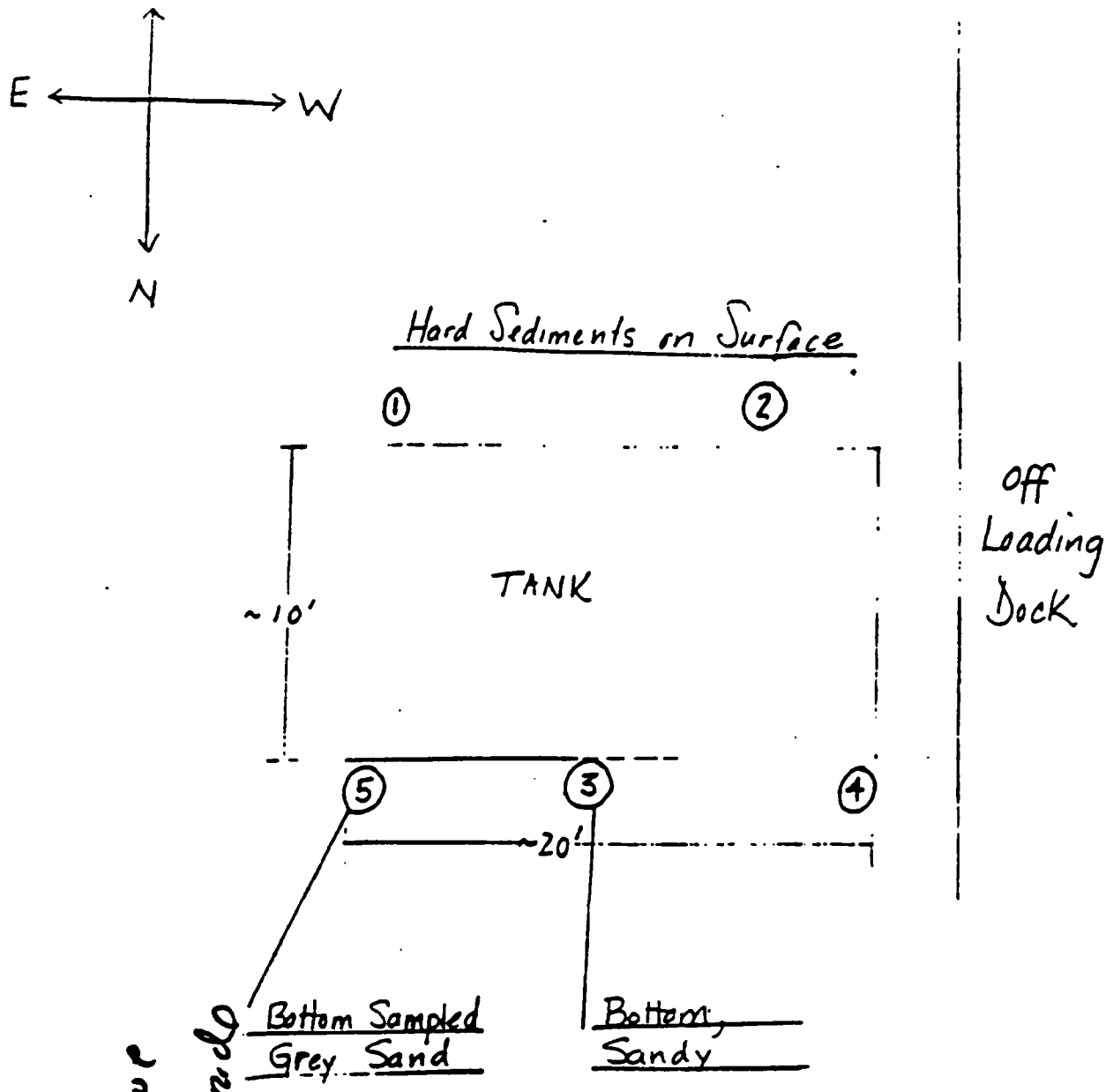
	DATE	TIME									ANALYSES: Volatile Organics	Extractable Organics	Pesticides/PCBs	Metals	Cyanide	Phenols	COMMENTS
1	3/22	9:30	S. side of Tank	[illegible]	G	X		2	SOIL	cool	X						
2	↓	↓	S. side of Tank (near road)	↓	↓	X		↓	↓	↓	X						
3	↓	↓	N. side of Tank (center)	↓	↓	X		↓	↓	↓	X						
4	↓	↓	(near road)	↓	↓	X		↓	↓	↓	X						
5	↓	↓	↓	↓	↓	X		↓	↓	↓	X						

ed by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by:
t Holmén	3/22 13:45	[signature]			
ed by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received for Laboratory by:

of Shipment

Remarks: Search for acrylonitrile in each sample

0045-0189



	Trichloroethylene	Methylene Chloride
1	—	—
2	22	—
3	30	9
4	31	—
5	11	—

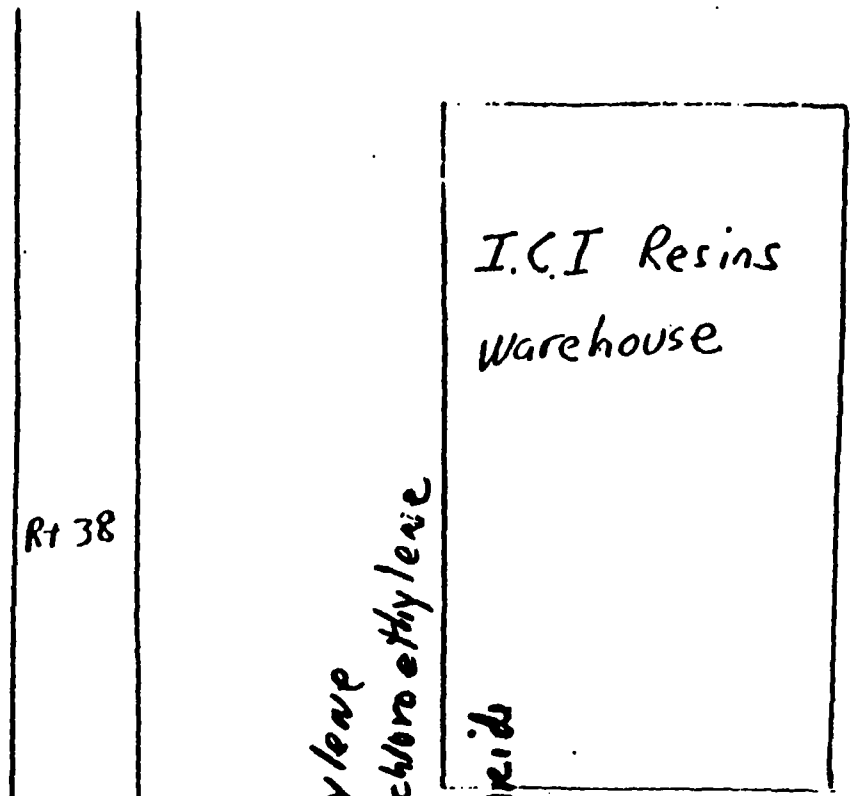
ppb

0 to 10 ppm

Feb, 1989
Release

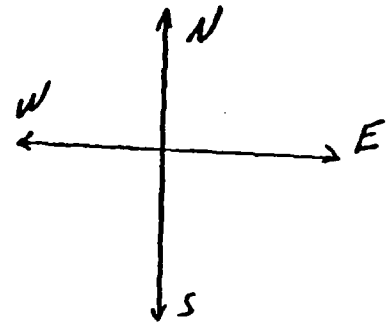
5/60/test 14 da.

0045-0190

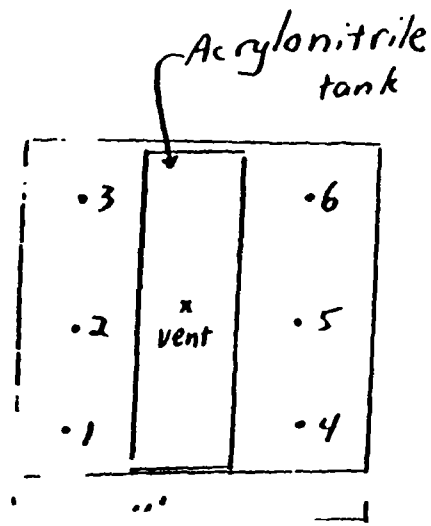


	Trichloroethylene	~~1,1,2,2-Tetrachloroethylene~~	Methylene chloride
1	7	14	—
2	11	34	10
3	16	23	—
4	24	63	20
5	29	52	5
6	24	45	5

ppb



7/27/88
Release



Grab samples
1 – 6

0045-0191

1 12/28/88 REPORT Work Order # 89-03-307 88-12-326

ved: 03/22/89 Test Methodology

CODE V624_8 NAME VOC-waste/soil SW-846/8240

d Reference: U.S. EPA, 1982. Test Methods for Evaluating Solid
-Physical/Chemical Methods. Second Edition. SW-846. EPA/Office of Solid
, Washington, D.C. Method 5030/8240, test method for volatile organic
unds.

d Description: The analytes in a solid/waste sample are isolated and
ntrated by purging the sample with inert gas and trapping them on an
rbant. The absorbant is thermally desorbed into a gas chromatograph (GC)
e the analytes are separated and detected with a mass spectrometric (MS)
ctor.

ity Control Procedures: The GC/MS is tuned daily with bromofluorobenzene
). Instrument response is calibrated daily using EPA traceable standard
rence solutions. Analytes are quantified using the internal standard
od. Surrogate standard compounds are added to every sample to monitor
od performance. Additional quality control includes the analysis of matrix
es, duplicate matrix spikes and blanks.

OCT 26 1989

The Commonwealth of Massachusetts

Department of Environmental Quality Engineering
Metropolitan Boston - Northeast Region
5 Commonwealth Avenue
Woburn, Massachusetts 01801

Daniel S. Greenbaum
Commissioner

935-2160

October 23, 1989

ICI Rosins US
730 Main Street
Wilmington, MA 01887

RE: WILMINGTON - ERB-N89-351
730 Main Street
REFERRAL TO SITE MANAGEMENT BRANCH

Attention: James Tynan

Dear Sir:

The Emergency Response Branch of this Office has received and reviewed information/data relative to contaminant conditions at 730 Main Street, Wilmington, Massachusetts. Such information/data was collected subsequent to a determination that a release of chlorinated hydrocarbons had occurred at this site. This incident was investigated by personnel from the Emergency Response Branch of this Office on March 14, 1989. At that time, you were issued a Notice of Responsibility pursuant to M.G.L. c21E and 310 CMR 40.160.

This letter is intended to notify you in writing that: (1) contaminant conditions at this location render the site an "LTBI" (Location To Be Investigated) pursuant to the Massachusetts Contingency Plan (MCP), 310 CMR 40.520(1); (2) a decision on the final disposition of the site will be made by the Site Management Branch of this Office after all the pertinent data and response actions have been evaluated.

Pending final determination of the site disposition groundwater and subsurface soils cannot be considered "clean". Therefore, no excavation and removal of soils or pumping of groundwater from the site should occur without prior DEP notification and approval.

Site Disposition

The Emergency Response Branch of the Department has concluded that at this time there is no need for any further emergency response actions at the site. However, there are still concerns that further remedial measures could be required at the site after a detailed evaluation of the long term environmental/public health impact of the contaminant conditions at the site. The case is therefore being referred to the Site Management Branch of this Office for further investigation. However, due to the existence of a large number of more pressing priorities, the DEP cannot at this time devote further staff resources to the remediation of this site.

DEQE
HOW IS
THE DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Be advised that all further investigative and/or remedial response measures at this site must conform with the provisions of 310 CMR 40.000, the Massachusetts Contingency Plan (MCP). As a first step in this process, you are advised to contract with a professional environmental consultant firm to conduct a Preliminary Assessment (40.541) and a Limited Site Investigation (40.543) as defined in the MCP, and submit the results of your findings to the Site Management Branch.

Subsequent to the completion of the above site activities, no further investigative and/or remedial response actions may be initiated at this site without specific approval from the Site Management Branch unless a "Waiver" application is filed and approved by the Department pursuant to the provisions of 310 CMR 40.537.

Finally, be advised that 310 CMR 40.520 and recent statutory amendments to M.G.L. Chapter 21E compel the Department to publish the addresses of all sites and locations of confirmed or suspected releases of oil/hazardous materials to the environment. Contingent upon an additional review of available incident/site information, this location may be included on a future list publication.

If you have any further questions, please contact the Administrative Assistant for the Site Management/Technical Support Branch at the letterhead address or 935-2160. All future communications regarding this matter must reference the DEP case number 3-2549.

Very truly yours,

Michael Gorrasi
Environmental Analyst

Richard J. Chalpin
Regional Engineer

RJC/MG/ae
DEP, BWSC, DRR, 1 Winter St., Boston, MA 02108
Wilmington Board of Health

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE
One Winter Street
Boston, Massachusetts 02108

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator US EPA ID No. MAD042658602 — Manifest Document No. 7
2. Page 1 of 2 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
ICI POLYCHYLS
730 MAIN ST./ WILMINGTON, MASS. 01887
4. Generator's Phone (508) 658-6600

A. State Manifest Document Number
MA F288364

5. Transporter 1 Company Name: Unison Private Truck Fleet — 6. US EPA ID Number: OHD981960123
B. State Transporter's ID

7. Transporter 2 Company Name — 8. US EPA ID Number
D. Transporter 1 Phone (508) 975-9900
E. State Transporter's ID

9. Designated Facility Name and Site Address
ENSR OPERATIONS
Chemical Management Services, Inc.
4160 Perimeter Drive
Columbus, Ohio 43228
10. US EPA ID Number: OHD981960123
F. Transporter 2 Phone
G. State Facility's ID: Not Required
H. Facility's Phone (614) 1275-4100

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. RQ Waste Hazardous Substance, Liquid, N.O.S., CERCLA, NA9188(Polychlorinated Biphenyls)	007	DM	01365	K	[illegible]
b. RQ Waste Hazardous Substance, Solid, N.O.S., CERCLA, NA9188(Polychlorinated Biphenyls)	001	DM	000145	K	[illegible]
c.					
d.					

J. Additional Descriptions for Materials Listed Above (Include physical state and hazard code.)
a. [illegible] 2/2 .37
b. [illegible] 2/2 .36

K. Handling Codes for Wastes Listed Above
a. ST01
b. ST01

15. Special Handling Instructions and Additional Information
(SEE CONTINUATION SHEET). All weights are estimated. Emergency Response: 1-800-822-4357. "TRANSPORTER CARRIES DOT EMERGENCY RESPONSE GUIDEBOOK."

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: GERALD WEPHEW — Signature: [signature] — Date: Month | Day | Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: [illegible] — Signature: [signature] — Date: Month 08 Day 17 Year 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Date: Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — Date

ENV - 50074

0045-0195

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete

In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

MA F288364 COPY>b: GENERATOR MAILS TO DESTINATION STATE

COPY>b: GENERATOR MAILS TO DESTINATION STATE

UNISON

WASTE MANIFEST
(CONTINUATION SHEET)

ADDITIONAL INFORMATION

Generator's US EPA ID No: HID 048 269 062	Manifest Doc. No.: 88364	Pg 2 of 2
Generator's Name: ICI POLYVINYLS	Job #: 1006	Cycle #: 4
Mailing Address: 730 MAIN STREET	Job Location: OUTSIDE PADMOUNT	
City, State, Zip: WILMINGTON, MA 01887	Transformer Serial #: TAV8655-01	
Manifest #: MAF 28834 / Trailer #: 45903	Manufacturer: WESTINGHOUSE	Nameplate Gallons: 282

MATERIAL CODE	PCB WASTE CODE	ARTICLE/DRUM ID	ACTIVITY CODE	DATE OF REMOVAL FOR DISPOSAL	GALLONS	NET WEIGHT IN POUNDS	NET WEIGHT IN KG	WASTE TYPE
SILX	PCBL	91757-7	D	8-17-91	53	430	195	Liquid
SILX	PCBL	509985-6	D	8-17-91	53	430	195	Liquid
SILX	PCBL	201016-6	D	8-17-91	53	430	195	Liquid
SILX	PCBL	510280-7	D	8-17-91	53	430	195	Liquid
SILX	PCBL	304809-10	D	8-17-91	53	430	195	Liquid
SILX	PCBL	202920-8	D/R	8-17-91	53	430	195	Liquid
SILX	PCBL	099240-2	D/R	8-17-91	53	430	195	Liquid
SOL	PCBL	48000953-1	SOL	8-17-91		100	45	Solid

ENV - 50075

UNI 35047-2
(Rev 4/90)

GENERATOR'S COPY 2

Transformer
12/3/88

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF SOLID AND HAZARDOUS WASTE
One Winter Street
Boston, Massachusetts 02108

Please print or type. (Form designed for use on elite (12 pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

Generator US EPA ID No. MA D 0 4 0 2 6 1 9 0 6 1 2

Manifest Document No.

Type or print information in the shaded areas. Is not required by Federal law.

1. Generator's Name and Mailing Address
ICI POLYVINYLS
730 MAIN STREET
WILMINGTON, MASS

A. State Manifest Document Number MA C494641

B. State Gen. ID

Generator's Phone ( ) 617 658-6600

2. Transporter 1 Company Name: UNISON PRIVATE TRUCK FLEET

E. US EPA ID Number: O H D 9 8 1 9 6 0 1 2 3

C. State Trans. ID

Transporter 2 Company Name

F. US EPA ID Number

D. Transporter's Phone ( ) 614-275-41

E. State Trans. ID

3. Designated Facility Name and Site Address
UNISON TRANSFORMER SERVICES, INC.
4160 PERIMETER DRIVE
COLUMBUS, OHIO 43228

G. US EPA ID Number: O H D 9 8 1 9 6 0 1 2 3

F. Transporter's Phone ( )

G. State Facility's ID: Not Required

H. Facility's Phone: 614-275-4100

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Hazardous Waste Substance Liquid N.O.S. ORM-E NA9188 (polychlorinated biphenyls) DOT - E9749		DM		P	M002
b. RQ Hazardous Waste Substance Solid N.O.S. ORM-E NA9188 (polychlorinated biphenyls)		DM		P	M002
c.					
d.					

GENERATOR

J. Additional Descriptions for Materials Listed Above (Include physical state and hazard code.)
a. Transformer fluid TF-X
b. Debris
c.
d.

K. Handling Codes for Wastes Listed Above
a. D 1 8 4 (Recover)
b. D 8 4 (Incinerate)
c.
d.

15. Special Handling Instructions and Additional Information
ALL INVOICES, CERTIFICATES OF DISPOSAL AND MANIFEST DISCREPANCIES ARE TO BE REFERRED TO: UNISON, P.O. BOX 241085, CHARLOTTE, N.C. 28224, ATTN: DISTRIBUTION MANAGER--EMERGENCY RESPONSE:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name | Signature | Date (Month Day Year)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jack L. Chapman | Signature | Date (Month Day Year)

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Date (Month Day Year)

In case of emergency or spill, immediately call the National Response Center (800-424-8802)

Form Approved OMB No. 2050-0039 Expires 9-30-91
EPA Form 8700-22 (Rev. 9-86) Previous editions are obsolete.

COPY>8: GENERATOR-RETAINED BY GENERATOR

ENV - 50082

0045-0197

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF SOLID AND HAZARDOUS WASTE
One Winter Street
Boston, Massachusetts 02108

9 . 89

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator US EPA ID No.: MA R0 00 043 861 — Manifest Document No.: 83936
2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: ICI/Polyvinyl Chemicals, 733 Main St., Wilmington, Mass 01887
4. Generator's Phone (508) 658-6600

A. State Manifest Document Number: MA C683936
B. State Gen. ID: Same

5. Transporter 1 Company Name: Unison Private Truck Fleet
6. US EPA ID Number: 0 0 0 0 3 1 9 5 0 1 2 3
C. State Trans. ID: PA-TT37409

7. Transporter 2 Company Name:
8. US EPA ID Number:
D. Transporter's Phone ( )
E. State Trans. ID:

9. Designated Facility Name and Site Address: Unison Transformer Services, Inc., 4160 Perimeter Drive, Columbus, Ohio 43228
10. US EPA ID Number: 0 0 0 0 0 3 1 9 5 0 1 2 3
F. Transporter's Phone ( )
G. State Facility's ID: Not Required
H. Facility's Phone (614) 275/[illegible]

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. RQ Waste Hazardous Substance Liquid N.O.S. ORM-E NA9138 (Polychlorinated Biphenyls) DOT-E9749	008	DN	04580	P	[illegible]
b. RQ Waste Hazardous Substance Solid N.O.S ORM-E NA9138 (Polychlorinated Biphenyls) Contaminated Rags Etc	001	DN	09975	P	[illegible]
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. TF-X Transformer fluid
b. Debris
c.
d.

K. Handling Codes for Wastes Listed Above
a. S 0 1
b. S 0 1
c.
d.

15. Special Handling Instructions and Additional Information: Empty drums to be returned to Unison. All weights are estimated. All invoices, certificates of disposal and manifest discrepancies are to be referred to: UNISON, PO Box 1076, Henderson, Ky. 42420, Attn: Distribution Mgt. Emergency response 1-800-822-4357

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Lawrence Fitch — Signature: Lawrence Fitch — Date: Month 09 Day 16 Year 89

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: ELI RODRIGUEZ — Signature: Eli Rodriguez — Date: Month 09 Day 16 Year 89

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Date: Month Day

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: — Signature: — Date: Month Day

GENERATOR — TRANSPORTER — FACILITY

In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

COPY>8: GENERATOR-RETAINED BY GENERATOR

0045-0198

Form Approved OMB No. 2050-0039 Expires 3-30-91
EPA Form 8700-22 Rev. 9-86 Previous editions are obsolete.

COPY>8: GENERATOR-RETAINED BY GENERATOR

ENV - 50083

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE
One Winter Street
Boston, Massachusetts 02108

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator US EPA ID No.: MAD048269062 — Manifest Document No.: 75856
2. Page 1 of 2 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
ICI Resins
730 Main St., Wilmington, Mass. 01887

4. Generator's Phone (508) 658-6600

5. Transporter 1 Company Name: Unison Private Truck Fleet
6. US EPA ID Number: OHD981960123

7. Transporter 2 Company Name: Unison Private Truck Fleet
8. US EPA ID Number: OHD981960123

9. Designated Facility Name and Site Address
Unison Transformer Services, Inc.
4160 Perimeter Drive
Columbus, Ohio 43228
10. US EPA ID Number: OHD981960123

A. State Manifest Document Number: MA 025856
B. State Transporter's ID
C. Transporter's Phone
D. State Transporter's ID
E. State Transporter's Phone
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. RQ Waste Hazardous Substance, Liquid, N.O.S., ORM-E, NA9188 (Polychlorinated Biphenyls; 1,2,4-Trichlorobenzene)	006	DM	01504 ~~01505~~	K	102
b. RQ Waste Hazardous Substance, Liquid, N.O.S., ORM-E, NA9188 (Polychlorinated Biphenyls)	002	DM	00390	K	102
c. RQ Waste Hazardous Substance, Solid, N.O.S., ORM-E, NA9188 (Polychlorinated Biphenyls)	001	DM	00034	K	102
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. Transformer fluid L/T 1.46 Debris [illegible] .06
SIL-X
b. Transformer fluid L/T .97

K. Handling Codes for Wastes Listed Above
a. [illegible]
b. [illegible]

15. Special Handling Instructions and Additional Information
(SEE CONTINUATION SHEET). All weights are estimated. Emergency Response: 1-800-822-4357.

16. GENERATOR'S CERTIFICATION. I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: Lawrence Fitch — Signature: Lawrence C Fitch — Date: Month 09 Day 29 Year 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: THOMAS H KNOX II — Signature: Thomas H Knox — Date: Month 09 Day 29 Year 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Michael Dutt — Signature: Michael Dutt — Date: Month 10 Day 03 Year 90

19. Discrepancy Indication Space TRANSPORTER 2 ADDED DJ 10-3-90
Line 13a S/B 1,504

0045-0199

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item

Printed/Typed Name: Glenn Whisler — Signature: [illegible] — Date: Month 10 Day 11 Year 90

In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete

COPY>3: FACILITY MAILS TO GENERATOR

ENV - 50084

WASTE MANIFEST
(CONTINUATION SHEET)

ADDITIONAL INFORMATION

Generator US EPA ID No. ID#MAD048269062	Manifest Doc. No. 25856	Page 2 of 2
Generator's Name: ICI Resins/Polyvinyls	Job # 1006	Order # 03
Mailing Address: 730 Main Streetq	Job Location: outdoor padmound	
City, State, Zip: Wilmington, Mass 01887	Transporter Serial # TAV8655-01	
Manifest # MAF025856	Trailer # 415871	Manufacturer: Westinghouse
Nameplate Gallons: 282		

MATERIAL CODE	PCB WASTE CODE	ARTICLE/DRUM ID.	ACTIVITY CODE	DATE OF REMOVAL FOR DISPOSAL	GALLONS	NET WEIGHT IN POUNDS	NET WEIGHT IN KG.	WASTE TYPE
TFX	PCB2	3915-8	333 D	09-29-90	53	640	290	liquid
TFX	PCB2	007235-8	333 D	09-29-90	53	640	290	liquid
TFX	PCB2	011374-10	333 D	09-29-90	53	640	290	liquid
TFX	PCB2	010299-8	333 D	09-29-90	53	640	290	liquid
TFX	PCB2	4193-17	333 D	09-29-90	10 *	120	54	liquid
TFX	PCB2	011974-5	333 D	09-29-90	53	640	290	liquid
SOL [redacted]	PCB2	4278-1	53 SOL	09-29-90	-	75	34	Solid
silk	PCB2	203085-3	53 DR	09-29-90	53	430	195	liquid
silk	PCB2	200196-5	53 DR	09-29-90	53	430	195	liquid

OCT 1 1990

0045-0200

UNI 35047-2
(Rev. 4-90)

NO. 88-06

Certificate of Destruction

UNISON Transformer Services, Inc. has processed
waste received from ICI/POLYVINYLS
as identified in Transportation Document #MAC494641
at its Henderson, Kentucky facility. The recovered
PCB waste has been incinerated in accordance with
40 CFR 761 by ROLLINS ENVIRON.
and destruction is certified as of 02/21/89.

By: _____

Title: Distribution Manager

0045-0201

Job Number 1006

UNI 35034

ENV - 50086

Job Number: 1006 Job Name: ICI/POLYVINYLS

Drum Num	Mat Code	Qty	Trans Doct	Date WMS Receive	WMS Location	Date to Hend	Trans Hend	Date Hnd Received	Lot Number	Date To Disp	Trans Disposal	Date Dsp Received	Location Disposal	Do St	Date of Destruct	Certificate Number
Transformer Number: TAV8655-01																
Cycle Number: 01 Date Generated: 03/09/88																
008772-3	TFX	640	MAC231449	03/11/88	UNISON - COLUMBUS	03/21/88	U006682	03/21/88	88-02	05/26/88	IL1735939	05/26/88	CWM - CHICAGO	IL	06/12/88	017109
009619-4	TFX	640	MAC231449	03/11/88	UNISON - COLUMBUS	03/21/88	U006682	03/21/88	88-02	05/26/88	IL1735939	05/26/88	CWM - CHICAGO	IL	06/12/88	017109
010230-5	TFX	640	MAC231449	03/11/88	UNISON - COLUMBUS	03/21/88	U006682	03/21/88	88-02	05/26/88	IL1735939	05/26/88	CWM - CHICAGO	IL	06/12/88	017109
010289-3	TFX	640	MAC231449	03/11/88	UNISON - COLUMBUS	03/21/88	U006682	03/21/88	88-02	05/26/88	IL1735939	05/26/88	CWM - CHICAGO	IL	06/12/88	017109
1003	SOL	50	MAC231449	03/11/88	UNISON - COLUMBUS	/ /		/ /		04/25/88	03081	04/29/88	APTUS	KS	07/20/88	2412
503330	PCB	660	MAC231449	03/11/88	UNISON - COLUMBUS	/ /		/ /		04/11/88	IL2009730	04/12/88	CWM - CHICAGO	IL	04/18/88	015885
503392	PCB	660	MAC231449	03/11/88	UNISON - COLUMBUS	/ /		/ /		04/11/88	IL2009730	04/12/88	CWM - CHICAGO	IL	04/18/88	015885
504946	PCB	660	MAC231449	03/11/88	UNISON - COLUMBUS	/ /		/ /		04/11/88	IL2009730	04/12/88	CWM - CHICAGO	IL	04/18/88	015885
505041	PCB	660	MAC231449	03/11/88	UNISON - COLUMBUS	/ /		/ /		04/11/88	IL2009730	04/12/88	CWM - CHICAGO	IL	04/18/88	015885
505569	PCB	660	MAC231449	03/11/88	UNISON - COLUMBUS	/ /		/ /		04/11/88	IL2009730	04/12/88	CWM - CHICAGO	IL	04/18/88	015885
Cycle Number: 02 Date Generated: 12/03/88																
002046-7	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011751-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011759-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011762-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011764-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011772-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011880-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30
011926-1	TFX	640	MAC494641	12/07/88	UNISON - COLUMBUS	12/12/88	UN10000126	12/14/88	88-06	01/04/89	00201266	01/04/89	ROLLINS ENVIRON.	TX	02/21/89	104740-23000-30

ENV - 50087

POLYVINYL CHEMICAL
c/o William Kennedy

Notes from Paul Alan

1. Nature of business of Polyvinyl in Wilmington.

   · Polymerize acrylic monomers and produce polymers for coatings and floor polishers. - wood finishes, ✓

2. As part of manufacturing process, during 1979 certain waste products were generated.

   · Film build-up on walls of reactor. Filters have to be disposed of and butylacylate and monomers

   · Certain waste is flammable.
   Non hazardous material (below 13 above 3 pH - no metals - etc. (no place

3. Wastes are placed in CONTAINERS for disposal via a licensed hauler DURING 1979.

   · Put in both old fiber and old metal drums.

4. Beginning in August, 1979, Polyvinyl contracted with Chem-Waste of New Hampshire to dispose of the wastes.

   · Contacted by RICHARD FRENCH of Chem-Waste, Inc.

· French said the wastes would be taken to New Hampshire where it would be determined what to do.

· Gave a number of alternatives:
1) incinerate
2) taken to landfill
3) reclaim any solvents
4) take solids to upstate N.Y.

5. Frequency of pick-ups varied.

- 8 pick-ups during August, 1979

· 6 pick-ups in October, 1979.

· Would contact Chem-Waste answering service OR Richard French whenever a pick-up was necessary

6. SHIPMENT OF 79 DRUMS ON OCTOBER 23, 1979.

· On Oct. 23, 1979, shipped out 79 Drums via Chem-Waste.

ID AND INTRODUCE
a) Polyvinyl Bill of Lading No 45655
b) (Blue Copy of same)
c) Chem-Waste Work Order No 5011
d) Check to Chem-Waste - have issued
e) Invoice submitted by Chem-Waste
#2558
10/31/79 #8212

7. SHIPMENT OF 44 DRUMS ON OCTOBER 30, 1979

· On October 30, 1979, shipped out 44 drums via Chem-Waste, Inc.

ID AND INTRODUCE

a) Polyvinyl Bill of Lading No 45752
b) (Blue Copy of same)
c) Chem-Waste Work Order # 5018
d) Any Chem-Waste Invoice #2527 11/4/79 $1232
e) Check issued to Chem-Waste - none issued
f) Certificate of Disposal. 25270 -

8. IDENTIFICATION OF DRUMS AT HALLAS BUICK GARAGE ON 12-07-79.

· At the request of A.G., present during search of Hallas Buick garage.

· Id'ed 15 drums as having come from Polyvinyl at some point.

· As each barrel removed, it was tagged with a NO., and Kennedy identified barrels from this label.

(Refer to listing of Kennedy (12-10-79))

SEA

S E A Consultants Inc.
Engineers/Architects

November 30, 1992

Mr. Lawrence C. Fitch
ICI Resins US
730 Main Street
Wilmington, Massachusetts 01887

Re: Disposal Coordination
Polymer Bead Disposal Area
ICI P.O. #42770
S E A Project No. 92138.03W

Dear Mr. Fitch:

Enclosed please find a copy of the invoice for disposal coordination services provided in connection with the Bead Disposal Area project during the period from September 27 through October 31, 1992. Original copies of the invoice have been submitted to your Accounts Payable office. This is the only project for which services are being billed this month. We have not invoiced ICI for services provided in connection with our October 28, 1992 meeting held to review the draft Phase III Final Remedial Response Plan.

Services provided during this period were those required for coordination of disposal documentation. We understand that Laidlaw has removed and disposed of the stockpiled polymer beads and soil at their Plainville, Massachusetts facility and that you have requested that they submit disposal documentation. Once received, the documentation will be incorporated into a brief Closure Report and the scope of work for the polymer bead project will be complete.

If you have any questions or comments regarding the enclosed invoice or project status, please call either Al Hanscom or me.

Very truly yours,

S E A CONSULTANTS INC.

William R. Michaud, P.E.

wrm:wilmingt\icibd003.ltr
Enclosure

cc: Lauris Sterns, ICI
Alan D. Hanscom, P.E., S E A

485 Massachusetts Avenue
Cambridge, MA 02139-4018
(617) 497-7800
FAX (617) 497-7709

Glastonbury, CT
Londonderry, NH

0045-0206

Printed on Recycled Paper

ENV - 30187

South Carolina Department of Health and Environmental Control

ON-SITE INSPECTOR
& ENVIRONMENTAL CONTROL

40

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No: MAD048269062 — Manifest Document No: 12111
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc
730 Main Street, Wilmington MA 01887

4. Generator's Phone (508) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Franklin Environmental Services
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 1893 MA

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of S. Carolina
Hwy 120 & Rimini Road
Pinewood SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer waste (non-hazardous waste)	001	CM	00225	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information For chemical emergency spill, leak, fire, exposure or accident call CHEMTREC day or night at 1-800-424-9300

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data and completing and reviewing the form. Send comments regarding the burden estimate including suggestions for reducing this burden to Chief Information Policy Branch PM-223 U.S. Environmental Protection Agency 401 M St., S.W. Washington, D.C. 20460 and to the Office of Information and Regulatory Affairs Office of Management and Budget Washington D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: James A. Karlis — Signature: James A Karlis — Month Day Year: 12 11 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RON E. RICHER — Signature: Ron E. Richer — Month Day Year: 12 11 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: ~~James A. Karlis~~ JK — Signature: ~~James A Karlis~~ JK — Month Day Year: 12 11 91

FACILITY

19. Discrepancy Indication Space
#18 Generator signed in wrong place.
WO# 147091 JC PW 02616-5101

a. 29080 lbs
b. lbs
c. lbs
d. lbs

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name: Ann Wilson — Signature: Ann Wilson — Month Day Year: 12 12 91

EPA Form 8700 (Rev 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev 5/89)]

0045-0207

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 11201
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc
730 Main Street, Wilmington MA 01887

4. Generator's Phone (508) 658-6600

A. State Manifest Document Number

B. State Generator's ID: SAME

5. Transporter 1 Company Name: Franklin Environmental Services
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 11463 ma.
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of S. Carolina
Hwy 120 & Rimini Road
Pinewood SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer waste (non-hazardous waste)	001	CM	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101T
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information For chemical emergency spill, leak, fire, exposure or accident call CHEMTREC day or night at 1-800-424-9300

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: James A. Karlis
Signature: James A. Karlis
Month Day Year: 11 20 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JAMES A ARNO JR
Signature: James A Arno
Month Day Year: 11 20 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space Sec #15 w/o# 146130
Ja PW-C 2616-5101
a 25640 lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: [illegible]
Signature: [illegible]
Month Day Year: 11 21 91

Form 8700 (Rev. 9-88) Previous Editions are Obsolete. DHEC 1988 (Rev. 5/88)

ENV - 30344

0045-0208

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 11131
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc
730 Main Street, Wilmington MA 01887

4. Generator's Phone (508) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Franklin Environmental Services
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 35673 MA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of S. Carolina
Hwy 120 & Rimini Road
Pinewood SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer waste (non-hazardous waste)	001	CM	20	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information For chemical emergency spill, leak, fire, exposure or accident call CHEMTREC day or night at 1-800-424-9300

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average, 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W. Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: James A. Karlis
Signature: James A. Karlis
Month Day Year: 11 13 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Ron McGrath
Signature: [signature]
Month Day Year: 11 13 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space
a. 25320 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: ...ende Elliott
Signature: [signature]
Month Day Year: 11 14 91

ENV 30345

Form 8700 (Rev. 9-88) Previous Editions are Obsolete. (DHEC 1988 ...)

0045-0209

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 11791
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main St., Wimington, MA 01887

4. Generator's Phone (508) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Environmental Services Inc.

6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID 27903 MA

D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina Inc
Route 120, Hwy. 120 & Rimini Road
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous waste)	001	CM	00015	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-02616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
For chemical emergency, spill, leak, fire, accident, or exposure, call CHEMTREC, day or night, at 1-800-424-9300.

I have signed the waste minimization form.

Public reporting burden for this collection of information is estimated average 37 minutes for generators, 15 minutes for transporters, and minutes for treatment storage and disposal facilities. This includes tim for reviewing instructions, gathering data, and completing and reviewin the form. Send comments regarding the burden estimate, includin suggestions for reducing this burden, to Chief, Information Polic Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W. Washington, D.C. 20460, and to the Office of Information and Regulator Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: Kerry J MacLeod | Signature: [signature] | Month Day Year: 11 07 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Tom McGrath | Signature: [signature] | Month Day Year: 11 07 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

ENV - 30346

a 23440 lbs. c lb.
b lbs. d lb.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Wanda Elliott | Signature: [signature] | Month Day Year: 11 08 91

0045-0210

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 11491
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main St., Wimington, MA 01887
4. Generator's Phone (508) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID 11463 MA
D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Route 120, Hwy. 120 & Rimini Road
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous waste)	001	CM	00020	Y	MA99 77777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-5101T
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
For chemical emergency, spill, leak, fire, accident, or exposure, call CHEMTREC, day or night, at 1-800-424-9300.
I have signed the waste minimization form.

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Printed/Typed Name: Kevin S Macleod
Signature: Kevin S Macleod
Month Day Year: 11 04 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James A. Arno Jr
Signature: [signature]
Month Day Year: 11 04 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a 28560 lbs. c lbs.
b lbs. d lbs.
LLC# 145373

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Wende Elliott
Signature: Wende Elliott
Month Day Year: 11 05 91

ENV - 30347

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete. (DHEC 1988 (Rev. 5/89))

0045-0211

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays (803)253-6488

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No: MIAD048261910 Manifest Document No: 2189
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc
730 Main Street, Wilmington MA 01887

4. Generator's Phone (508) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Franklin Environmental Services Inc
6. U.S. EPA ID Number: MIAD048141316

C. State Transporter's ID: 1812 MIA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood SC 29125
10. U.S. EPA ID Number: SCD073037595

G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00015	Y	MIA 19 19 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2816-901
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
For chemical emergency spill, leak, fire, exposure or accident call CHEMTREC day or night at 1-800-424-9300

Public reporting burden for this collection of information is estimated to average 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to Chief Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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GENERATOR

Printed/Typed Name: James A. Karlis
Signature: James A. Karlis
Month Day Year: 10 28 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: BRIAN L ZAPOR
Signature
Month Day Year: 10 28 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name
Signature
Month Day Year

ENV - 30348

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete IDHEC 1988 (Rev. 5/89)

0045-0212

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MIAD048261021 Manifest Document No. 10259
2. Page 1 of 1

Information in the shaded areas is n required by Federal law, but is by State la

3. Generator's Name and Mailing Address
ICI Resins US Inc
730 Main Street Wilmington MA 01887
4. Generator's Phone (508) 658-6600

A. State Manifest Document Number
B. State Generator's ID
C. State Transporter's ID 1893MA
D. Transporter's Phone 508 384-6161
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone 803 452 5003

5. Transporter 1 Company Name: Franklin Environmental Services
6. U.S. EPA ID Number: MIAD018418111316
7. Transporter 2 Company Name
8. U.S. EPA ID Number
9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120 Hwy. 120 & Rimini Rd
Pinewood SC 29125
10. U.S. EPA ID Number: SCD007037588

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit W/Vol	Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	20000	P	MIA1919 7777
b.					
c.					
d.					

J. Handling Codes for Wastes Listed Above

a. PW-2616-5101
b.
c.
d.

15. Special Handling Instructions and Additional Information
For chemical emergency spill, leak, fire, exposure or accident call CHEMTREC day or night at 1-800-424-9300

Public reporting burden for this collection of information is estimat average 37 minutes for generators, 15 minutes for transporters, an minutes for treatment storage and disposal facilities. This includes for reviewing instructions, gathering data, and completing and revie the form. Send comments regarding the burden estimate, includ suggestions for reducing this burden, to Chief, Information Po Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S Washington, D.C. 20460; and to the Office of Information and Regula Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: Kerry S Mackel — Signature: Kerry S Mackel — Month Day 1/02/9

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RON E. RICHER — Signature: Ron E. Richer — Month Day 1/02/9

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day

19. Discrepancy Indication Space Sa PW-0 2616 - 5101
Weight 20000 10 Dr 20000
U.C # 145064
a 28580 lbs. c
b lbs. d

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Wanda Elliott — Signature: Wanda Elliott — Month Day 1/02/9

GENERATOR / TRANSPORTER / FACILITY

EPA Form 8700 (Rev. 9-88) Previous Editions are Obsolete. TDHEC 1000 (Rev. 5/90)

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 Manifest Document No.: 91491
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887
4. Generator's Phone (508) 658-6600

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: Franklin Environmental Services, Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 1812 MA
D. Transporter's Phone: (508) 384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Road
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone: (803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-Hazardous Waste)	001	CM	00020	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
For Chemical Emergency Spill, Leak, Fire, Exposure or Accident, call Chemtrec, day or night at 1-800-424-9300.
I have signed the waste minimization form.

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Printed/Typed Name: Kerry S MacLeod
Signature: Kerry S MacLeod
Month Day Year: 09 17 9

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: David Regan
Signature: David Regan
Month Day Year: 09 17 9

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a. 28220 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: [illegible]
Signature: [illegible]
Month Day Year: 09 18 9

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete. DHEC 1988 (Rev. 5/89)

0045-0214

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays (803)253-6488

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 91691
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887
4. Generator's Phone (508) 658-6600

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: Franklin Environmental Services, Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: 37903 MA
D. Transporter's Phone: (508)384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Road
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

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I have signed the waste minimization form.

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Printed/Typed Name: Kerry S. MacLeod
Signature: Kerry S. MacLeod
Month Day Year: 09 16 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Ron McGrath
Signature: Ron McG
Month Day Year: 09 16 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a. 28480 lbs.
b. lbs.
c. lbs.
d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Ian Todd
Signature: Ian Todd
Month Day Year: 09 18 91

PA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

FNV - 30351

0045-0215

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 62951
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 62951

B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.

6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID: 1812 MA.

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name:

8. U.S. EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID:

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00020	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101 c. - -

b. - - d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: MAURICE J. BECHARD — Signature: Maurice J Bechard — Month Day Year: 06 25 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: JAN ANGUS — Signature: Jan Angus — Month Day Year: 06 25 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Month Day Year:

FACILITY

19. Discrepancy Indication Space
Ja. PW-02616-5101

a. 27500 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Jan Todd — Signature: [signature] — Month Day Year: 06 28 91

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

ENV - 30352

0045-0216

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. [illegible]
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 50711

B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.

6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID: [illegible]

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name:

8. U.S. EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID: same

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	[illegible]	[illegible]	[illegible]	V	M A 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. P W - 2 6 1 6 - 5 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

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Printed/Typed Name: [illegible] S MacLeod — Signature: [signature] — Month Day Year: 05 07 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James B Hutchins — Signature: [signature] — Month Day Year: 05 07 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Month Day Year:

FACILITY

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator; Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: — Signature: — Month Day Year:

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30353

0045-0217

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 Manifest Document No.: 01691
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: 1894 MA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

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Printed/Typed Name: JOSEPH N. SCAPARRO
Signature: Joseph N Scaparro
Month Day Year: 4 16 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RON E. RICHER
Signature: Ron E. Richer
Month Day Year: 04 16 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space

ENV - 30354

a. 27180 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 04 18 91

0045-0218

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 03691
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 03691
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD081413136
C. State Transporter's ID: MA 6728
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: 803-462-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00020	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297
FACILITY w/o # 133197
I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 16 minutes for transporters, and 16 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name	Signature	Month Day Year
JOSEPH N SCAPPARO	Joseph N Scapparo	03 06 91

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
MICHAEL MANGIAMELI	Michael Mangiameli	03 06 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
J.A 02616-5101
ENV - 30355
a. 28880 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year
Jan Todd	Jan Todd	03 08 91

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved OMB No 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 41813
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address: ICI Resins / Polyvinyl Chemical, 730 Main St, Wilmington, MA 01887
4. Generator's Phone (508) 658-0637
5. Transporter 1 Company Name: Price Trucking
6. U.S. EPA ID Number: NYD046765574
7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
9. Designated Facility Name and Site Address: GSX Services of S. Carolina, Rte 1 Box 255, Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985

A. State Manifest Document Number: 41813
B. State Generator's ID:
C. State Transporter's ID:
D. Transporter's Phone: 716-822-1414
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Non Regulated Material n/A n/A	026	DF	07800	P	7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-4101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
PO # 41813
WO # 131883
In emergency situation contact CHEMTREC 1-800-424-9300

Public reporting burden for this collection of information is estimated to average 37 minutes for generators, 15 minutes for transporters, and 15 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: Richard A. Slocumb
Signature: R.A. Slocumb
Month Day Year: 01 17 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Joel Royer
Signature: Joel Royer
Month Day Year: 01 17 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

19. Discrepancy Indication Space
ENV - 30356
a. 5720 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 01 21 91

GENERATOR

TRANSPORTER

FACILITY

0045-0220

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 41696
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address: ICI Resins / Polyvinyl Chemical, 730 Main St, Wilmington, MA 01887
4. Generator's Phone (508) 658-0637

A. State Manifest Document Number: 41696
B. State Generator's ID: SAMC

5. Transporter 1 Company Name: Suffolk Services
6. U.S. EPA ID Number: MAD981213903
C. State Transporter's ID: 32174 MA
D. Transporter's Phone: 508-458-2500

7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: GSX Services of S. Carolina, Rte 1 Box 255, Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Non Regulated Material n/A n/A	001	CM	32000	P	7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PU-02616-5101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
PO # 41696
WO # 131414
In emergency situation contact Chemtrec 800 424 9300

Public reporting burden for this collection of information is estimated to average, 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: JOSEPH SCAPARRO
Signature: Joseph Scaparro
Month Day Year: 1 16 91

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Philip Earl
Signature: Philip Earl
Month Day Year: 01 16 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

19. Discrepancy Indication Space
ENV - 30357
a. 31440 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 01 18 91

FACILITY

0045-0221

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 7 7 4 9 1
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law.

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6
C. State Transporter's ID: 1893 MA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5
G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00015	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

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Printed/Typed Name: Kerry S. MacLeod
Signature: Kerry S. MacLeod
Month Day Year: 01 14 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Tom McGrath
Signature: Tom McGrath
Month Day Year: 01 14 91

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
J.A 02616 -5101
a. 27740 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jen Todd
Signature: Jen Todd
Month Day Year: 01 16 91

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30358

0045-0222

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 1 2 9 9 0
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID SAME
C. State Transporter's ID 11463.mo
D. Transporter's Phone 508-384-6151
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone 803-452-5003

5. Transporter 1 Company Name: Franklin Environmental Services Inc. — 6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6
7. Transporter 2 Company Name — 8. U.S. EPA ID Number:
9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	20000	P	M A 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 2 6 1 6 - 5 1 0 1 T
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 1 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
JOSEPH A. SCAPARRO	Joseph A. Scaparro	12 10 9

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
JAMES A. ARNO JR	James A. Arno	12 10 9

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year

A Form 8700 (Rev. 9/88) Previous Editions are Obsolete (OHEC 1988 (Rev. 5/89))

ENV - 30359

0045-0223

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MADO482696062 Manifest Document No. 12459
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID 35591 MA
D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00020	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 16 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name	Signature	Month Day Year
JOSEPH N. PESTARRC	Joseph N. Pestarrc	12 22 90

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
David Regan	David Regan	12 26 90

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
a 28700 lbs. c lbs.
b lbs. d lbs.
131121

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year
Jan Todd	Jan Todd	12 28 90

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

ENV - 30360

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 12279
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: MA 1893
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID: same
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00020	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: Joseph N. Scaparro
Signature: Joseph N. Scaparro
Month Day Year: 12 26 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James B Hutchins
Signature: James B. Hutchins
Month Day Year: 12 26 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space
131122
a. 28340 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator; Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 12 28 90

'A Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30361

0045-0225

MEK

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-3

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 41694
2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State law.

3. Generator's Name and Mailing Address: ICI Resins, 730 Main St., Wilmington, MA 01887
4. Generator's Phone (508) 658-0657
5. Transporter 1 Company Name: Suffolk Services
6. U.S. EPA ID Number: MAD981213903
7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
9. Designated Facility Name and Site Address: GSX Services of S.C., Rt 1 Box 255, Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985

A. State Manifest Document Number: 41694
B. State Generator's ID:
C. State Transporter's ID:
D. Transporter's Phone: [illegible]
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Non-Regulated material n/A n/A	001	CM	00016	T	7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-4101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
WO# 130911
PO# 41694

Public reporting burden for this collection of information is estimated to average 37 minutes for generators, 15 minutes for transporters and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: | Signature: | Month Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: ROBERT D. FULLER | Signature: Robert D. Fuller | Month Day Year: 12 28 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: | Signature: | Month Day Year

19. Discrepancy Indication Space
Send instruction page with manifest a. 31780 lbs c. lbs
b. lbs c. lbs

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd | Signature: Jan Todd | Month Day Year: 12 31 90

GENERATOR / TRANSPORTER / FACILITY

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

ENV - 30262

0045-0226

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 — Manifest Document No.: 41632
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address: ICI Resins/Polyvinyl Chemicals, 730 Main Street, Wilmington, MA 01887
4. Generator's Phone (508) 658-0637

A. State Manifest Document Number: 41632
B. State Generator's ID:
C. State Transporter's ID: MA 26081
D. Transporter's Phone: 508-458-2500
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

5. Transporter 1 Company Name: Suffolk Services
6. U.S. EPA ID Number: MAD981213903
7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
9. Designated Facility Name and Site Address: GSX Services of South Carolina, Route 1 Box 255, Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Waste Number
a. Non-regulated material N/A N/A	001	CM	00013	T	7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-4101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
WO#
PO# 41632D

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing the burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: Kerry S. Macleod — Signature: [signature] — Month Day Year: 12 20 96

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: MARVIN J. Wescott — Signature: Marvin J. Wescott — Month Day Year: 12 20 96

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Month Day Year:

19. Discrepancy Indication Space
a. 25300 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Hope Barwick — Signature: Hope Barwick — Month Day Year: 12 27 96

GENERATOR — TRANSPORTER — FACILITY

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30363

0045-0227

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD 040826960 Manifest Document No. 41630
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address: ICI Resins/Polyvinyl Chemicals, 730 Main Street, Wilmington, MA 01887
4. Generator's Phone (508) 658-0637

A. State Manifest Document Number: 41630
B. State Generator's ID:

5. Transporter 1 Company Name: Suffolk Services
6. U.S. EPA ID Number: MAD981123903
C. State Transporter's ID: 31744 MA
D. Transporter's Phone: 508-458-2500

7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: GSX Services of South Carolina, Route 1 Box 255, Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Non-regulated material N/A N/A	001	CM	16	T	7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. BW-0261 6-4101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
WO# 130-866
PO# 41630

Public reporting burden for this collection of information is estimated to average 37 minutes for generators, 15 minutes for transporters and 15 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing the burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: Kerry S. MacLeod Signature: [signature] Month Day Year: 1 2 1 8 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: John Jones Signature: [signature] Month Day Year: 1 2 1 8 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Month Day Year:

FACILITY

19. Discrepancy Indication Space
a. 32660 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Hope Barwick Signature: [signature] Month Day Year: 1 2 2 0 90

EPA Form 8700-22 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

ENV - 30364

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 00013
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID
same

5. Transporter 1 Company Name
Franklin Environmental Services Inc.

6. U.S. EPA ID Number
MAD084814136

C. State Transporter's ID 84863 ME

D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number
SCD070375985

G. State Facility's ID

H. Facility's Phone
803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00018	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101 c. - -
b. - - d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

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Printed/Typed Name: JOSEPH N SCAPARRO
Signature: Joseph N Scaparro
Month Day Year: 12 17 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DANIEL E CROAK
Signature: Daniel E Croak
Month Day Year: 12 17 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a. 28440 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator; Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Hope Barwick
Signature: Hope Barwick
Month Day Year: 12 15 90

PA Form 8700 (Rev. 9/88) Previous Editions are Obsolete. HWEC 1988 (Rev. 5/89)

ENV - 30365

0045-0229

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 — Manifest Document No.: 121490
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 121490
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: MA 35673
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00020	Y	MA99 7777
b.					
c.					
d.					

[redacted]

a. PW-2616-5101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Joseph N. Scaparro — Signature: [signature] — Month Day Year: 121490

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jerry Inman — Signature: [signature] — Month Day Year: 121490

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Month Day Year:

19. Discrepancy Indication Space
a. 28180 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd — Signature: [signature] — Month Day Year: 121490

EPA Form 8700 (Rev. 6/88) Previous Editions are Obsolete. (DHEC 1988 (Rev. 5, 89))

ENV - 30366

0045-0230

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved, OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 — Manifest Document No.: 72350
2. Page 1 of 1

Information in the shaded areas is not required by Federal law but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number:
B. State Generator's ID:
C. State Transporter's ID: 35623
D. Transporter's Phone: 508-384-6151

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136

7. Transporter 2 Company Name:
8. U.S. EPA ID Number:

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	cm	000020	Y	MA99 7777
b.					
c.					
d.					

K. Handling Codes for Wastes Listed Above

a. PW-2616-5101
b.
c.
d.

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: KERRY S MACLEOD — Signature: Kerry S MacLeod — Month Day Year: 2015

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JERRY INMAN — Signature: Jerry Inman — Month Day Year: 2015

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Month Day Year:

19. Discrepancy Indication Space
SEND INSTRUCTION PAGE WITH MANIFEST. 27224

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd — Signature: — Month Day Year:

GENERATOR — TRANSPORTER — FACILITY

ENV - 30367

0045-0231

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 Manifest Document No.: 11 2[illegible]
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 17463 MA

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101 c. - -
b. - - d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297
WO#/129705
I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 16 minutes for transporters, and 1 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W. Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: Joseph N. Stephanie
Signature: [signature]
Month Day Year: 11 26 9[illegible]

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James A. Arno Jr
Signature: [signature]
Month Day Year: 11 26 9[illegible]

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator; Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30368

0045-0232

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 00016
2. Page 1 of

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 00016

B. State Generator's ID: SAME

5. Transporter 1 Company Name: Franklin Environmental Services, Inc.

6. U.S. EPA ID Number: SCD070375985

C. State Transporter's ID: 35673-MR

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name:

8. U.S. EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address
GSX Services of S. Carolina
Route 110, Hwy 120 & Rimini Road
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID: SAME

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer waste (non-hazardous waste)	001	RO	28000	L	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101 c. - -

b. - - d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: JOSEPH N. SCAPARRO Signature: Joseph N. Scaparro Month Day Year: 11 06 90

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: DANIEL R. CROAK Signature: Daniel R. Croak Month Day Year: 11 06 90

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Month Day Year:

19. Discrepancy Indication Space

a. lbs. c.

b. lbs. d.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Signature: Month

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988) (Rev. 5/89)

ENV - 30369

0045-0233

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 — Manifest Document No.: 10229
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 1893 MA.
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So: Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

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Printed/Typed Name: JOSEPH N SCAPARRO — Signature: Joseph N Scaparro — Month Day Year: 10 22 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Ron McGRATH — Signature: Ron McGrath — Month Day Year: 10 22 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space
J,A PW-02616-5101
a. 28420 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd — Signature: Jan Todd — Month Day Year: 10 25 90

EPA 8700 (Rev. 9/88) Previous Editions are Obsolete. (DHEC 1988 (Rev. 5/89))

0045-0234

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MADO482696062 Manifest Document No. 10290
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 10290
B. State Generator's ID: Same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: 355% MA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD073759855
G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	99920	Y	MA9977
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 14 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W. Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: JOSEPH N. SCAPARRO
Signature: Joseph Scaparro
Month Day Year: 10 29 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: MICHAEL MANGIAMELI
Signature: Michael Mangiameli
Month Day Year: 10 29 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space
SEND INSTRUCTION PAGE WITH MANIFEST
a. 25630 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Vende Elliott
Signature
Month Day Year: 10 31 90

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

ENV 30274

0045-0235

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No.: MAD048269062 Manifest Document No.: 10159
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number:
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: 35591 MA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name:
8. U.S. EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
GSX Services of Sb: Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID:
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00020	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Waste Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
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I have signed the waste minimization form

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Printed/Typed Name: JOSEPH N. SCAPARRO
Signature: Joseph N. Scaparro
Month Day Year: 10 15 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: David Regan
Signature: David Regan
Month Day Year: 10 15 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

FACILITY

19. Discrepancy Indication Space: J.A PW - 02616 - 5101
SEND INSTRUCTION PAGE WITH MANIFEST
a. 31460 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator; Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 10 17 90

ENV 20272

0045-0236

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
P.O. Box 58201, Columbia, SC 29250-8201
Phone: (803) 734-5200 TH
S. ENVIRONMENTAL QUALITY CONTROL

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document Number 3 6 7 9 3 7
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main sTreet, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental Services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6
C. State Transporter's ID: MA 1 8 1 3
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5
G. State Facility's ID: same
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous Waste)	001	CM	00025	Y	M A 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - [redacted] - 5 1 0 1
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOHN H. KIBBEE — Signature: [signature] — Month Day Year: 1 0 0 9 9 0

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James B Hutchins — Signature: James B Hutchins — Month Day Year: 1 0 0 9 9 0

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space: Returned to Generator; Unable to unload due to weather 126144 10-11-90
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — Month Day Year

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/90)]

ENV - 30373

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 36437
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887
Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID Same

Transporter 1 Company Name
ranklin Environmental Services, Inc.
6. U.S. EPA ID Number MAD084814136

C. State Transporter's ID 35591
D. Transporter's Phone 508-384-6151

Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number SCD070375985

G. State Facility's ID
H. Facility's Phone 803-452-5003

U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
Polymer Waste (non-hazardous waste)	001	RO	00020	Y	MA99 7777

Additional Descriptions for Materials Listed Above
PW-2616-5101
c. - -
- - d. - -

K. Handling Codes for Wastes Listed Above

Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: JOHN H KIBBEE
Signature: [signature]
Month Day Year: 10 01 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: David Regan
Signature: [signature]
Month Day Year: 10 01 90

Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space
a ___ lbs. c ___ lbs.
b ___ lbs. d ___ lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

0045-0238

ENV - 30374

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No 2050-0039 Expires 9-30-9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 Manifest Document No. 28069D
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID same
C. State Transporter's ID 35436 MO
D. Transporter's Phone 508-384-6151
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID Same
H. Facility's Phone 803-452-5003

5. Transporter 1 Company Name
Franklin Environmental Services Inc.
6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6
7. Transporter 2 Company Name
8. U.S. EPA ID Number

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
P.O. Box 255, Hwy 120 & Rimini Road
Pinewood, SC 29125
10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous waste)	001	DT	33 200	P	M A 9 9 / 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW - 2616 - 5101
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
I have signed the waste minimization form.
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: JOHN H. KIBBEE
Signature: X
Month Day Year: 08 06 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JAMES A. ARNO JR
Signature:
Month Day Year: 08 06 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete (DHEC 1988 (Rev. 5/89))

ENV - 30375

0045-0239

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 62990
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

Generator's Name and Mailing Address
CI Resins US Inc.
730 Main Street, Wilmington, MA 01887
Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID same

Transporter 1 Company Name: Franklin Environmental Services, Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: MA35673
D. Transporter's Phone: 508-384-6151

Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

Designated Facility Name and Site Address
SX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: 803-452-5003

US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
Polymer Waste (non-hazardous waste)	001	CM	00020	Y	MA99 7777

Additional Descriptions for Materials Listed Above
PW-2616-5101 c. - -
- - d. - -

K. Handling Codes for Wastes Listed Above

Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297
have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: JOSEPH N SCAPARRO
Signature: Joseph N Scaparro
Month Day Year: 6 29 90

Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JERRY INMAN
Signature: Jerry Inman
Month Day Year: 06 29 90

Printed/Typed Name
Signature
Month Day Year

Discrepancy Indication Space: SEND INSTRUCTION PAGE WITH MANIFEST
a 25480 lbs. c lbs.
b lbs. d lbs.
J.A 02616-5101

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 06 29 90

8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30376

0045-0240

South Carolina Department of Health and Environmental Control

19

Bureau of Solid & Hazardous Waste
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 35375
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID same

5. Transporter 1 Company Name: Franklin Environmental Services, Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: 1894 MA.
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120, Hwy. 120 & Rimini Rd.
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste)	001	RC	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

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Printed/Typed Name: KERRY S MACLEOD
Signature: Kerry S MacLeod
Month Day Year: 06 18 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: FRANK S. BENNETT
Signature: Frank S Bennett
Month Day Year: 06 18 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space: SEND INSTRUCTION PAGE WITH MANIFEST
a. 22140 lbs. c. lbs.
b. lbs. d. lbs.
J.A. 02616-5101 T

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 06 20 90

Form 8700 (Rev. 9/88) Previous Editions are Obsolete. (DHEC 1988 (Rev. 5/89))

ENV - 30377

0045-0241

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 0 4 8 2 6 9 0 6 2 Manifest Document No. 5 3 2 4 0

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

Generator's Name and Mailing Address
I Resins U.S. Inc.
0 Main Street, Wilmington, MA 01887
Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID
same

Transporter 1 Company Name
anklin Environmental services Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID 35591 MA

D. Transporter's Phone 508-384-6151

Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

Designated Facility Name and Site Address
X Services of So. Carolina
y. 120 & Rimini Rd., Rt.120
newood, SC 29125

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone 803-452-5003

US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
Polymer Waste (Non-hazardous waste)	001	R	00015	Y	M A 9 9 8 7777

Additional Descriptions for Materials Listed Above
J W - 2 6 1 6 - 5 1 0 1 c. - -
- - d. - -

K. Handling Codes for Wastes Listed Above

Special Handling Instructions and Additional Information
case of emergency, call Jeff Franklin at 508-384-6151
508-695-7297
have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

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I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name JOSEPH A. SCAPARRO Signature Joseph A. Scaparro Month Day Year

Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name David Regan Signature David Regan Month Day Year 0 5 1 2 9 0

Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name Signature

Discrepancy Indication Space

a. lbs c. lbs

b. d.

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name Signature Month Day Year

8700-22 (Rev. 9/88) Previous Editions are Obsolete. DHEC 1988 (Rev. 5/89)

ENV - 30378

0045-0242

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 0 4 8 2 6 9 0 6 2 Manifest Document No. 51490
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins U.S. Inc.
730 Main Street, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number: 51490
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Environmental services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6
C. State Transporter's ID: 95435 MA
D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Hwy. 120 & Rimini Rd., Rt.120
Pinewood, SC 29125
10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5
G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (Non-hazardous waste)	001	DT	00020	Y	MA99 8777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW - 2616 - 5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handing Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151
or 508-695-7297
I have signed the waste minimization form.

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Printed/Typed Name: Lewis R. Small
Signature: Lewis R. Small
Month Day Year: 05 14 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Michael Mangiameli
Signature: Michael Mangiameli
Month Day Year: 05 14 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
SEND INSTRUCTION PAGE WITH MANIFEST
~~[illegible]~~ 115735
a. 39120 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 05 17 90

ENV 30270

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD004826906 Manifest Document No. 243090
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

Generator's Name and Mailing Address
CI Resins U.S. Inc.
30 Main Street, Wilmington, MA 01887
Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID same

Transporter 1 Company Name: Franklin Environmental services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID: 35576MA
D. Transporter's Phone: 508-384-6151

Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

Designated Facility Name and Site Address
GSX Services of So. Carolina
Hwy. 120 & Rimini Rd., Rt.120
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: 803-452-5003

U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
Polymer Waste (Non-hazardous waste)	001	CM	00025	Y	MA99 8 7777

Additional Descriptions for Materials Listed Above

PW-2616-5101 c. - -
- - d. - -

K. Handling Codes for Wastes Listed Above

5. Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503

6. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: KERRY S. MACLEOD
Signature: Kerry S. MacLeod
Month Day Year: 04 30 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RON E. RICHER
Signature: Ron E. Richer
Month Day Year: 04 30 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space
a 25920 lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jan Todd
Signature: Jan Todd
Month Day Year: 05 02 90

Form 8700 (Rev 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30380

0045-0244

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 3 3 4 7 1

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Franklin Environmental Services, Inc.

6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID: MA-35597

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Hwy. 120 & Rimini Road
Pinewood, SC 29125

10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste)	001	CM	20,000	Y	MA01 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW - 2616 - 5101

b. - -

c. - -

d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297

I have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding this burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: JOHN H. KIBBEE — Signature: [signature] — Month Day Year: 1 1 27 89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jerry Inman — Signature: [signature] — Month Day Year: 1 1 27 89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

a. 25020 lbs. c. lbs.

b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Wende Elliott — Signature: [signature] — Month Day Year: 11 29 89

EPA Form 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30381

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 11289
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main st., Wilmington, MA 01887
Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID SAME

Transporter 1 Company Name: anklin Environmental Services Inc.
6. U.S. EPA ID Number: MAD084814136
C. State Transporter's ID 35673
D. Transporter's Phone 508-384-6151

Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

Designated Facility Name and Site Address
X Services of South Carolina
. 120 , Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070375985
G. State Facility's ID SAME
H. Facility's Phone 803-452-5003

U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
Polymer Waste (non-hazardous waste)	001	CM	00025	Y	MA01 7777

Additional Descriptions for Materials Listed Above
PW-2616-5101 c. -
- d. -

K. Handling Codes for Wastes Listed Above

Special Handing Instructions and Additional Information
eventof emergency please call Jeff Franklin at 508-384-6151
508-695-7297.
have signed the waste minimization form.

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JOSEPH SCOAPARRO
Signature: Joseph Scoaparro
Month Day Year: 11 20 88

Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RON McGRATH
Signature: R McGrath
Month Day Year: 11 20 88

Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

Discrepancy Indication Space
a lbs. c lbs.
b lbs. d lbs.

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

m 8700 (Rev. 9/88) Previous Editions are Obsolete [DHEC 1988 (Rev. 5/89)]

ENV - 30382

0045-0246

AUG 30 '89 08:52 FROM ICI RESINS WILM MA
AUG 30 '89 09:33 FRANKLIN PUMPING 617-384-6025 PAGE.002

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)253-6488

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved, OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 99718
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main St., Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Environmental Services, Inc.
6. U.S. EPA ID Number: MAD081411316
C. State Transporter's ID
D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Rte. 120
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD017037518
G. State Facility's ID
H. Facility's Phone 803-452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste)	001	CM	25	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In the event of spill or emergency please call Jeff Franklin at 508-384-6151 or 508-695-7297.
I have signed the waste minimization form. w/o # 99188

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 13 minutes for transporters, and 10 minutes for treatment storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: * Signature: Month Day Year 08 30 89

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: KERRY S. MACLEOD Signature: Month Day Year 08 30 89

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Month Day Year

19. Discrepancy Indication Space
a. 32420 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

TRANSPORTER

FACILITY

0045-0247

ENV - 30383

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

ASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 23376
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI REsins US
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Pumping Service, Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: E84863 ME

D. Transporter's Phone: 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Rt. 120
Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID: SAME

H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste0	001	CM	00025	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101T
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

I have signed the waste minimization form.

In event of emergency please call Jeff Franklin at 508-384-6151 or 508-695-7297.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Kerry S. MacLeod
Signature: Kerry S MacLeod
Month Day Year: 06 27 89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Bill Stoddard
Signature: Bill Stoddard
Month Day Year: 06 27 89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

a. 27600 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name: GAIL TIMMONS
Signature: Gail Timmons
Month Day Year: 06 29 89

Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete [DHEC 1988 (Rev. 10/86)]

ENV - 30384

0045-0248

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays: (803)734-5424

E PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved OMB No. 2050-0039 Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 29357

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

Generator's Name and Mailing Address
ICI REsins US
730 Main Street, Wilmington, MA 01887
Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

Transporter 1 Company Name: Franklin Pumping Service, Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID: 279030 ma
D. Transporter's Phone: 508-384-6151

Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

Designated Facility Name and Site Address
GSX Services of South Carolina
Rt. 120
Pinewood, South Carolina
10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID: SAME
H. Facility's Phone: 803-[illegible]

9. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	4. Waste Number
Polymer Waste (non-hazardous waste0	001	CM	00020	Y	MA99 7777

Additional Descriptions for Materials Listed Above
PW-2616-5101T
c. -
d. -

K. Handling Codes for Wastes Listed Above

5. Special Handling Instructions and Additional Information
I have signed the waste minimization form.

In event of emergency please call Jeff Franklin at 508-384-6151 or 508-695-7297.

6. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
KERRY S. MACLEOD	Kerry S MacLeod	06 26 89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
BOB KING	Bob King	06 26 89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year

Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete [DHEC 1988 (Rev. 10/86)]

ENV - 30385

0045-0249

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays (803)734-5424

PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-85

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 29448
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI REsins US
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Pumping Service, Inc.

6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID MA 11675

D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Rt. 120
Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID SAME

H. Facility's Phone 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste0	001	CM	00020	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101T
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

I have signed the waste minimization form.

In event of emergency please call Jeff Franklin at 508-384-6151 or 508-695-7297.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
James Gistis	James Gistis	11 28 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Jeff Inman	Jeff Inman	11 28 88

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space

a. 31120 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name	Signature	Month Day Year
BRENDA RIGDON	Brenda Rigdon	11 30 88

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete [DHEC 1988 (Rev. 10/86)]

ENV - 30386

0045-0250

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-8

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 29449
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI REsins US
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SANE

5. Transporter 1 Company Name: Franklin Pumping Service, Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID MA 11674

D. Transporter's Phone 508-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Rt. 120
Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID SANE

H. Facility's Phone [illegible]-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste0	001	CM	00020	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-2616-5101T
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
I have signed the waste minimization form.

In event of emergency please call Jeff Franklin at 508-384-6151 or 508-695-7297.
319808

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
James Gistis	James Gistis	11 14 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Thomas Taylor	Thomas Taylor	11 14 88

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
a. 28240 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name	Signature	Month Day Year
BRENDA RIGDON	Brenda Rigdon	11 16 88

GENERATOR

TRANSPORTER

FACILITY

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete [DHEC 1988 (Rev. 10/86)]

ENV - 30387

0045-0251

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mg
2600 Bull Street, Columbia, SC 29201
Phone. (803) 734-5200
Emergency & Holidays. (803)734-5424

PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 27447
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number [redacted]
B. State Generator's ID [redacted]

5. Transporter 1 Company Name
Franklin Pumping Service, Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID [redacted]
D. Transporter's Phone [redacted]

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. [redacted]
F. [redacted]

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120
Pinewood, SC 29125

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. [redacted]
H. [redacted]

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	[redacted]
a. Non-hazardous Polymer Waste	0 0 1	C M	0 0 0 2 5	Y	M A S S 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above [redacted]

K. Handling Codes for Wastes Listed Above [redacted]

a. P W - 0 2 0 1 6 - 5 1 0 1
b. - -
c. - -
d. - -

15. Special Handling Instructions and Additional Information
In case of emergency, call Jeff Franklin at 508-384-6151 or 508-695-7297
I signed the waste minimization form.

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name	Signature	Month Day Year
James Gistis	Jimmy Gistis	1/1 07 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Peter Velade	Peter Velade	1/1 07 88

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
TEI
ADI

a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name	Signature	Month Day Year

Form 8700-22 (Rev. 9-86) Previous Editions are Obsolete (DHEC 1985 (3 - 9/86))

ENV - 30388

0045-0252

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 29357
2. Page 1 of 1

Information in the shaded areas is r required by Federal law, but is by State la

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID Same

5. Transporter 1 Company Name
Franklin Pumping Service, Inc.

6. U.S. EPA ID Number MAD084814136

C. State Transporter's ID [illegible]

D. Transporter's Phone [illegible]

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Route 120 Pinewood, South Carolina

10. U.S. EPA ID Number SCD070375985

G. State Facility's ID

H. Facility's Phone 803-452-[illegible]

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non hazardous	001	CM	25	Y	MA99 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-2616-5101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In event of emergency please call Jeff Franklin at 508-384-6151 or 508-695-7297.
I have signed the waste minimization form.

292817

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: James Gistis | Signature: [signature] | Month Day Year: 10 19 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: EDWARD HARPER | Signature: Edward Harper | Month Day Year: 10 19 88

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

ENV - 30389

a. 28780 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name: BRENDA RIGDON | Signature: [signature] | Month Day Year: 10 20 88

GENERATOR

TRANSPORTER

FACILITY

0045-0253

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone (803) 734-5200
Emergency & Holidays (803)734-5424

PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039 Expires 9-30-8-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No: MAD048269062 Manifest Document No: 28947
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Pumping Service, Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID
D. Transporter's Phone: 508-[redacted]
E. State Transporter's ID: [redacted]751

7. Transporter 2 Company Name
8. U.S. EPA ID Number

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of So. Carolina
Route 120
Pinewood, SC 29125
10. U.S. EPA ID Number: SCD070[illegible]9185

G. State Facility's ID
H. Facility's Phone: 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste)	001	CM	210	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-0261-8101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In the event of spill or emergency, please call Jeff Franklin at 508-384-6151 or 508-695-7297
I have signed the waste minimization form. W.O.# 87129 256809

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
James Gistis	James Gistis	09 13 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Edward Harper	Edward Harper	09 13 88

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19

Printed/Typed Name	Signature	Month Day Year

ENV - 30390

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete DHEC 1988 (Rev. 10/86)

0045-0254

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 73723
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main Street, Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

5. Transporter 1 Company Name: Franklin Pumping Service Inc.
6. U.S. EPA ID Number: MAD084814136

7. Transporter 2 Company Name:
8. U.S. EPA ID Number:

9. Designated Facility Name and Site Address
GSX Services of SOuth Carolina
Rte. 120 Pinewood, South CArolina
10. U.S. EPA ID Number: SCD070375985

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste not regulated by DOT	1	CM	25	Y	MA997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-5101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
I have signed the waste minimization form.

In event of emergency please call Jeff Franklin at 617-384-6151 or 617-695-7297.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: GEORGE GAFFEY | Signature: G. Gaffey | Month Day Year: 07 18 88

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Peter Valade | Signature: Peter Valade | Month Day Year: 07 18 88

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: | Signature: | Month Day Year:

19. Discrepancy Indication Space
Trailer change - 11674-MA Peter Valade
a. 33340 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name: BRENDA RIGDON | Signature: Brenda Rigdon | Month Day Year:

ENV - 30391

0045-0255

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-8

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 059927
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
ICI Resins US Inc.
730 Main St., Wilmington, MA 01887

4. Generator's Phone (617-658-6600

A. State Manifest Document Number
B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Pumping Service Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID MA-11674
D. Transporter's Phone 617-384-6151

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Rt. 120 Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone 803-452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste (non-hazardous waste)	001	CM	00025	Y	~~M-A-B-0~~ 7445
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-4101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
In event of emergency please call Jeff Franklin at 617-384-6151 or 617-695-7297.

I have signed the wast minimization form.

ENV - 30392

165805

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

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Printed/Typed Name: GEORGE GAFFEY
Signature: G. Gaffey
Month Day Year: 06/14/8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Thomas Taylor
Signature: Thomas Taylor
Month Day Year: 06/14/8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
CORRECT PER GENERATOR LETTER ON FILE
J-A 2616-5101
a. 31080 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: BRENDA RIGBON
Signature: Brenda Rigbon
Month Day Year

EPA Form 8700-22 (Rev. 9-88) Previous Editions are Obsolete. (IDHEC 1986 (Rev. 16/88))

0045-0256

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2000-0404 Expires 7-31-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 2 5 9 2 2
2. Page 1 of 1 — Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID: same

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: M A D 0 8 4 8 1 4 1 3 6
C. State Transporter's ID: Ma 11694
D. Transporter's Phone: (617) 384-615

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: S C D 0 7 0 3 7 5 9 8 5
G. State Facility's ID
H. Facility's Phone: (803) 452-5003

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 / 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: William J. Kennedy — Signature: William Kennedy — Month Day Year: 06 12 28

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Date
Printed/Typed Name: Thomas Taylor — Signature: Thomas Taylor — Month Day Year: 06 12 28
18. Transporter 2 Acknowledgement of Receipt of Materials — Date
Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — Month Day Year

ENV - 30393

EPA Form 8700-22 (Rev. 4-85) (DHEC 1988 (Rev. 7/85))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mg
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-553

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2000-0404 Expires 7-31

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No.: 2 5 9 2
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID: Same

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID: 11675 MA

D. Transporter's Phone: (617) 384-61

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. US EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone: (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30394

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy — Signature: William J Kennedy — Month Day Year: 06 24 88

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: Peter Valade — Signature: Peter Valade — Month Day Year: 06 24 88

18. Transporter 2 Acknowledgement or Receipt of Materials — Date

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

Wrong Form

a. 24700 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: BRENDA RIGDON — Signature: Brenda Rigdon — Month Day Year: 06 24 88

EPA Form 8700-22 (Rev. 4-85) (DHEC 1988 (Rev. 7/85))

0045-0258

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 8-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 2 5 9 2 7

2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID
SAME

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number
M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number
S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone
(803)

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifie packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations ar the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economical practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to hume health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management metho that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Yea: 0 8 2 4 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Peter Valade
Signature: Peter Valade
Month Day Yea: 0 8 2 4 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Yea

FACILITY

19. Discrepancy Indication Space
a lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

ENV - 30395

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/86))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mg
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 2 5 9 2 6 — Manifest Document No.

2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste Numb
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classif packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economic practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to hun health and the environment OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management met that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Y

GENERATOR

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: GARY PASQUANTONIO
Signature: Gary Pasquantonio
Month 05 Day 18 Y 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Y

TRANSPORTER

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Ye

FACILITY

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/86))

ENV - 30396

0045-0260

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 25925
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID
C. State Transporter's ID
D. Transporter's Phone
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: MAD084814136

7. Transporter 2 Company Name
8. U.S. EPA ID Number

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. U.S. EPA ID Number: SCD070375985

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M0997777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-4101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Year: 08 10 87

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Peter Valade
Signature: Peter Valade
Month Day Year: 08 10 87

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
a lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete [DHEC 1988 (Rev. 10/86)

ENV - 30397

0045-0261

South C rolina Department of H alth and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-54

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039 Expires 0

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 2 5 9 4 Manifest Document No.
2. Page 1 of 1
Information in the shaded areas required by Federal law, but is by Sta

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID
D. Transporter's Phone

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID
H. Facility's Phone

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste Numb
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 1 9 1 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classif packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economic practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to hum health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management meth that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Ye: 08 03 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Thomas Taylor
Signature: Thomas Taylor
Month Day Ye: 08 03 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Ye

FACILITY

19. Discrepancy Indication Space
a lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Ye

ENV - 30398

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/89))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mg
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 2 5 9 2 3
2. Page 1 of 1
Information in the shaded areas is required by Federal law, but is by State

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID SAME

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID
D. Transporter's Phone (617) 384-615

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID
H. Facility's Phone (803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifie packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

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Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Ye

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Scott A Chambers
Signature: Scott A Chambers
Month Day Ye

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Ye

FACILITY

19. Discrepancy Indication Space
a lbs. c lbs.
b lbs. d lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name
Signature
Month Day Yea

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/86))

ENV - 30399

0045-0263

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 2 5 9 2 9
2. Page 1 of 1

Information in the shaded areas i required by Federal law, but is by Stat

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID: SAME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID: [illegible]
D. Transporter's Phone: (617) 384-61

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID
H. Facility's Phone: (803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Numb
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 / 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifi packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

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Printed/Typed Name	Signature	Month	Day	Ye
William J. Kennedy	William J Kennedy	09	15	8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Ye
Peter Valade	Peter Valade	09	15	8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Ye

FACILITY

19. Discrepancy Indication Space
a ___ lbs. c ___ lbs.
b ___ lbs. d ___ lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Yea

ENV - 30400

EPA Form 8700-22 (Rev. 9/85) Previous Editions are Obsolete (DHEC 1955 ...

0045-0264

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-54

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 2 5 9 2 8
2. Page 1 of 1

Information in the shaded areas required by Federal law, but is by Sta

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID MA 25157

D. Transporter's Phone (617) 384-61

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone (803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Numb
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classif packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations the laws of the State of South Carolina.

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Printed/Typed Name	Signature	Month Day Y
William J. Kennedy	William Kennedy	08 15 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Y
Thomas Taylor	Thomas Taylor	08 15 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Y

FACILITY

19. Discrepancy Indication Space

a ___ lbs. c ___ lbs.
b ___ lbs. d ___ lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Ye

ENV - 30401

EPA Form 8700-22 (Rev. 9/86)

0045-0265

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 259211
2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID SAME
C. State Transporter's ID
D. Transporter's Phone (617) 983-615

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number MADO84814136

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number SCD070375985

G. State Facility's ID
H. Facility's Phone (803) 452-5003

GENERATOR

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste Number
a. Polymer Waste ~~SAME~~ N/A N/A (Non-Hazardous) Waste N.O.S.	001	CM	00020	Y	M0997 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-0261-4101
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Can #24

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifie packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

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Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Ye 1 0 2 8 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Curtis Ouellette
Signature: Curtis Ouellette
Month Day Ye 1 0 2 8 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Yea

FACILITY

19. Discrepancy Indication Space
a. lbs. c.
b. lbs. d.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name
Signature
Month

ENV - 30402

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1038-D)

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-3

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 2 5 9 2 1 0

2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste N.O.S (Non-Hazardous) WASTE	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Year: 10 28 87

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James A. Arno Jr
Signature: James A. Arno Jr
Month Day Year: 10 28 87

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month

FACILITY

19. Discrepancy Indication Space
a. lbs. c.
b. lbs. d.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month

ENV - 30403

EPA Form 8700-22 (Rev. 9/85) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/85))

South arolina Department of ..ealth and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter) Form Approved. OMB No. 2050-0039 Expires 9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 2 2 6 3 4
2. Page 1 of 1

Information in the shaded areas i required by Federal law, but is by Stat

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID 11674 MA
D. Transporter's Phone (617) 384-61

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID
H. Facility's Phone (803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Numb
a. Polymer Waste (Non-Hazardous non-regulated)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifi packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economica practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to hum health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management meth that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy
Signature: William J Kennedy
Month Day Ye: 12 14 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Robert Howe
Signature: Robert Howe
Month Day Ye: 12 14 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month D

FACILITY

19. Discrepancy Indication Space
a lbs. c
b lbs. d

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name
Signature
Month D

ENV - 30404

EPA Form 8700-22 Rev. 9/86 Previous Editions are Obsolete (DHEC 1988 (Rev. 10/88)

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-5424

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-3

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 2 6 3 3 3

2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State L

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID 11675

D. Transporter's Phone (617) 384-6151

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone (803) 452-5003

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 / 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. F W - 0 2 6 1 6 - 4 1 0 1

b.

c.

d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifie packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations an the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economicall practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to huma health and the environment OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management metho that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy | Signature: William Kennedy | Month 1 Day 3 Year 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: James A. Arno Jr | Signature | Month 1 Day 3 Year 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

ENV - 30405

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/86))

0045-0269

South C rolina Department of H alth and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires 9-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MADO48269062 Manifest Document No. 26332

2. Page 1 of 1

Information in the shaded areas is required by Federal law, but is by State

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID SAME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.

6. U.S. EPA ID Number: MADO84814136

C. State Transporter's ID 11625 MA

D. Transporter's Phone (617) 384-615

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone (803) 452-5003

GENERATOR

11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Numbe
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M0999 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-02616-4101

b.

c.

d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classif packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economics practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to hum health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management meth that is available to me and that I can afford.

Printed/Typed Name: William J. Kennedy

Signature: William Kennedy

Month Day Ye 1 1 2 3 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Peter Valade

Signature: Peter Valade

Month Day Ye 1 1 2 3 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Ye

FACILITY

19. Discrepancy Indication Space

a lbs. c

b lbs. d

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

Month

ENV - 30406

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/86))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. M A D 0 4 8 2 6 9 0 6 2 Manifest Document No. 2 6 3 31
2. Page 1 of 1

Information in the shaded areas required by Federal law, but is by Stat

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID
NAME

5. Transporter 1 Company Name
Franklin Pumping Services Inc.

6. U.S. EPA ID Number M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID
D. Transporter's Phone (617) 384-61

7. Transporter 2 Company Name

8. U.S. EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID
H. Facility's Phone (803) 452-5003

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Numb
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifi packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

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Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Ye

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Peter Valade
Signature: Peter Valade
Month Day Ye

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Ye

FACILITY

19. Discrepancy Indication Space
a lbs. c
b lbs. d

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name
Signature
Month

ENV - 30407

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (D

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-542

PLEASE PRINT or TYPE (Form designed for use on elite [12-pitch] typewriter)

Form Approved. OMB No. 2050-0039 Expires 9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 259210
2. Page 1 of 1

Information in the shaded areas i required by Federal law, but is by Stat

GENERATOR

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number [redacted]

B. State Generator's ID [redacted]

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID [redacted]

D. Transporter's Phone [redacted]

7. Transporter 2 Company Name: Franklin Pumping Service Inc
8. U.S. EPA ID Number: MAD084814136

E. State Transporter's ID [redacted]

F. Transporter's Phone [redacted]

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID [redacted]

H. Facility's Phone [redacted]

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste Numb
a. Polymer Waste [redacted] (Non-Hazardous) WASTE NOS	001	CM	00020	Y	M09 [redacted]
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above [redacted]

a. PW-02616-4101
b. [ ]-[ ]-[ ]
c. [ ]-[ ]-[ ]
d. [ ]-[ ]-[ ]

K. Handling Codes for Wastes Listed Above [redacted]

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classifi packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations a the laws of the State of South Carolina.

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Printed/Typed Name: William J. Kennedy
Signature: William J Kennedy
Month Day Ye: 10 28 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JAMES A. ARNO JR
Signature: James A Arno Jr
Month Day Ye: 10 28 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: JAMES A. ARNO JR
Signature: James A Arno Jr
Month: 10

FACILITY

19. Discrepancy Indication Space
manifest # 59210

ENV - 30408

a. 30940 lbs. c.
b. lbs. d.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: GAIL TIMMONS
Signature: [signature]
Month

0045-0272

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 29201
Phone: (803) 734-5200
Emergency & Holidays: (803)734-54

PLEASE PRINT or TYPE (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039 Expires

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's U.S. EPA ID No. MAD048269062 Manifest Document No. 259211
2. Page 1 of 1

Information in the shaded areas required by Federal law, but is by Sta

3. Generator's Name and Mailing Address
Polyvinyl Chemicals
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number [redacted]
B. State Generator's ID [redacted]

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. U.S. EPA ID Number: MAD084814136

C. State Transporter's ID [redacted]
D. Transporter's Phone [redacted]

7. Transporter 2 Company Name
8. U.S. EPA ID Number

E. State Transporter's ID [redacted]
F. Transporter's Phone [redacted]

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. U.S. EPA ID Number: SCD070375985

G. State Facility's ID [redacted]
H. Facility's Phone [redacted]

11. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste Num
a. Polymer Waste ~~[illegible]~~ N/A N/A (Non-Hazardous) Waste NOS.	001	CM	00020	Y	[illegible]
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-02616-4101
b.
c.
d.

K. Handling Codes for Wastes Listed Above [redacted]

15. Special Handling Instructions and Additional Information
Can# 24

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classif packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations the laws of the State of South Carolina.
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Printed/Typed Name: William J. Kennedy
Signature: William J Kennedy
Month Day Y: 10 28 8

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Curtis Ouellette
Signature: Curt Ouellette
Month Day Y: 10 28 8

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Y

19. Discrepancy Indication Space
manifest # 59211
ENV - 30409
a. 23740 lb
b. lb

0045-0273

20. Facility Owner or Operator; Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: GAIL TIMMONS
Signature: Gail Timmons
Month Day Y

GENERATOR / TRANSPORTER / FACILITY

EPA Form 8700-22 (Rev. 9/86) Previous Editions are Obsolete (DHEC 1988 (Rev. 10/88))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2000-0404 Expires 7-31-8

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 2 5 6 5 9

2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID ~~[illegible]~~ 11675 Ma

5. Transporter 1 Company Name: Franklin Pumping Services Inc.

6. US EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID

D. Transporter's Phone (617)384-615

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. US EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID

H. Facility's Phone (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 / 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30410

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

Printed/Typed Name: William J. Kennedy — Signature: William J. Kennedy — Month Day Year: 12 15 8

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: Gary Tyler — Signature: Gary Tyler — Month Day Year: 12 15 8

18. Transporter 2 Acknowledgement or Receipt of Materials — Date

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

a. 31980 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: BRENDA RIGDON — Signature: Brenda Rigdon — Month Day Year: 12 17 8

GENERATOR — TRANSPORTER — FACILITY

EPA Form 8700-22 (Rev. 4-85) (Rev. 3/85)

0045-0274

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste M
2600 Bull Street, Columbia, SC 2920
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-55

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2000-0404 Expires 7-3

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MAD048269062 Manifest Document No. 25658
2. Page 1 of 1
Information in the shaded area is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID 37068 ME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: MAD084813136
C. State Transporter's ID MA 8194
D. Transporter's Phone (617)384-61

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: SCD073037595
G. State Facility's ID
H. Facility's Phone (803) 452-5003

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M099 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW - 02616 - 4101
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, a labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I ha a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or depo currently available to me which minimizes the present and future threat to human health and the environment.

Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Ye: 11 04 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Thomas Taylor
Signature: Thomas Taylor
Month Day Ye: 11 04 18
Date

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Ye
Date

FACILITY

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Yea

ENV - 30411

EPA Form 8700-22 (Rev. 4-85) (DHEC 1988 (Rev. 7/85))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mg
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-553

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2000-0404 Expires 7-3

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 2 5 6 5 7
2. Page 1 of 1 — Information in the shaded area is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID 37068 ME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: M A D 0 8 4 8 1 4 1 3 6

C. State Transporter's ID MA 11674
D. Transporter's Phone (617)384-61

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. US EPA ID Number: S C D 0 7 0 3 7 5 9 8 5

G. State Facility's ID
H. Facility's Phone (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 0 9
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30412

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I ha a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposa currently available to me which minimizes the present and future threat to human health and the environment.

GENERATOR

Printed/Typed Name: William J. Kennedy — Signature: William Kennedy — Month Day Yea 1 10 22 8

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

TRANSPORTER

Printed/Typed Name: JAMES McGrath — Signature: James McGrath — Month Day Yea 1 10 22 8

18. Transporter 2 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name — Signature — Month Day Yea

FACILITY

19. Discrepancy Indication Space
a. 30240 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: BRENDA RIGDON — Signature: Brenda Rigdon — Month Day Yea 1 0 23 86

EPA Form 8700-22 (Rev. 4-85) [DHEC 1988 (Rev. 7/85)]

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MAD048269062 Manifest Document No.: 25655
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID: 37068 ME

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: MAD084814136

C. State Transporter's ID: AL-37-555
D. Transporter's Phone: (617)384-6151

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone: (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M099 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW - 0261 - 4101
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30413

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

Printed/Typed Name: William J. Kennedy | Signature: William Kennedy | Month Day Year: 10 08 86

17. Transporter 1 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name: James Parah | Signature: James Parah | Month Day Year: 10 08 86

18. Transporter 2 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space
11-A NON HAZARDOUS
a. 27440 lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: BRENDA RIGDON | Signature: Brenda Rigdon | Month Day Year: 11 11 86

0045-0277

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

Please print or type (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No 2000-0404 Expires 7-31-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MAD048269062 Manifest Document No. 25655
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887

A. State Manifest Document Number

B. State Generator's ID 37068 ME

4. Generator's Phone (617) 658-6600

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: MAD084814136

C. State Transporter's ID

D. Transporter's Phone (617)384-615

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone (803) 452-5003

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M9999 / 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW - 02616 - 4101
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30414

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

Printed/Typed Name: William J. Kennedy | Signature: William Kennedy | Month Day Year: 09/17/86

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Peter Valade | Signature: Peter Valade | Month Day Year: 09/17/86

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space
a. 36160 lbs.
b. lbs.
c. lbs.
d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: BRENDA RIGDON | Signature: Brenda Rigdon | Month Day Year: 09/19/86

EPA Form 8700-22 (Rev. 4-85) [DHEC 1988 (Rev. 7/85)]

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5331

Please print or type (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No 2000-0404 Expires 7-31-8

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M A D 0 4 8 2 6 9 0 6 2 — Manifest Document No. 2 5 6 5 4
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID 37068 Me

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: M A D 0 8 4 8 1 4 1 3 6
C. State Transporter's ID
D. Transporter's Phone (617) 384-6113

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: S C D 0 7 0 3 7 5 9 8 5
G. State Facility's ID
H. Facility's Phone (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	0 0 1	C M	0 0 0 2 0	Y	M 0 9 9 / 7 7 7 7
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. P W - 0 2 6 1 6 - 4 1 0 1
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

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Printed/Typed Name: William J. Kennedy — Signature: William Kennedy — Month Day Year: 08 10 86

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Peter Valade — Signature: Peter Valade — Month Day Year: 08 10 86
Date

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year
Date

FACILITY

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name — Signature — Month Day Year

ENV - 30415

EPA Form 8700-22 (Rev. 4-85) (DHEC 1988 (Rev. 7/85))

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

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Form Approved OMB No 2000-0404 Expires 7-31-86

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MAD048269062
Manifest Document No.: 25652
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887
4. Generator's Phone (617) 658-6600

A. State Manifest Document Number
B. State Generator's ID

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: MAD084814136
C. State Transporter's ID: MA 11674
D. Transporter's Phone: (617) 658-6800

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID: 384-3137
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: SCD070375985
G. State Facility's ID
H. Facility's Phone: (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	~~M0979~~ ~~7777~~
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW - 02616 - 4101
b. - -
c. - -
d. - -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30417

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

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Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Year: 08 19 86

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JAMES McGrath
Signature: James McGrath
Month Day Year: 08 19 86
Date

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year
Date

19. Discrepancy Indication Space
a. 26030 lbs.
b. lbs.
c. lbs.
d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: GAIL TIMMONS
Signature: Gail Timmons
Month Day Year: 08 19 86

EPA Form 8700-22 (Rev. 4-85) (DHEC 1988 (Rev. 7/85))

0045-0280

4

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MAD048269062 Manifest Document No. 25653
2. Page 1 of 1
Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: MAD084814136

C. State Transporter's ID: MA116

D. Transporter's Phone: (617) [redacted]

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone: 617-384-8134

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina
10. US EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone: (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M099 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. PW-0261-4101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

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Printed/Typed Name: William J. Kennedy
Signature: William Kennedy
Month Day Year: 08 10 21 86

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Gary Roberts
Signature: Gary Roberts
Month Day Year: 08 10 21 86

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day

19. Discrepancy Indication Space
a. lbs. c. lbs.
b. lbs. d. lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day

ENV - 30416

0045-0281

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

Please print or type (Form designed for use on elite (12 pitch) type write.) Form Approved OMB No 2000-0404 Expires 7 31 86

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator's US EPA ID No: MAD048269062 Manifest Document No: 25651

2 Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3 Generator's Name and Mailing Address
Polyvinyl Chemicals, Inc.
730 Main Street
Wilmington, MA 01887

4 Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5 Transporter 1 Company Name: Franklin Pumping Services Inc.

6 US EPA ID Number: MAD084814136

C. State Transporter's ID: MA11674

D. Transporter's Phone: ~~(617) 658-6600~~

7 Transporter 2 Company Name: Franklin Pumping Services

8 US EPA ID Number: MAD084814136

E. State Transporter's ID: ~~[illegible]~~

F. Transporter's Phone: 617-384-5134

9 Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10 US EPA ID Number: SCD070375985

G. State Facility's ID

H. Facility's Phone: (803) 452-5003

11 US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12 Containers No	Type	13. Total Quantity	14 Unit Wt/Vol	I. Waste No.
a Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M099 7777
b					
c					
d					

J. Additional Descriptions for Materials Listed Above

a. PW - 0,2,6,1,6 - 4,1,0,1 c. - -

b. - - d. - -

K. Handling Codes for Wastes Listed Above

15 Special Handling Instructions and Additional Information

ENV - 30418

16 GENERATOR'S CERTIFICATION I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

Printed/Typed Name	Signature	Month Day Year
William J. Kennedy	William J. Kennedy	07 28 86

17 Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month Day Year
Raymond Franklin	Raymond Franklin	07 29 86

18 Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month Day Year
James McGrath	James McGrath	07 29 86

19 Discrepancy Indication Space

a. 35180 lbs. c.

b. lbs. d.

0045-0282

20 Facility Owner or Operator. Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year
[illegible]	[illegible]	[illegible]

South Carolina Department of Health and Environmental Control

Bureau of Solid & Hazardous Waste Mgt.
2600 Bull Street, Columbia, SC 29201
Phone: (803) 758-5681
Emergency & Holidays: (803) 758-5531

Use print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2000-0404 Expires 7-31-86

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MAD048269062 — Manifest Document No.: 25655
2. Page 1 of 1

Information in the shaded areas is not required by Federal law, but is by State law.

3. Generator's Name and Mailing Address
Polyvinyl Chemicals Inc.
730 Main Street
Wilmington, MA 01887

S/B 25658

4. Generator's Phone (617) 658-6600

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Franklin Pumping Services Inc.
6. US EPA ID Number: MAD084814136

C. State Transporter's ID: MA11675
D. Transporter's Phone: (617) 658-6600

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
GSX Services of South Carolina
Pinewood, South Carolina

10. US EPA ID Number: SCD070375985

G. State Facility's ID
H. Facility's Phone: (803) 452-5003

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Polymer Waste ORME (Non-Hazardous)	001	CM	00020	Y	M099 / 7777
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. PW-02616-4101
b. -
c. -
d. -

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

ENV - 30419

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and State laws.

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Printed/Typed Name: William J. Kennedy — Signature: William J. Kennedy — Month Day Year: 1/03/86

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: James Parah — Signature: James Parah — Month Day Year: 1/03/86

18. Transporter 2 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

CORRECT PER [illegible] LETTER ON FILE

a. 28260 lbs.
b. lbs.

0045-0283

MANIFEST # 25658

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: BRENDA RIGDON — Signature: Brenda Rigdon — Month Day Year: 1/05/86

EPA Form 8700-22 (Rev. 4-85) [DHEC 1988 (Rev. 7/85)]

POLYVINYL CHEMICALS INC.

A member of the ICI Group

May 19, 1986

Mr. Gregory A. Roscoe
U.S. Environmental Protection Agency
P.O. Box 3254
Reston, VA 22090

Re: The Cannons Engineering Corporation site in Bridgewater, Mass.; the Cannons Engineering Corporation site in Plymouth, Mass.; the Gilson Road site in Nashua, New Hampshire; and the Tinkham Garage site in Londonderry, New Hampshire

Dear Mr. Roscoe:

By letter dated March 28, 1986, you requested pursuant to the authority of Section 3007 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §6927, and Section 104 of the Comprehensive Environmental Response, Compensation and Liability act ("CERCLA"), 42 U.S.C. §9604, that Polyvinyl Chemicals Inc. provide you with certain information with respect to the above sites. In lawful compliance with that request, and without constituting an admission of liability or responsibility for any of the conditions alleged to exist at those sites, Polyvinyl responds as follows.

I. Polyvinyl Chemicals Inc.

II. U.S. Corporation Co.
1 Court Street
Boston, MA 02108

III. William J. Kennedy

IV. William J. Kennedy, Technical Manager
Max Potash, former president of Polyvinyl Chemicals
Harold Thoma, Purchasing Manager

V. See enclosed documents.

0045-0284

730 Main Street Wilmington, Massachusetts 01887-0677 Telephone: (617) 658-6600 Telex: RCA 200240

VI. 1. Cannons Engineering Corp.

Cannons Engineering Corp. removed waste materials from Polyvinyl during 1978. Those wastes were liquids and were removed by Cannon's tank trucks. Polyvinyl no longer retains copies of the documents that evidenced its transactions with Cannons. Those documents would have included such documents as purchase orders and shipping documents. William Kennedy, H. J. Thoma and Max Potash of Polyvinyl were either involved in or had knowledge of or pertaining to the transactions. The intended method of disposal was incineration. To the best of Polyvinyl's present knowledge, the wastes were incinerated. To the best of Polyvinyl's present knowledge, the wastes were not transshipped through, stored or held at any intermediate site prior to final disposal.

VI. 2. Chem-Waste Inc.

A.

8/22/79	165 drums	$3,300.00	
8/23-4/79	166 drums	$3,120.00	
8/27-9/79	309 drums	$6,980.00	
8/30/79	78 drums	$1,560.00	
10/3/79	76 drums	$2,128.00	
10/5/79	84 drums	$2,352.00	
10/16/79	89 drums	$2,492.00	
10/17/79	78 drums	$2,184.00	
10/23/79	79 drums	$2,212.00	(unpaid)
10/30/79	44 drums	$1,232.00	(unpaid)
	1,168 drums	$27,560.00	

B. All dealings with Chem-Waste were with Richard French or with Richard Brodie.

C. See response to VI A.

D. Primarily latex, and, other non-solvent chemical wastes.

E. No responsive data presently available.

F. $24,116 paid by check to Chem-Waste, Inc.

G. See enclosed documents.

H. William J. Kennedy; Max Potash; H. J. Thoma.

I. Chem-Waste stated that the wastes might either be landfilled, incinerated or reclaimed.

J. 15 drums that originated from Polyvinyl were found at the Lallas Buick Garage in Wilmington. Otherwise, Polyvinyl is without present knowledge responsive to the question.

K. Polyvinyl is without responsive knowledge.

L. Polyvinyl requested and received a copy of Chem-Waste's Mass. Hazardous Waste Collection and Disposal License prior to doing business with Chem-Waste, and received certificates of disposal from Chem-Waste.

VI. 3. Liquidator, Inc.

A.	December, 1978	256 55-gallon drums	14080 gallons
	January, 1979	129 55-gallon drums)	8175 gallons
		36 30-gallon drums)	
	March, 1979	81 55-gallon drums	4455 gallons
			26710 gallons

B. Irving Greenberg.

C. See response to VI A.

D. Used solvents.

E. No responsive data presently available.

F. Unknown at present time. Polyvinyl's records only indicate that it did not pay for the March, 1979 shipment, and the amount requested for payment was $1,620, or $20 per drum.

G. See enclosed documents.

H. Kennedy, Potash, Thoma.

I. Incineration.

J. To the best of Polyvinyl's present knowledge, the December and January shipments were incinerated by Cannons Engineering; Polyvinyl is not certain of the ultimate disposition of the March 1979 shipment.

K. Polyvinyl was informed by Liquidator that the March 1979 shipments were stored at Liquidator's Dorchester facility.

L. Polyvinyl obtained Certificates of Disposal and the Monthly Operating Reports of Liquidator.

VII. N/A.

Polyvinyl states that these responses are based upon its present knowledge and reserves the right to supplement these responses.

Very truly yours,

POLYVINYL CHEMICALS INC.

By: William J. Kennedy

WJK:jms

STATE OF MASSACHUSETTS)
.ss:
COUNTY OF MIDDLESEX)

I, William J. Kennedy, of full age, being duly sworn according to law upon my oath, deposes and says:

1. I am Technical Manager, formerly Production Manager, of Polyvinyl Chemicals Inc. I make this affidavit in response to the request by the United States Environmental Protection Agency pursuant to the authority of Section 3007 of RCRA, 42 U.S.C. §6927, and Section 104 of CERCLA, 42 U.S.C. §9404. This affidavit does not constitute an admission of liability or responsibility for any of the conditions alleged to exist with respect to the Cannons Engineering Corporation Sites in Bridgewater, Massachusetts and Plymouth, Massachusetts, the Gilson Road Site in Nashua, New Hampshire and the Tinkham Garage Site in Londonderry, New Hampshire.

2. I have caused a diligent record search and interviewing process with respect to the Agency's request to be completed.

3. Any and all information responsive to the Agency's information request is being forwarded to the Agency. All such information is complete and accurate.

William J. Kennedy

Sworn and Subscribed to
before me this 19th day
of May, 1986.

POLYVINYL CHEMICALS INC.

A member of the ICI Group

May 19, 1986

Mr. Gregory A. Roscoe
United States Environmental
Protection Agency
P.O. Box 3254
Reston, VA 22090

RE: Cannons Engineering Corporation
Site in Bridgewater, Massachusetts;
Cannons Engineering Corporation
Site in Plymouth, Massachusetts;
The Gilson Road Site in Nashua, NH;
and the Tinkham Garage Site in
Londonderry, NH, hereinafter
collectively referred to as the Sites

Dear Mr. Roscoe:

By letter dated March 28, 1986, pursuant to Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9601 et seq., you requested that Polyvinyl Chemicals, Inc. ("Polyvinyl") notify the United States Environmental Protection Agency ("EPA") of its willingness to participate in or conduct any of the activities described in that letter with reference to the Sites. A representative of Polyvinyl attended the meeting held in Boston by EPA on May 1, 1986, with respect to those Sites. Polyvinyl is currently examining the information made available at that meeting and has not as of yet had sufficient time fully to respond to your request. By this letter, Polyvinyl expressly states that EPA should not assume that Polyvinyl does not wish to negotiate a resolution of its alleged liability in connection with the Sites, has declined any involvement in the cleanup activities, or has declined to reimburse the government for the Sites' expenditures described in its letter.

Polyvinyl is represented in this matter by Robert D. Chesler, Esq., of Lowenstein, Sandler, Brochin, Kohl, Fisher, Boylan & Meanor, A Professional Corporation, 65 Livingston Avenue, Roseland, New Jersey (201) 992-8700. Please contact Mr. Chesler should any further communications be necessary.

0045-0289

730 Main Street Wilmington, Massachusetts 01887-0677 Telephone: (617) 658-8600 Telex: RCA 200240

This letter is made in lawful response to the EPA's request pursuant to Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980. This response does not constitute an admission of liability or responsibility for any of the conditions alleged to exist at the Sites.

Very truly yours,

POLYVINYL CHEMICALS, INC.

By: William J. Kennedy

WJK:ps

POLYVINYL CHEMICALS INC.

A member of the ICI Group

May 19, 1986

Mr. Gregory A. Roscoe
U.S. Environmental Protection Agency
P.O. Box 3254
Reston, VA 22090

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Boston, MA 02108

III. William J. Kennedy

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Harold Thoma, Purchasing Manager

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0045-0291

730 Main Street Wilmington, Massachusetts 01887-0677 Telephone: (617) 658-8800 Telex: RCA 200280

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10/23/79	79 drums	$2,212.00	(unpaid)
10/30/79	44 drums	$1,232.00	(unpaid)
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C. See response to VI A.

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L. Polyvinyl obtained Certificates of Disposal and the Monthly Operating Reports of Liquidator.

VII. N/A.

Polyvinyl states that these responses are based upon its present knowledge and reserves the right to supplement these responses.

Very truly yours,

POLYVINYL CHEMICALS INC.

By: William J. Kennedy

WJK:jms

STATE OF MASSACHUSETTS)
.ss:
COUNTY OF MIDDLESEX)

I, William J. Kennedy, of full age, being duly sworn according to law upon my oath, deposes and says:

1. I am Technical Manager, formerly Production Manager, of Polyvinyl Chemicals Inc. I make this affidavit in response to the request by the United States Environmental Protection Agency pursuant to the authority of Section 3007 of RCRA, 42 U.S.C. §6927, and Section 104 of CERCLA, 42 U.S.C. §9404. This affidavit does not constitute an admission of liability or responsibility for any of the conditions alleged to exist with respect to the Cannons Engineering Corporation Sites in Bridgewater, Massachusetts and Plymouth, Massachusetts, the Gilson Road Site in Nashua, New Hampshire and the Tinkham Garage Site in Londonderry, New Hampshire.

2. I have caused a diligent record search and interviewing process with respect to the Agency's request to be completed.

3. Any and all information responsive to the Agency's information request is being forwarded to the Agency. All such information is complete and accurate.

William J. Kennedy

Sworn and Subscribed to
before me this 19th day
of May, 1986.

LICENSED

Instant
24 Hour S
Radio Dis

CHEM-WASTE INC.

CONVEYANCE AND DISPOSAL OF HAZARDOUS WASTES

P.O. BOX 401, DERRY, N.H. 03038
(603) 434-2129

INVOICE
№ 25

Date Nov. 4, 197

Polyvinyl Chemical Corp.
730 Main Street
Wilmington, Mass. 01887

The FINANCE CHARGE is computed at th rate of 1½ percent on the unpaid balanc per month which is the ANNUAL PERCEN TAGE RATE of 18 percent.

DATE	WORK ORDER #	DESCRIPTION	UNIT	AMOUNT
10-30-79	5018	S/O #45752 Latex chemical waste 44/55 g. drums	$28/Dr.	$ 1,23
		NET 10 DAYS		

RECEIVED
NOV 8 1979
POLYVINYL CHEMICAL

A FINANCE CHARGE WILL BE APPLIED TO ALL BALANCES NOT PAID IN 30 DAYS.

CHEM-WASTE INC.

LONDONDERRY, N.H. 03053
(603) 434-2129

Polyvinyl Chemical Corp.
730 Main Street
Wilmington, Mass 01887

LICENSE # 138

CERTIFICATE # 2527-D

CERTIFICATE OF DISPOSAL

THIS IS TO CERTIFY THAT ON November 1979

44/55=2420 gals. UNITS OF Latex chemical waste

WERE PROCESSED FOR DISPOSAL.

CHEM-WASTE INC.

BY Richard French 11-4-79

0045-0297

CHEM-WASTE INC.

P.O. BOX 401, DERRY, N.H. 03038
(603) 434-2129

WORK ORDER № 5(

CUSTOMER: POLY VINEL

DESTINATION ADDRESS: ~~WOBURN~~ WILMINGTON

CUSTOMER P.O. #:

COMMODITY: LATEX

DRIVER SIGNATURE: [signature]

DATE ORDERED:

DATE PICKUP: 10/30/79

CONSIGNEE: CHEM-WASTE INC.

QUANTITY: 4 DRUMS GAL ☐

[signature]
CUSTOMER SIGNATURE

ASK LOADER TO VERIFY PRODUCT SHOWN ABOVE

	YES	NO		YES	NO		YES	N
PUMP ORDERED	☐	☐	PLACARDS	☐	☐	WEIGH CHARGE	☐	[
USED TO LOAD	☐	☐	_____ FT. HOSE	☐	☐	WEEKEND CHARGE	☐	[
CUSTOMER PUMP	☐	☐	VAC. ORDERED	☐	☐	DELAY CHARGE	☐	[

DRIVERS MUST USE SPECIFIED SAFETY EQUIPMENT & PROCEDURES

HARD HAT ☐ RUBBER GLOVES ☐ FACE SHIELD ☐
ACID SUIT ☐ GAS MASK ☐ SAFETY WATER ☐
OTHER _____

IF PRODUCT TEMPERATURE IS OVER ____ °F, CALL CHEM WASTE INC.

	A.M.	P.M.		A.M.	P.M.
DEPARTED CHEM-WASTE			ARRIVE CHEM-WASTE		
ARRIVAL AT CUSTOMER			TIME SAMPLED		
STARTED LOADING			TIME UNHOOKED		
DEPARTED CUSTOMER			TIME DEPARTED		
TOTAL			TOTAL		

TRACTOR # _____ TOTAL ROUNDTRIP TIME _____ Hrs. _____ Min. TRAILER # _____

THIS IS TO CERTIFY THAT THE ABOVE NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

MILEAGE
END _____
START _____
TOTAL _____

White – Invoice Yellow – Consignee Pink – Driver Goldenrod – Customer

0045-0298

LICENSED

Instant
24 Hour Ser
Radio Dispat

CHEM-WASTE INC.

CONVEYANCE AND DISPOSAL OF HAZARDOUS WASTES

P.O. BOX 401, DERRY, N.H. 03038
(603) 434-2129

INVOICE
№ 2558

Date October 31, 1979

Polyvinyl Chemical Corp.
730 Main Street
Wilmington, Mass. 01887

The FINANCE CHARGE is computed at the rate of 1½ percent on the unpaid balance per month which is the ANNUAL PERCENTAGE RATE of 18 percent.

DATE	WORK ORDER #	DESCRIPTION	UNIT	AMOUNT
10-23-79	5011	S/O #45655 79 Drums, 55/gal. - liquid waste	$28/Dr.	$2,212.0(
		Net 10 days		$2,212.0(

RECEIVED
NOV - 1 1979
POLYVINYL CHEMICAL

a

A FINANCE CHARGE WILL BE APPLIED TO ALL BALANCES NOT PAID IN 30 DAYS.

0045-0299

CHEM-WASTE INC.

P.O. BOX 401, DERRY, N.H. 03038
(603) 434-2129

WORK ORDER № 5

CUSTOMER: Polyvinyl

DESTINATION ADDRESS: Wilmington MA

DATE ORDERED:

DATE PICKUP: 10-23-79

CONSIGNEE: CHEM-WASTE INC

CUSTOMER P.O. #:

COMMODITY: Liquid waste

QUANTITY: 39 STEEL - 40 FIBER 79 DRUMS GAL. ☐

DRIVER SIGNATURE:

CUSTOMER SIGNATURE:

ASK LOADER TO VERIFY PRODUCT SHOWN ABOVE

	YES	NO		YES	NO		YES
PUMP ORDERED	☐	☐	PLACARDS	☐	☐	WEIGH CHARGE	☐
USED TO LOAD	☐	☐	_____ FT. HOSE	☐	☐	WEEKEND CHARGE	☐
CUSTOMER PUMP	☐	☐	VAC. ORDERED	☐	☐	DELAY CHARGE	☐

DRIVERS MUST USE SPECIFIED SAFETY EQUIPMENT & PROCEDURES

HARD HAT	☐	RUBBER GLOVES	☐	FACE SHIELD	[
ACID SUIT	☐	GAS MASK	☐	SAFETY WATER	[

OTHER:

IF PRODUCT TEMPERATURE IS OVER _____ °F, CALL CHEM WASTE INC.

	A.M.	P.M.		A.M.	P.M.
DEPARTED CHEM-WASTE			ARRIVE CHEM-WASTE		
ARRIVAL AT CUSTOMER			TIME SAMPLED		
STARTED LOADING			TIME UNHOOKED		
DEPARTED CUSTOMER			TIME DEPARTED		
TOTAL			TOTAL		

TRACTOR #: _____ TOTAL ROUNDTRIP TIME _____ Hrs. _____ Min. TRAILER # 4052

THIS IS TO CERTIFY THAT THE ABOVE NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

MILEAGE

END:

START:

TOTAL:

White – Invoice Yellow – Consignee Pink – Driver Goldenrod – Customer

0045-0300

CHEM-WASTE INC.

LONDONDERRY, N.H. 03053
(603) 434-2129

Polyvinyl Chemical Corp.
730 Main Stret
Wilmington, Mass. 01887

LICENSE # 138

CERTIFICATE # 2558-D

CERTIFICATE OF DISPOSAL

THIS IS TO CERTIFY THAT ON October, 1979

4,345 gals. UNITS OF Liquid Waste

WERE PROCESSED FOR DISPOSAL.

CHEM-WASTE INC.

BY 10-31-79

0045-0301

Summarized by [illegible] 1/13/81

Date of Pickup	# of Drums	$ amount
8/22	165 drums Sump	3300
8/23 - 8/24	166 drums	3120
8/27 - 8/29	88	1760
	38+60	1960
	76	1520
	87	1740
8/30	78	1560
10/3	76	2128
10/5	84	2352
10/16	89	2492
10/17	78	2184
10/23	79	
10/30	44	(?) Refunded

$24,116
(2212)
$(1232) ~~2212~~
{ $3444 to be paid

0045-0302

To CAH from NKL 1/8/81

Chem Waste

10/17 78 dms Chem Waste non flam $218

10/16 84 dms non flam. @ 28 $249

10/23 79 dms ~~[illegible]~~ water ? waste

10/30 44 non flam - refunded
non haz.

8/22 165 dms ~~[illegible]~~ Sump slurry $3300

8/22
8/24 166 dms sump slurry 156 @ 20 = $3120

8/30 78 d. solvent wst $1560

8/27 - 8/29 88 + 58 + 60 + 76 + 87 liq. waste $1740 $1760 $1960

10/3/79 76 dms liq waste @ 28 $2128
sold later

10/5 - 84 dms. later waste Pd. @ 28 $2352

0045-0303

Chem Waste

17600 11/21/79 $ 2212 Inv: 2558

0045-0304

Chronology of CHEM Waste

1) Letter from CHEM Waste signed by John Tinkham - certifying disposal of Material from Liquidators. Feb 27

2.) Question raised on a Liquidators invoice - there was no certification of Disposal - We Contacted CHEM Waste. Using info on letter of Feb 27 in order to determine if Material in question had also been handled for disposal. CHEM Waste (Treasurer) advised we ask for state certificates from Liquidators and CHEM Waste would foward copies of their reports so we could match up Liquidators reports and thus be assured of disposal.

3. In June (6/18) Discussions with John French and our Mr Thoma regarding capabilities/methods of disposal/costs/necessary paperwork.

(4) On July 11 - Rich Brodie - CHEM Wa[illegible] To negotiate removal of som 600 dru[illegible] to commence week of 7/16 with 2 Pickup

0045-0305

(5) Memo Thoma to Swartz -
Request to issue purchase order for 600 drums to Chem Waste.

(6) On 9/19/79 -
Notations by Thoma - regarding methods and costs to handle Flammable's by bulk -

(7) 1st recorded purchase order issued on 8/28/79. (~~10/3~~ 8/24 / 8/30 - ~~10/10~~

(8) During period Aug 28/30 - Four loads picked up (1 Flamm - and 3 from AVCO tank
With (2) loads left to be picked up.
These loads are the Oct loads which are in question

CUST. NO.	STATE	CLASS	WAREHOUSE	DELV. REQUESTED	SPECIAL INSTRUCTIONS
99910					

POLYVINYL CHEMICAL INDUSTRIES

A Beatrice Chemical Company
Division of Beatrice Foods Co.
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL.(617)-658-6600

4575

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS: NET 30 DAYS	SHIP DATE/ INVOICE D
	10-26 31		13241		10-30-79

D-U-N-S 00-258-0173

SCHEDULED

SOLD TO: MEMO

SHIP TO: CHEM-WASTE
LONDONDERRY, NH

BY/VIA: CPU | COLL. X | PREPAY | BACK ORDER TO | FROM

ORDERED NO. OF CONTAINERS	ORDERED NET WGT. EACH	ORDERED CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	SHIPPED NET WGT. EACH	SHIPPED TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF CHEMICAL WASTE IN ACCORDANCE WITH ALL FEDERAL AND STATE LAWS.					MEMO
							TOTAL INVOICE ▶	

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the buyer will make his own tests and assume all responsibility for the results obtained by the use of goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived other the writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to these articles and/or the performance of the services covered by this invoice, it has fully complied with sec. 12 (A) of the Fair Labor Standards Act of 1938, as amended.

INVOICE COPY

White – Invoice | Yellow – Consignee | Pink – Driver | Goldenrod – Customer

0045-0307

Highway Carriers - Drivers certify by accep that applicable Placards have been offered CFR 49 172.506

Rail

CFR 49 17 Placards A

..ADING—SHORT FORM
-NOT NEGOTIABLE

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

Chem ~~Bre~~ Waste
(NAME OF CARRIER)

Shipper's No. 4575

POLYVINYL CHEMICAL INDUSTRIES
A Division of Beatrice Foods Co.

..ON, MASS. Date 10/30 1979 from

Carrier's No.

[redacted]

Consigned to

SHIP TO: CHEM-WASTE
(Mail or street address of consignee—For purposes of notificatio

Destination

State LONDONDERRY, NH

Route

X County

..ring Carrier

Car or Vehicle Initials

No.

NO. PACKAGES	HAZARDOUS MATERIALS	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS, AND EXCEPTIONS 49 172.101	*WEIGHT (SUBJECT TO CORRECTION)	CLASS OR RATE	CK. COL.
		RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN N.O.I.		60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN N.O.I.		60	
		RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		PLASTIC SYNTHETIC GRANULES N.O.I.B.N.		60	
		PAINT DRY BULK		55	
		PLASTIC SYNTHETIC LIQUID N.O.I.B.N. KEEP FROM FREEZING		60	
44		Chemical Waste Non Flammable			
		Non HAZARDOUS			

If charges are to be prepaid, stamp here; "To be Prepaid."

Received $ Collec to apply in prepayment of the che the property described hereon.

Agent or Cashier

Per

(The signature here acknowledg the amount prepaid.)

Charges Advanced:

$

*(Shipper's imprint in lieu of sta a part of bill of lading approve Interstate Commerce Commission.

The fibre boxes used for this ship to the specifications set forth in t or's certificate thereon, and all e ments of Uniform Freight Classifi

C.O.D. SHIPMENT

C.O.D. AMT.

COLLECTION FEE

TOTAL CHARGES

SHIPPERS CERTIFICATION This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

In accordance with CFR 49 172.204

SIGNATURE TITLE

POLYVINYL CHEMICAL INDUSTRIES
BEATRICE CHEMICAL, DIV. OF BEATRICE FOODS

Shipper, Per [signature] Agent [signature] Per

Permanent post-office address of shipper: 730 MAIN ST. WILMINGTON, MASS. 01887 (617) 658-4600

CARRIER: ON PREPAID SHIPMENTS ONLY, INVOICE FIRST NATIONAL BANK OF BOSTON, FREIGHT PLAN #2975-3, BOX 1974, BOSTON, MA. 02105.

..TATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

END

START

TOTAL

White — Invoice Yellow — Consignee Pink — Driver Goldenrod — Customer

0045-0308

WASTE INC.

P.O. BOX 401, DERRY, N.H. 03038
(603) 434-2129

WORK ORDER 5

DATE ORDERED _____

DATE PICKUP 10/20/79

CONSIGNEE **CHEM-WASTE INC.**

DESTINATION ADDRESS _____
WILMINGTON

CUSTOMER P.O. # _____

COMMODITY _____

QUANTITY
40 DRUMS GAL. ☐

DRIVER SIGNATURE _____

CUSTOMER SIGNATURE _____

ASK LOADER TO VERIFY PRODUCT SHOWN ABOVE

	YES	NO		YES	NO		YES	N
PUMP ORDERED	☐	☐	PLACARDS	☐	☐	WEIGH CHARGE	☐	☐
USED TO LOAD	☐	☐	_____ FT. HOSE	☐	☐	WEEKEND CHARGE	☐	☐
CUSTOMER PUMP	☐	☐	VAC. ORDERED	☐	☐	DELAY CHARGE	☐	☐

DRIVERS MUST USE SPECIFIED SAFETY EQUIPMENT & PROCEDURES

HARD HAT	☐	RUBBER GLOVES	☐	FACE SHIELD	☐
ACID SUIT	☐	GAS MASK	☐	SAFETY WATER	☐

OTHER _____

IF PRODUCT TEMPERATURE IS OVER _____ °F, CALL CHEM WASTE INC.

		A.M.	P.M.			A.M.	P.M.
DEPARTED CHEM-WASTE				ARRIVE CHEM-WASTE			
ARRIVAL AT CUSTOMER				TIME SAMPLED			
STARTED LOADING				TIME UNHOOKED			
DEPARTED CUSTOMER				TIME DEPARTED			
TOTAL				TOTAL			

TRACTOR # _____ TOTAL ROUNDTRIP TIME _____ Hrs. _____ Min. TRAILER # _____

THIS IS TO CERTIFY THAT THE ABOVE NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

MILEAGE

END _____

START _____

TOTAL _____

White — Invoice Yellow — Consignee Pink — Driver Goldenrod — Customer

0045-0309

CUST. NO.	STATE	CLASS	WAREHOUSE	DELV. REQUESTED	SPECIAL INSTRUCTIONS
99910					

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

456

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS: NET 30 DAYS	INVOICE DATE
	10-19 26		13207		10-23-7

D-U-N-S 00-258-0173

SCHEDULED

DATE SHIPPED 10-23-7

SOLD TO: MEMO

SHIP TO: CHEM-WASTE
LONDONDERRY, NH

ROUTE CPU | COLL. X | PREPAY | BACK ORDER TO | FROM

ORDERED: NO. OF CONTAINERS	ORDERED: NET WGT. EACH	ORDERED: CONTAINER CODE	DESCRIPTION	SHIPPED: NO. OF CONTAINERS	SHIPPED: NET WGT. EACH	SHIPPED: TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF CHEMICAL WASTE IN ACCORDANCE WIGH FEDERAL & STATE REGUBATIONS.					MEMO
					TOTAL INVOICE ▶			

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained by the use o goods in his manufacturing process or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived other th writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied with se 12 (A) of the Fair Labor Standards Act of 1938, as amended.

INVOICE COPY

White — Invoice | Yellow — Consignee | Pink — Driver | Goldenrod — Customer

2. (Cont'd)

   C. Mr. Kennedy stated that from a meeting he had with Mark Astroff, a representative of Liquidator Inc., and subsequent conversations with him, he learned that they were not disposing of the waste but were storing it at their Dorchester site and were attempting to force the State to open a landfill site.

3. A. Throughout most of 1978 Cannons Engineering removed the company's hazardous waste.

   B. Removal was done by vacuuming waste into tank trucks. No drum removal was done by the company.

I requested Mr. Kennedy send me a copy of all hazardous waste disposal receipts for the past 2 years in the company's possession and a report of his meetings with representatives of Liquidator Inc and Chem-Waste Inc.

Following my return to the Division of Water Pollution Control I was contacted by Tom Peisch, an attorney for Beatrice Foods Co., who informed me that Mr. Shaw from the Attorney General's Office had requested similar information regarding Liquidator Inc. Rather than duplicate efforts I requested Mr. Peisch to forward all the information including that of Chem-Waste Inc. to Mr. Shaw.

MJM/rew

ec: Paul Shaw, Esq., Assistant Attorney General, Criminal Bureau, One Ashburton Place, Boston 02108
Sabin Lord

Listing of drums at Lallas Buick Garage

Evidence # 111 - A-550 LK214 - bead sump - Warehouse probably

Evidence # 80 - Marked R-275 LD-154 - 1/3 - some sticks - latex and heavy coag type - doesn't look like ours

Evidence # 81 - Poly ship B-23 - 1/3 full - paper and some coag

Evidence # 100 - A-634 LD-217 - full - looks like bead type coag - melted as malten

Evidence # 101 - A-550 LK214 - 1/3 full - liquid - looks like latex

Evidence # 102 Poly ship B-23 marked 1/3 full - filter bags - sock latex coag and liquid

Evidence # 13 Lab samples - Poly jugs etc.

Evidence # 10 - 3 EX395 1-MAZB - greenish semi solid (been refilled)

Evidence # 18 - Marked - A-621 LK-32 on top
A-620 LK-316 on side

Evidence # 19 - Marked - A-621 LK-327

Evidence # 24 - Cover, marked bead dump - 1/3 latex, rogs, coag

Evidence # 21 - beads like latex coag - large pieces

Evidence # 20 - 1/3 vortisieve coag - and a pair of gloves

Evidence # 22 - Bugul - Sent to PCI by Proctor Swartz - bead type marked - spray dried BR-4

Evidence # 23 - No marks but bead chunk (high monomer odor)

Report of Visit

to Polyvinyl

Richard French

Chem-Waste

Don Nickerson

July 22, 1980

Visit by French to Don N

Mr. Richard French of Chem-Waste, Inc. arrived in our lobby at approximately 2:50 P.M. Before talking with him I called Tom Peisch at Burns and Levinson. Tom said he was not sure that Burns and Levinson was still our counsel, and he said he would call Noel Posternak. He (Peisch) advised that I not talk with Mr. French and tell Mr. French to call Mr. Posternak.

I spoke with Mr. French in the lobby. He was pleasant and told me of his last conversation with Mr. Thoma who had told him he would speak to the Controller regarding invoices not paid. He handed me copies of invoices and said he would like to have them paid. Polyvinyl, he said, was the only company that had not paid him, that the State was taking him to court and not Polyvinyl. He said he hauled the material as he had agreed to and therefore should be paid.

I did not respond to any of his statements other than to acknowledge that I heard what he had said. I told him that this entire matter was being handled by our attorney. He asked the question (rhetorically), "will I have to sue Polyvinyl to be paid." I told him to call Mr. Posternak, that I could not really discuss the matter with him. He asked if he should call him today, himself, rather than get a lawyer. I suggested that he call him himself. He then left after asking about the possibility of doing some more hauling for us.

DN/akl

cc: M. Potash
H. Thoma
I. Swartz

MC
IS
WJK
WPB
HJT

Cannons Engineering Corporation

June 18, 1980

Polyvinyl Chemical Co.
730 Main Street
Wilmington, Ma. 01887

Attention: Mr. Harold Thoma

Gentlemen:

Certain officials of our company have been accused of several violations of law by the Commonwealth of Massachusetts which they have denied and which charges they vigorously intend to contest and disprove.

In the interim, in order to continue to service our many customers without interruption, to preserve the confidence of the public and to avoid any apprehension by some, we have made an agreement with the Commonwealth to have David A. Mills of 75 Federal Street, Boston, Massachusetts responsible for the operation of the company until this matter is resolved. The steps we have taken, with full authority from the Court and consent by the Commonwealth, will insure that your company will continue to receive the same quality of service that Cannons Engineering Corporation has rendered in the past.

Please be assured of our continued interest in serving your company's needs. Should you have any questions in this regard, please do not hesitate to call us, Mr. Mills at (617-482-4501 or our company attorney, Julian Soshnick at (617) 542-2000.

Sincerely,

J. Robert Cannon
President

JRC:mc

H. J. THOMA
JUN 23 1980

350 Main Street • West Yarmouth, MA 02673 Tel. (617) 775-2800

Anthony D. Cortese, Sc.D.
Commissioner

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Hazardous Waste
600 Washington Street, Boston, Mass. 02111

June 5, 1980

Polyvinyl Chemical Industries
730 M ain Street
Wilmington, Mass. 01887

Gentlemen:

Re: Chem-Waste, Inc.
Richard French, President

This is to notify you that the above-named corporation is not licensed, either itself or through agents or contractors, to engage in collection, transportation, storage, treatment, use, or disposal of hazardous waste in or through Massachusetts, or to act as agent or contractor for anyone else engaging in any such activity.

General Laws, Chapter 21C, Sections 5 and 9 prescribe severe criminal and civil penalties for anyone who transfers custody or possession of hazardous waste to anyone who does not have a currently valid license from this Department

Very truly yours,

William F. Cass
Acting Director

cc: Paul Shaw, Assistant Attorney General
Frank Gaynor, Assistant Attorney General

WFC/jp

RECEIVED
JUN 6 1980
POLYVINYL CHEMICAL

POLYVINYL CHEMICAL INDUSTRIES

INTEROFFICE MEMO.

TO: Max Potash

FROM: Angela Leech

SUBJECT: Review of Liquidators File/History

DATE TYPED: March 4, 1980

cc: DHN
HJT
IS
WJK

DATE WRITTEN

Summary of File Review

As you requested, I have checked our file on Liquidators and submit the following review as pertinent to our dealings with them.

Polyvinyl Chemical Industries has received several requests for payment for disposal services allegedly performed on March 14, 1979 by The Liquidator Inc. The latest payment request came from Leonard M. Krulewich, who has been retained by the Trustee in Bankruptcy to collect remaining accounts receivable of Liquidators. We do not feel obligated to pay this $1,620, as it is our contention that the waste material picked up in that shipment was never properly disposed of as contracted for. Should we pay this bill, and might we somehow bill Liquidators for the costs incurred by being involved with them? A brief chronology follows.

Liquidators offerred their services to us in October '78, and in a discussion with our Purchasing Agent, Harold Thoma, said they would convey and dispose of all the liquid waste generated at our plant, that all material would be incinerated; and they sent a copy of their license. Over a three-month period from December '78 to March '79 we contracted with Liquidators to dispose of three shipments of waste material, approximately 80 drums (55 gallons each) in each shipment . With the first two shipments we were provided a Certificate of Disposal issued by Chem-Waste of Londonderry, New Hampshire. We paid for these shipments.

With the third and last shipment on March 14, a Certificate of Disposal was issued by Liquidators, signed by Irving Greenberg. A copy of the Monthly Report by Liquidators to the State Division of Water Pollution Control was also sent to us, but the section regarding "method of disposal" and "location of disposal" was left blank. This led to our questioning whether or not the waste material had actually been properly disposed of. Bill Kennedy, our Plant Manager, checked with Chem-Waste and found that they had not received our March 14 material from Liquidator. Harold Thoma spoke to Greenberg who admitted that the March 14 waste materials were still on Liquidators' premises.

(More)

Our files show that Liquidators has been involved in many skirmishes with State and city agencies. During the summer of '78 they were fined $120,000 for illegally dumping chemical waste in Randolph, Mass. and for storing waste on their Dorchester lot. In March of '79 the Attorney General's office sent Greenberg a letter ordering his business closed for violation of his hazardous waste license by stockpiling wastes in Dorchester. (One of the conditions for receiving a license from the State is that the license holder have proper disposal locations.) In April '79 Greenberg was served an order by the Boston Fire Department to remove the barrels from the lot. In June '79 the Boston Board of Health ordered Liquidators' business closed and locked. In August '79 the Boston Board of Health filed a complaint asking that barrels be removed from the area.

Finally, the Boston Board of Health contracted with two other disposal firms, SCA (Boston) and Interex (Natick) to have the Dorchester lot cleaned out by December '79 (believing it to be a danger to the neighborhood) and stated they would sue Liquidators, Penn Central (owner of the lot) and Gilflex (owners of the trailers) to recover cleanup costs. In November of '79 a Grand Jury was convened to investigate possible criminal wrongdoings by Liquidator under the "Clean Water Act and Hazardous Waste Act" of Massachusetts.

Greenberg and his attorney have claimed through the press that he held the material rather than dispose of it because there was no suitable place for disposal and, if a place could be found, it was too costly. He wants to force the State to come up with a suitable location. The Attorney General's office has responded in the press that Greenberg should have had a disposal site guaranteed before he contracted to pick up material from his customers. In fact, Liquidators' license was to transport to authorized disposal and recycling facilities. It was under this assumption that we agreed to do business with Liquidators.

In December '79 we were asked by the Attorney General's office to inspect drums in Lowell, Mass. which were found when an operation was uncovered involving dumping chemical waste into the sewer. We sent Bill Kennedy there, who reported that out of some 200 drums discovered in the former auto dealership garage, only 14 drums were actually Polyvinyl's waste. There were a number of drums with Polyvinyl markings, but these contained waste from others, having evidently been reused. We have been asked to provide documentation of all dealings with Liquidator, Chem-Waste and others for the Attorney General's probe of these companies. Bill Kennedy appeared before a Grand Jury in January '80. In all of these transactions we have spent valuable time in addition to the management time spent in consultation with lawyers as we sought answers to questions raised about ownership, liability, discharge of responsibilities, etc.

If Liquidator somehow tries to sue Polyvinyl for this fee of $1,620, might we consider counter-suing for the costs to us arising from our dealings with a company who misrepresented themselves to us?

Angela Leech

0045-0317

TO: ACCOUNTS PAYABLE

REQUEST FOR CHECK

Check One:

☐ ENCLOSURE(S)*

☐ MAIL DIRECTLY

☐ RETURN TO ORIGINATING DEPARTMENT

PLEASE ISSUE CHECK IN THE AMOUNT OF $ (2212.00)

TO THE ORDER OF:

NAME: Chem Waste

ADDRESS

CHECK NEEDED BY (DATE): 11/22

CHARGE TO DEPARTMENT: 01 ACCOUNT NUMBER: 744

REMARKS OR EXPLANATION: To void ack. 10590. HJT says not to pay inv. 2558

CHECK REQUESTED BY: [illegible] DATE REQUESTED: 11/20/79

APPROVAL: DATE APPROVED:

PLEASE FILL THIS FORM IN COMPLETELY, INCLUDING DATE REQUIRED.

*IF ENCLOSURES ARE INCLUDED, PLEASE ATTACH THE ORIGINAL, WHICH WILL BE SENT WITH CHECK, AND A COPY WHICH WILL REMAIN WITH THE CHECK REQUEST

HJT [illegible]

0045-0318

Chem-Waste 11/19/79
Rick Brodie.

In process of relocation of mixing + transfer - process
Chemical waste Solvents - oils - liquid waste in out of state loca
① flammables to cannons that they can burn -
② Liquids to mixing
③ solids to land fill Model City, N.Y. (SEA runs it)

Claims only ~~sides~~ solids in Lowell awaiting for full
land to dump -

Trucking problem only! -

"Liquidator" Cor

POLYVINYL CHEMICAL INDUSTRIES

INTEROFFICE MEMO.

TO: Max Potash

cc: Irving Swartz

FROM: W. J. Kennedy

SUBJECT: Visit by Officer Moran on November 15, 1979

DATE TYPED: November 16, 1979

DATE WRITTEN

On November 15, 1979, approximately 11:30 A.M., I was called to the lobby of Polyvinyl to talk with an Officer Moran from Law Enforcement. After introduction, Officer Moran asked if it were possible for me to identify some nomenclature found on drums in a garage located in Lowell as coming from our company. The writing on the drums was POLYSTEP B-23 - STEPAN CHEMICAL, addressed to POLYVINYL CHEMICAL. A number of these drums were located in the garage and found by Officer Moran earlier this week when he searched the garage in order to pinpoint the cause of and location of some illegal dumping which went into the Merrimack River in Lowell. He was told that we use this raw material but that I was unaware of any way that these drums could have gotten to Lowell. He said that he examined the contents of at least 10 of the drums (others apparently from different source also) and they contained, in his opinion, resins, latex, inks--all of them, from appearances, waste material. He asked who was our waste disposal contractor and if fiber drums would have been disposed. He was told that we had used Chem-Waste to remove similar type drums for disposal. He also asked who else had been used, and I answered Liquidator was a contractor used previously but no fiber drums were disposed of through them. He asked for further contractors and was told that Cannon Engr. had been used for flammables, but they came in to the plant and emptied the drums into their bulk truck. Again, he was told that we had not sent fibers to Cannon.

He asked about our dealings with Liquidator and said that he had done a considerable amount of the field investigation concerning Liquidator. He asked what kind and amount of business we had conducted with them, and he was told that we had used them in late December 1978 and early January 1979 (all of which were backed up with disposal certificates) and one in March 1979 which was not. I told him we wouldn't pay the bill and still haven't as far as I know. There had been numerous conversations between Polyvinyl and Liquidator concerning the bill. Moran also asked again about fiber drums to Cannon Engr.

(more)

We discussed what he believed to be some type of tie-in between Liquidator, Chem-Waste and Cannon. Irving Swartz joined us in the discussion as he entered the lobby. Officer Moran said that Liquidator was before the Grand Jury this week on criminal complaints since civil action was ignored.

I asked what he wanted from us, and he asked for records of dealings with Liquidator, Chem-Waste and Cannon Engr., to include B/L's, loads of drums, kind of drums and last date shipped, particularly to Chem-Waste.

In addition, he asked for a resume of all dealings with Liquidator in an affidavit form. He said that the Attorney General may want to talk to us concerning Liquidator.

He wrote out for us his identification for purposes of sending the information:

Michael J. Moran
Natural Resource Officer
Division of Law Enforcement
100 Cambridge Street
Boston, Mass. 02202
tel.# 727-3189

Send material to:

Water Pollution Control
P.O. Box 537
N. Pembroke, Mass. 02358.

In leaving, Officer Moran asked that we send this information within a week.

Subsequent to this meeting, Max Potash was brought up-to-date and he arranged to talk with Tom Peisch, a lawyer. Tom will filled in on the information and after obtaining information on where and how to contact Moran, advised that if Moran were to come back looking for the information, we were to inform him that the matter was being discussed with the Attorney General's office and that we were not to comment. Peisch said to tell him that if he had questions he should contact the A.G.'s office.

Later in the afternoon I received a call from Mr. Potash's secretary telling me that Officer Moran had been contacted by Tom Peisch and that there was no need to provide the material asked for by Moran.

W. J. Kennedy

WJK/akl

11-15-79

Dick French called - told him of drums found in Lowell Garage. He says not ours even though W Kennedy was told PCI stenciled on drums -

Tinkham officer Director of chem-waste and someone from Cannon's had rented garage and used it illegally for dumping waste liquid into sewer system.

Told French we would have to check out the entire situation before we could use Chem-waste again.

French says they would pick up any drums dropped off by Tinkham Chem-waste would be responsible for them - our last load 44 drums.

Marin Natural Resource Officer out AG's Office

Chem-waste - ses -
- Cannons
- SCA
- Some other Company

0045-0322

POLYVINYL CHEMICAL INDUSTRIES

W.J.

INTEROFFICE MEMO.

TO: M. Potash

cc: I.S.

FROM: W. J. Kennedy

SUBJECT: WASTE DISPOSAL

DATE TYPED: October 18, 1979

DATE WRITTEN

Chem-Waste,Inc. during the period of August 28-30, 1979 picked up four (4) loads of waste material. The breakdown was: one load of "flammable" material which included 12 Permuthane drums of obsolete product; 50 30's of gelled U-110 (5 years old); and approximately 12 55's of gelled U-110, U-105, U-760 drums; 3 loads of material which had been removed from the Avco tank for disposal.

In addition to these loads, we have had two loads which are essentially the drums containing filter bags, coag, solvent/solution polymer drainings from filters and mixed solvent/polymer from labs and pilot labs which in general cannot be incinerated.

At the present time, we must dispose of a third category via Chem-Waste (or equivalent vendor). All polymer, liquid latex, raw material bags, and containers are no longer allowed into the Tewksbury disposal area that our normal contractor, Canelas, had been using.

Overall, we have essentially four (4) categories of waste at this point. The first three (3) require certified disposal.

A. Solvent Waste - suitable for incineration and/or reclaim.
B. Solvent Waste/Product - which may not be incinerated or reclaimed, e.g. drums of coag, filters, lab or pilot lab mixtures, etc.
C. Any Non-solvent Chemical Waste, coag, raw material bags, scrap and/or coagulated latex, etc.
D. Non-Chemical Waste - e.g. office trash, empty damaged containers, metal, etc.

On the present basis, unless we plan for reclaiming solvent, possibly not only chemically coagulate and dewater latex, which then would be compacted, the disposal of materials will be certainly over 150 - 175 drums per month to the Chem-Waste type of disposal contractor.

I suggest that a complete review with the goal of the establishemnt of a formal disposal program be arranged quickly. It is clear now that the only trash that may be disposed of by lower cost methods is paper, etc. All of our other materials we have disposed of previously, must now be disposed of at at least $25 - $30 per drum. Some estimates range as high as $55 per drum. At this rate we would have approximately $50,000. per year just in chemical disposal area alone.

Bill

W.J. Kennedy

WJK:pfe

0045-0323

POLYVINYL CHEMICAL INDUSTRIES

INTEROFFICE MEMO.

TO: W. J. Kennedy

CC: I. Swartz

FROM: M. Potash

SUBJECT: Waste Disposal

DATE TYPED: October 10, 1979

DATE WRITTEN

I just OK'd a bill from Chem-Waste, Inc. totaling $6,800 relating to their disposal of some 340 drums of waste at $20/drum. The material was taken for a three-day period from Aug. 28-30, 1979.

All the "certificate of disposal" stipulates is that the material is "mixed waste solvents." Would you please enlighten me with a somewhat more specific description of the material involved? Also, what is your estimate now as to the quantity of such material which we will be wanting to dispose of on an annual basis?

MP

MP/akl

POLYVINYL CHEMICAL INDUSTRIES

A Beatrice Chemical Company
Division of Beatrice Foods Co.
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL.(617)-658-6600

457

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	SHIP DATE/INVOICE
	10-26 31		13241		10-30-7

D-U-N-S 00-258-0173

SCHEDULED

SOLD TO • MEMO

SHIP TO: CHEM-WASTE
LONDONDERRY, NH

ROUTE CPU | COLL. X | PREPAY | BACK ORDER TO | FROM

NO. OF CONTAINERS (ORDERED)	NET WGT. EACH (ORDERED)	CONTAINER CODE (ORDERED)	DESCRIPTION	NO. OF CONTAINERS (SHIPPED)	NET WGT. EACH (SHIPPED)	TOTAL PRODUCT (SHIPPED)	PRICE	AMOUNT
			DISPOSAL OF CHEMICAL WASTE IN ACCORDANCE WITH ALL FEDERAL AND STATE LAWS.					MEMO

TOTAL INVOICE ▶

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the buyer will make his own tests and assume all responsibility for the results obtained by the goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived or [illegible] writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied with 12 (a) of the Fair Labor Standards Act of 1938, as amended.

ACCOUNTING COPY

SPECIAL INSTRUCTIONS:

10-24

SHIPPING RECORD					BACKORDER				
ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER	ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER

ACCEPTED BY: DATE: CHANGED BY:

0045-0325

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

456

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS: NET 30 DAYS	INVOICE DATE
	10-19 26		13207		10-23-7

D-U-N-S 00-258-0173 SCHEDULED DATE SHIPPED 10-23-7

SOLD TO • MEMO •

SHIP TO: CHEM-WASTE
LONDONDERRY, NH

ROUTE CPU COLL. X PREPAY BACK ORDER TO FROM

ORDERED NO. OF CONTAINERS	ORDERED NET WGT. EACH	ORDERED CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	SHIPPED NET WGT. EACH	SHIPPED TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF CHEMICAL WASTE IN ACCORDANCE WIGH FEDERAL & STATE REGULATIONS.					MEMO
					TOTAL INVOICE			

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ACCOUNTING COPY

INSTRUCTIONS: Note on file type of waste disposed of!

10-17

SHIPPING RECORD					BACKORDER				
ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER	ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER

ACCEPTED BY: LATE CHANGED BY: DATE

0045-0326

INTERNAL ORDER

CUST NO.	STATE	CLASS	WAREHOUSE	DELY. REQUESTED	SPECIAL INSTRUCTIONS
90910					

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

45

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS. NET 30 DAYS	INVOICE DATE
	10-17 26		13196		10-

D-U-N-S 00-258-0173

SCHEDULED

DATE SHIPPED 10-

SOLD TO: MEMO

SHIP TO: CHEM-WASTE
LONDONDERRY, NH

ROUTE

COLL. X PREPAY

BACK ORDER TO

FROM

NO. OF CONTAINERS	ORDERED NET WGT. EACH	CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	SHIPPED NET WGT. EACH	SHIPPED TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF WASTE IN ACCORDANCE WITH FEDERAL & STATE REGULATIONS.					MEMO

TOTAL INVOICE

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ACCOUNTING COPY

on B/L

10-17

SHIPPING RECORD					BACKORDER				
ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER	ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER

ACCEPTED BY: [signature] DATE 10/17/79 CHANGED BY: DATE

0045-0327

59910

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

45

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	10-16 26		13186	SCHEDULED	10-16-7
					DATE SHIPPED 10-16-7

D-U-N-S 00-258-0173

SOLD TO • MEMO •

SHIP TO CHEM-WASTE
LONDONDERRY, NH 03053

ROUTE CPU | COL. X | PREPAY | BACK ORDER TO | FROM

NO. OF CONTAINERS	ORDERED NET WGT. EACH	CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	NET WGT. EACH	TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF WASTE IN ACCORDANCE WITH ALL FEDERAL AND STATE REGULATIONS.					MEMO
						TOTAL INVOICE		

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained by [illegible] goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived [illegible] writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied [illegible] 12 (A) of the Fair Labor Standards Act of 1938, as amended.

ACCOUNTING COPY

SHIPPING RECORD					BACKORDER				
ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER	ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER

ACCEPTED BY: | DATE 10-16-79 | CHANGED BY: | DATE

0045-0328

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

4

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	8-22-79				8-24

D-U-N-S 00-258-0173 SCHEDULED DATE SHIPPED 8-24

SOLD TO: MEMO

File CHEM WASTE CMISC. "C"

SHIP TO: CHEM-WASTE INC.
LONDONDERRY, NH 03053

ROUTE COLL. X PREPAY BACK ORDER TO FROM

NO. OF CONTAINERS (ORDERED)	NET WGT. EACH (ORDERED)	CONTAINER CODE (ORDERED)	DESCRIPTION	NO. OF CONTAINERS (SHIPPED)	NET WGT. EACH (SHIPPED)	TOTAL POUNDS (SHIPPED)	PRICE	AMOUNT
			DISPOSAL OF WASTE					MEMO

TOTAL INVOICE

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this 12 (A) of the Fair Labor Standards Act of 1938, as amended.

ACCOUNTING COPY

PCI PROD. NAME:	
CUST. P.O. NO.:	COMBUSTIBLE
CUST. PROD. NAME:	CORROSIVE
CUST. PROD. CODE:	KEEP FROM FREEZING

0045-0329

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

449

WILMING	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	8-21-79				8-22-79

D-U-N-S 00-258-0173 SCHEDULED DATE SHIPPED

SOLD TO: MEMO

SHIP TO: CHEM-WASTE INC.
LONDONDERRY, NH 03053

ROUTE CPU | COLL ✓ | PREPAY | BACK ORDER TO | FROM

ORDERED NO. OF CONTAINERS	ORDERED NET WGT. EACH	ORDERED CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	SHIPPED NET WGT. EACH	SHIPPED TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF WASTE					MEMO

TOTAL INVOICE

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained by the u... ...ds in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived other ...ting signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied with ...A) of the Fair Labor Standards Act of 1938, as amended.

INVOICE

PCI PROD. NAME:	FLAMMABLE
CUST. P/O. NO.:	COMBUSTIBLE
CUST. PROD. NAME:	CORROSIVE
CUST. PROD. CODE:	KEEP FROM FREEZING

ST 7-1
WASTES
.TCHED

.IC.

0045-0330

Chem Waste

HAFF BUSINESS FORMS, INC.

CUST NO	STATE	CLASS	WAREHOUSE	DELY REQUESTED	SPECIAL INSTRUCTIONS
99910					

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

45

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	8-29				8/30

D-U-N-S 00-258-0173

SCHEDULE

DATE SHIPPED

SOLD TO

MEMO

SHIP TO

CHEM-WASTE INC.

LONDONDERRY, NH 03053

ROUTE

COLL. X PREPAY

BACK ORDER TO FROM

NO. OF CONTAINERS	ORDERED NET WGT. EACH	CONTAINER CODE	DESCRIPTION	NO. OF CONTAINERS	SHIPPED NET WGT. EACH	TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF WASTE					

Closed

TOTAL INVOICE

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained [illegible] goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived [illegible] writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complie[illegible] 12 (a) of the Fair Labor Standards Act of 1938, as amended.

INVOICE

PCI PROD. NAME:

CUST. P/O. NO.:

CUST. PROD. NAME:

CUST. PROD. CODE:

COMBUSTIBLE

CORROSIVE

KEEP FROM FREEZING

0045-0331

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-5600

455

SALES AGENT	DATE SHIPPED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	10-5				10-10-7

D-U-N-S 00-258-0173

SCHEDULED

DATE SHIPPED 10-10-7

SOLD TO: MEMO

SHIP TO: CHEM-WASTE
LONDONDERRY, NH 03053

ROUTE | COLL. X | PREPAY | BACK ORDER TO | FROM

NO. OF CONTAINERS (ORDERED)	WEIGHT EACH (ORDERED)	CONTAINER CODE (ORDERED)	DESCRIPTION	NO. OF CONTAINERS (SHIPPED)	NET WGT. EACH (SHIPPED)	TOTAL POUNDS (SHIPPED)	PRICE	AMOUNT
			DISPOSAL OF WASTE					MEMO

TOTAL INVOICE ▶

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained [illegible] goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived other [illegible] writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied with [illegible] 12 (A) of the Fair Labor Standards Act of 1938, as amended.

INVOICE

[illegible] goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained by [illegible] goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived other [illegible] writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied with [illegible] 12 (A) of the Fair Labor Standards Act of 1938, as amended.

ACCOUNTING USE

MAST. PROD. NAME:	CORROSIVE	
MAST. PROD. CODE:	KEEP FROM FREEZING	

0045-0332

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

4552

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	10-3		13095	SCHEDULED	10-3-79
					DATE SHIPPED 10-3-79

D-U-N-S 00-258-0173

SOLD TO • MEMO

SHIP TO: CHEM WASTE INC.
LONDONDERRY, NH 03053

ROUTE CPU | COLL. X | PREPAY | BACK ORDER TO | FROM

ORDERED NO. OF CONTAINERS	ORDERED NET WGT. EACH	ORDERED CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	SHIPPED NET WGT. EACH	SHIPPED TOTAL POUNDS	PRICE	AMOUNT
			FOR REMOVAL OF WASTE					MEMO

TOTAL INVOICE

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the Buyer will make his own tests and assume all responsibility for the results obtained by the goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived except in writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied with 12 (A) of the Fair Labor Standards Act of 1938, as amended.

INVOICE

SPECIAL INSTRUCTIONS:

10-3

SHIPPING RECORD					BACKORDER				
ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER	ITEM	QUANTITY	PRODUCT	DATE SHIPPED	INVOICE NUMBER

ACCEPTED BY: | DATE | CHANGED BY: | DATE

0045-0333

This S

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

450

SALES AGENT	DATE ENTERED	YOUR ORDER NO. AND DATE	PCI ORDER NO.	TERMS NET 30 DAYS	INVOICE DATE
	8-24				8-28-79

D-U-N-S 00-258-0173

SCHEDULED

DATE SHIPPED

SOLD TO

MEMO

SHIP TO

SHIP: CHEM-WASTE INC.

LONDONDERRY, NH 03053

ROUTE

COLL. X PREPAY

BACK ORDER TO

FROM

NO. OF CONTAINERS	ORDERED NET WGT. EACH	CONTAINER CODE	DESCRIPTION	SHIPPED NO. OF CONTAINERS	SHIPPED NET WGT. EACH	SHIPPED TOTAL POUNDS	PRICE	AMOUNT
			DISPOSAL OF WASTE					

TOTAL INVOICE $

NOTICE TO PURCHASER: All goods are sold without warranties, express or implied, and upon condition that the buyer will make his own tests and assume all responsibility for the results obtained by the goods in his manufacturing processes or in combination with other substances. NO GOODS SHALL BE RETURNED WITHOUT OUR WRITTEN PERMISSION. These terms may not be modified or waived [illegible] writing signed by an officer of Polyvinyl Chemical Industries. Seller represents that with respect to the articles and/or the performance of the services covered by this invoice, it has fully complied w[illegible] 12 (A) of the Fair Labor Standards Act of 1938, as amended.

INVOICE

PCI PROD. NAME:

CUST. P/O. NO.:

CUST. PROD. NAME:

CUST. PROD. CODE:

FLAMMABLE

COMBUSTIBLE

CORROSIVE

KEEP FROM FREEZING

0045-0334

7/12/79
Per Mr. Paul Will
Licensed to transport
Valid

COMMONWEALTH OF MASSACHUSETTS
HAZARDOUS WASTE BOARD
DIVISION OF WATER POLLUTION CONTROL
110 TREMONT STREET
BOSTON, MASSACHUSETTS 02108

Year	1979
Permit No.	138
Expires	12/31/
Date Issued	1/2

LICENSE

Hazardous Waste Collection and Disposal
(Gen. Laws, Ch. 21, S. 57-58)

1. Name of Firm Chem-Waste, Inc.
2. Address of Facility 105 Capital Hill Drive, Londonderry, N. H. 03053 Tel.(603)434-
3. Address of Office Same
   (if different from 2.) Mailing Add. P.O.Box 401 Derry,N.H. 03038
4. Operations person to contact in emergencies Richard French Tel(603)434-2
5. Type of Hazardous Waste Operation Approved
   (1 = Conveyance only, 2 = Storage only, 3 = Disposal only)

Hydrocarbon Liquids
- 1 Motor Oils
- 1 Industrial Oils & Emulsions
- 1 Solvents, Lacquers, etc.
- 1 Organic Chemicals & Misc.

Solids & Sludges
- ____ Chemical Compounds
- ____ Clay & Filter Media w/ (
- ____ Plating Sludge
- ____ Oily Solids

Aqueous Liquids
- 1 Organic Chemicals
- 1 Inorganic Chemicals
- 1 Cyanide & Plating Waste

Special Hazards
- ____ Reactive Materials
- ____ Explosives, Cylinders
- ____ Pesticides
- ____ PCB's

This license is approved subject to current statutes and regulations and to conditi listed on reverse side. Read reverse side carefully. Failure to comply with condi tions or falsification of reports may result in revocation of license and/or crimin prosecution.

Director, Division of Water Polluti (

0045-0335

GENERAL CONDITIONS:

1. Pumpable oils and solvents shall be reclaimed, or incinerated, insofar as as possible. Use of reclaimed oil for fuel is subject to customers being able to meet relevant air quality standards, e.g., particulates.

2. Sludges shall be disposed of in sanitary landfill sites subject to State agency approval. Liquid content shall be reduced to lowest practicable level, subject to State agency approval.

3. Monthly report forms shall be submitted summarizing quantities of material handled. Identify names of accounts burning high-ash oils, (e.g., motor oils) in conventional boilers.

4. Aqueous wastes shall be treated for discharge in accordance with State and Federal permits or pretreated for discharge to municipal sewer in compliance with sewer ordinances.

5. All vehicles used for conveyance of hazardous wastes shall be properly mark and licensed as required by motor registry, D.P.U. and/or I.C.C. as appropri ate.

6. Approval of out-of-state disposal is contingent on compliance with regul requirements of receiving state.

SPECIAL CONDITIONS:

1. Subject to notification of appropriate New Hampshire state agency.
2. This license is issued only for the conveyance of materials specified to approved disposal locations. No storage of hazardous wastes is permitted unless prior written approval is obtained from this Division.
3. Licensee must notify this Division in writing prior to employing any subcontractors or vehicles not specified on license application. Licensee must assume full responsibility for the operations of subcontractors under the terms of this license.
4. The handling of waste oils does not include the collection of oils from the waters of the Commonwealth

Chem - waste 9/19/19

25-28¢/gallon

Size truck
7200 gals

Includes
Trans + disposal
Pick up
2 hrs pump time

2 way time over 2 hrs
charged at $40.00/hr.

0045-0337

POLYVINYL CHEMICAL INDUSTRIES

INTEROFFICE MEMO.

TO: Irving Swartz

FROM: H. J. Thoma

SUBJECT: Chem-Waste

cc: MP WPB IS JFT DHN HJT WJK

DATE TYPED: August 6, 1979

DATE WRITTEN

As discussed, we want to issue a purchase order to Chem-Waste to dispose of about 600 drums.

We have checked with Mr. Paul Williams at the Commonwealth of Massachusettes, Division of Water Pollution Control, and he has advised that their permit 138 is still valid and that Chem-Waste has not presented any problems to them. New Hampshire, where the goods will be taken for processing, does not require a license.

If Chem-Waste is correct they are working for the state in helping to clean up illegal waste disposal sites, within Massachusettes.

I know that there are problems at present, but I still feel we should give priority to making a start at least in getting the 600 drums out of here.

They are willing to come in now or at anytime with a day or two notice.

H. J. Thoma

HJT/dcs

0045-0338

HJT,

Chem Waste called:

40 Dr. Low visc $28.00
40 Dr High " $33.00

Slamm — Richard French
Ans. Serv. (603) 434-2129

They can remove drums
& supply disp. cert. in 24

Cathi

What about solid sump waste 600 ea
2-300 Phenomble 2/3 dr land
type

0045-0339

Rick Brodie

Sump drum

week of 7/16/79 dates available

~~D~~ cost

Rock Truck

Terms Net 10

$10,000 ÷ 600 = $17.00 ea.

÷ 500 = 20.00

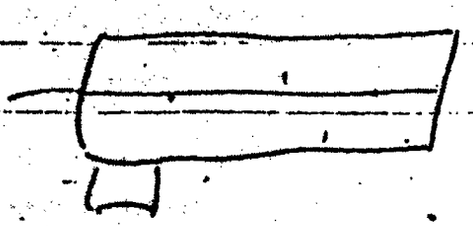
(1) $20.00/drum for initial lot of 600.

then renegotiate for weekly disposal of drums —

c.

~~week~~ week of 7/16

two trucks on Monday 7/16



will replace pallets behind

will bring 1 rack to one side

Electric Hand truck will take pallet from end of box —

HJT 7-11

CONVEYANCE AND DISPOSAL OF HAZARDOUS WASTES
INSTANT 24 HOUR SERVICE - RADIO DISPATCHED

CHEM-WASTE INC.
LICENSED

Rick Brodie

LONDONDERRY, N.H. 03053

(603) 434-2119

ROUTE TO: ~~IS~~ ~~HII~~ CAH

POLYVINYL CHEMICAL INDUSTRIES
A BEATRICE CHEMICAL COMPANY / DIVISION OF BEATRICE FOODS CO.
730 MAIN STREET • WILMINGTON, MASS. 01887

PUR. ORDER NO. [illegible]

REQUISITION

IS would like you to initial

DATE 7-12-79

TO: CHEM-WASTE INC.
105 Capital Hill Drive
Londonderry, N.H. 03053
Att: Rick Brodie

Ship To: (603) 434-2129

DELY. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS	INTERNAL DESTINATION
As Released	Your truck	X				X		Net 10 days	—

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
A					Disposal of assorted waste materials in accordance with applicable federal and state laws				
					Inital lot of 500-600 drums		20.00	dr.	
					Certificate of disposal to accompany invoice showing actual disposition of waste. prior to payment to include the firm or actual location of disposal Vendor agrees to protect us against claims for improper disposal of PCI waste material				
					This order to cover blanket releases as additional material becomes available. price to be negotiated Vendor holds valid license # 138 for conveyance of hazardous material				

ORD 12,000 total approx

REFERENCE	SPECS. ATT. YES	SPECS. ATT. NO	QUAL. CONTROL	MASS. SALES	TAXABLE YES	TAXABLE NO	REG. NO. MAGO-782-338	TOTAL VALUE NOT TO EXCEED	$

TO BY	APPROVED BY	PRIORITY:	CONFIRMING TO
WJK	[signature]	☐ ROUTINE ☒ CALL IN	Mr Brodie by H. Thome

PURCHASING COPY

0045-0342

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

73712

THIS NUMBER MUST SHO ON ALL INVOICES, PKG PACKING LISTS AND RELA CORRESPONDENCE.

DATE 8/8/79

TO

CHEM-WASTE INC.
105 CAPITAL HILL DRIVE
LONDONDERRY, NH 03053

SHIP TO

DELY. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS:	INTERNAL DESTINATION
AS RELEASED	YOUR TRUCK	X				X		NET 10 DAYS	WJK

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
A					DISPOSAL OF ASSORTED WASTE MATERIALS IN ACCORDANCE WITH APPLICABLE FEDERAL AND STATE LAWS				
					INITIAL LOT OF 500 - 600 DRUMS		20.00	DRUM	
					CERTIFICATE OF DISPOSAL TO ACCOMPANY INVOICE SHOWING ACTUAL DISPOSITION OF WASTE, PRIOR TO PAYMENT TO INCLUDE THE FIRM OR ACTUAL LOCATION OF DISPOSAL. VENDOR AGREES TO PROTECT US AGAINST CLAIMS FOR IMPROPER DISPOSAL OF P.C.I. WASTE MATERIAL.				
					THIS ORDER TO COVER BLANKET RELEASES AS ADDITIONAL MATERIAL BECOMES AVAILABLE. PRICE TO BE NEGOTIATED.				
					VENDOR HOLDS VALID LICENSE #138 FOR CONVEYANCE OF HAZARDOUS MATERIAL.				
					CONFIRMATION ONLY DO NOT DUPLICATE				

OPERATION REFERENCE | SPEC. ATT. YES NO | QUAL. CONTROL | MASS. SALES | TAXABLE YES NO | REG. NO. MAGO-783-330 | TOTAL VALUE $

EM O.	DATE	EXPEDITED BY	SPOKE TO	INFO./COMMENTS
			CANCELLED	
			11/28/79	

0045-0343

Chem-Waste Inc. 6-13-79

John French

permit No 135 Conveyance only!

Flammable Low to high viscosity -

picked up in van - would arrange to have destroyed

Cannonis - to burn

or SCA to burn

SCA Svcs PO Box 200

Model City, N.Y. 141007 (716) 754-8231

$25 - 35.00/drum with good drums.

No manifest needed as yet to final destination.

separate Filters & Stuff by type

work with Ralph Swanson -

Have equipment to pump out sludge from collecting tank

0045-0344

SAVE TIME AND MONEY - USE THIS REPLY MESSAGE FORM

TO ~~[illegible]~~ / ~~DHW~~ / WJK FROM 4/19/79

You should have these logs now —

SUBJECT Waste Disposal

Message

On 4/19, the treasure of CHEM-Waste called me (as promised) to discuss method of disposal of flammable drum stock they apparently disposed of for Liquidators. I was told that Chem Waste transports material from Liquidat to Cannon Engr who actually does the incineration. It is handled in bulk. He suggested we ask for copies of the report Liquidator submits monthly

DATE SIGNED

Reply to the state of mass logging in pickups - and logging out shipments for disposal. Chem waste will forward copies of their reports to us so that we can match up Liquidators - Getting Complicated

Bill Kennedy

DATE SIGNED

87-Rm2

RETURN THIS COPY TO SENDER

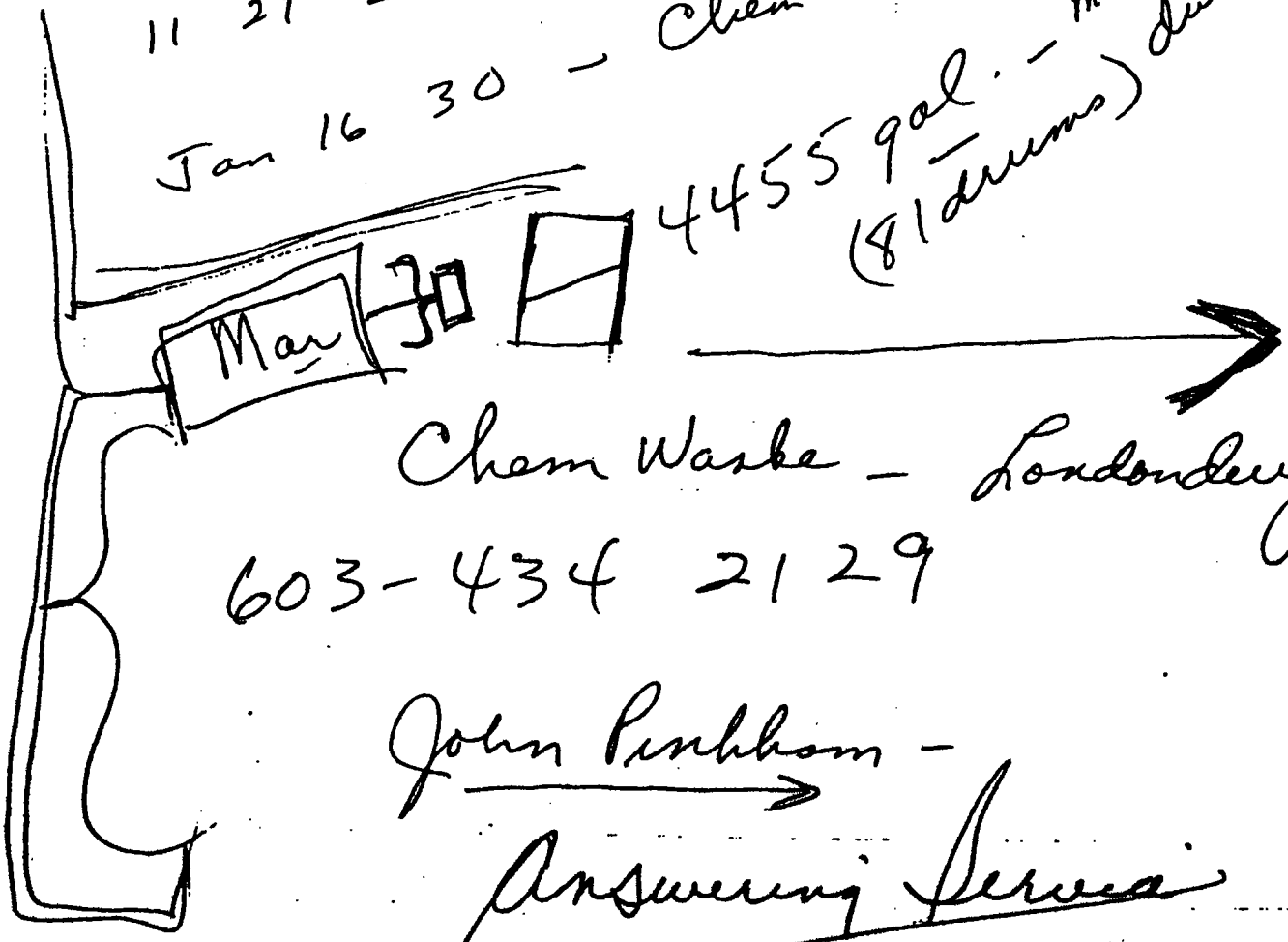
SEND PARTS 1 AND 4 WITH CARBONS INTACT — KEEP PARTS 2 AND 3 FOR FOLLOW-UP

0045-0345

4 diffs

11 21 22 – Chem Vast

Jan 16 30 – Chem Waste



Chem Waste – Londonderry

603-434 2129

John Pinkham –

Answering Service

Dick French – Pres

Called – Will Call

back with

Info

LICENSED

Instant
24 Hour Serv
Radio Dispat

CHEM-WASTE INC.

CONVEYANCE AND DISPOSAL OF HAZARDOUS WASTES

LONDONDERRY, N.H. 03053
(603) 434-2129

Polyvinyl Chemical,Inc.
730 Main Street
Wilmington,Mass.
Att Mr. Harold Toma

What do they do!

Have requested for 12/78.

Feb 27,1979

Dear Mr. Toma

We were informed by the Liquidator,Inc. to send Certificates of Disposal to his generators of hazadious waste being disposed of properly.

Inclosed is a copy from us,Chem-Waste,Inc., a Certificate of Disposal to The Liquidator,Inc. of disposal of waste for the month of January,1979. and a Certificate of Disposal # F-1003 as a break down of certificate # 1003 for the Liquidator,Inc. generators.

If you have any questions,please call us. Thank You

John D. Tinkham Feb 27,1979
John D. Tinkham Date

c/o The Liquidator,Inc.

RECEIVED
FEB 28 1979
POLYVINYL CHEMICAL

0045-0347

DIVISION OF WATER POLLUTION CONTROL

MONTHLY OPERATION REPORT-LICENSED HAZARDOUS WASTE COLLECTOR

Name of Company The Liquidator Inc.

Address 140 Freeport St. Dorchester, Mass. 02122

Permit No. 83 Reporting Month-Year March 1979

Class
A - Hydrocarbon Liquids
B - Aqueous Liquids
C - Solids and Sludges
D - Special Hazards

PICK-UP MATERIAL			DELIVERY MATERIAL(2)		
Name and Address of Generator	Class & Subdivision (1)	Quantity(4)	Class & Subdivision(1)	Quantity (4)	Method of Disposal Location of Disposal(3)
Polyvinyl Chem. Wilmington, Ma.	A- Solvents	81 Drums	A- Solvents	81 Drums	

(over)

COMMONWEALTH OF MASSACHUSETTS
DIVISION OF WATER POLLUTION CONTROL

.NTHLY OPERATION REPORT-LICENSED HAZARDOUS WASTE COLLECTOR

me of Company The Liquidator Inc.

dress 140 Freeport Street Dorchester, Mass.

rmit No. 83 Reporting Month-Year December 1978

Class
A - Hydrocarbon Liquids
B - Aqueous Liquids
C - Solids and Sludges
D - Special Hazards

PICK-UP MATERIAL			DELIVERY MATERIAL(2)		
me and Address Generator	Class & Subdivision (1)	Quantity(4)	Class & Subdivision(1)	Quantity (4)	Method of Disposal Location of Disposal
yvinyl Chem. lmington, Ma.	A- Solvents	80 Drums 88 Drums 88 Drums	A- Solvents	1400 Gal. 1840 Gal. 1840 Gal.	Chem-Waste Inc. Via Chem-Waste Inc.

0045-0349

COMMONWEALTH OF MASSACHUSETTS
DIVISION OF WATER POLLUTION CONTROL

MONTHLY OPERATION REPORT-LICENSED HAZARDOUS WASTE COLLECTOR

Name of Company The Liquidator Inc.

Address 140 Freeport St. Dorchester, Mass. 02122

Permit No. 83 Reporting Month-Year March 1979

Class
A - Hydrocarbon Liquids
B - Aqueous Liquids
C - Solids and Sludges
D - Special Hazards

PICK-UP MATERIAL			DELIVERY MATERIAL(2)		
Name and Address of Generator	Class & Subdivision (1)	Quantity(4)	Class & Subdivision(1)	Quantity (4)	Method of Disposal Location of Disposal(3)
Polyvinyl Chem Wilmington, Ma	A- Solvents	81 Drums	A- Solvents	81 Drums	

(over)

0045-0350

COMMONWEALTH OF MASSACHUSETTS
DIVISION OF WATER POLLUTION CONTROL

MONTHLY OPERATION REPORT-LICENSED HAZARDOUS WASTE COLLECTOR

Name of Company The Liquidator Inc.

Address 140 Freeport St. Dorchester, Mass.

Permit No. 83 Reporting Month-Year January 1979

Class
A = Hydrocarbon Liquids
B = Aqueous Liquids
C = Solids and Sludges
D = Special Hazards

PICK-UP MATERIAL			DELIVERY MATERIAL(2)		
Name and Address of Generator	Class & Subdivision (1)	Quantity(4)	Class & Subdivision(1)	Quantity (4)	Method of Disposal Location of Disposal(3)
Polyvinyl Chem. Wilmington, Ma	A- Solvents	75 Drums 54 Drums 36(30 Gal)	A- Solvents	4125 Gal. 4050 Gal.	Chem-Waste Inc. Via Chem-Waste

0045-0351

(over)

COMMONWEALTH OF MASSACHUSETTS
DIVISION OF WATER POLLUTION CONTROL

NTHLY OPERATION REPORT-LICENSED HAZARDOUS WASTE COLLECTOR

ame of Company The Liquidator Inc.

ddress 140 Freeport Street Dorchester, Mass.

ermit No. 83 Reporting Month-Year December 1978

Class
A - Hydrocarbon Liquids
B - Aqueous Liquids
C - Solids and Sludges
D - Special Hazards

PICK-UP MATERIAL			DELIVERY MATERIAL(2)		
ame and Address of Generator	Class & Subdivision (1)	Quantity(4)	Class & Subdivision(1)	Quantity (4)	Method of Disposal Location of Disposal(3)
lyvinyl Chem. llmington, Ma.	A- Solvents	80 Drums 88 Drums 88 Drums	A- Solvents	1400 Gal. 4840 Gal. 4840 Gal.	Chem-Waste Inc. Via Chem-Waste Inc.

0045-0352

(over)

INVESTIGATION REPORT

TO: William J. Marhoffer, Supervising Sanitary Engineer

FROM: Michael J. Moran, Natural Resource Officer

DATE: November 21, 1979

RE: Hazardous Waste Disposal at Lowell

On Thursday, November 15, 1979 I went to the Stepan Chemical Company, Wilmington, Massachusetts, to investigate the illegal disposal and storage of hazardous wastes at the Lallas Buick building, Lowell, Mass.

Purpose of my visit to Stepan Chemical was as follows: November 6, 1979 when WPC personnel and I inspected and sampled waste contained in the drums being stored at the Lallas Buick building, I found the following markings stenciled on a drum containing waste. "Stepan Chemical Co., Polystep B-23 L 9 02271. — Polyvinyl Chemical, Wilmington, Mass."

Ronald J. McBrien, plant manager for the Stepan Co., informed me that the drum that I observed had not originated at his plant but had come from a plant located in the state of Illinois and that they had shipped it directly to Beatrice Chemical (also known as Polyvinyl Chemical), Division of Beatrice Foods Co., in Wilmington, Mass.

Subsequently, I met with William Kennedy, Production Manager for Beatrice Chemical Company. I informed him of my investigation and findings. The following is a summary of facts he related to me regarding the company's hazardous waste disposal.

1. A. From approximately mid 1979 up to the present all hazardous waste generated at the plant has been removed by Chem-Waste, Inc., Londonderry, N.H.

   B. All waste removed was contained in fiber and steel drums.

   C. 10 to 12 box trailer loads were removed by Chem-Waste, each containing 60 to 80 drums.

   D. Last load was removed from plant during week, ending November 3rd.

   E. Mr. French, President of Chem-Waste, informed Mr. Kennedy that the method he used for disposal was to mix waste with clay and dispose of it at a landfill site.

2. A. From December , 1978 to March or April 1979, Liquidator Co. Inc. of Dorchester was their hazardous waste removal contractor.

   B. Liquidator removed a total of 6 box trailer loads containing 55 gallon steel drums of waste.

RECEIVED
1979
Attorney General

2. (Cont'd)

   C. Mr. Kennedy stated that from a meeting he had with Mark Astroff, a representative of Liquidator Inc., and subsequent conversations with him, he learned that they were not disposing of the waste but were storing it at their Dorchester site and were attempting to force the State to open a landfill site.

3. A. Throughout most of 1978 Cannons Engineering removed the company's hazardous waste.

   B. Removal was done by vacuuming waste into tank trucks. No drum removal was done by the company.

I requested Mr. Kennedy send me a copy of all hazardous waste disposal receipts for the past 2 years in the company's possession and a report of his meetings with representatives of Liquidator Inc and Chem-Waste Inc.

Following my return to the Division of Water Pollution Control I was contacted by Tom Peisch, an attorney for Beatrice Foods Co., who informed me that Mr. Shaw from the Attorney General's Office had requested similar information regarding Liquidator Inc. Rather than duplicate efforts I requested Mr. Peisch to forward all the information including that of Chem-Waste Inc. to Mr. Shaw.

MJM/rew

cc: Paul Shaw, Esq., Assistant Attorney General, Criminal Bureau, One Ashburton Place, Boston 02108
Sabin Lord

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
7 / 25 / 78	658-6600	Harold Thomas		☐ CASH ☒ CHARGE

NAME Polyvinyl Chemical Ind. JOB LOCATION

ADDRESS 730 Main Street DIRECTIONS Lance Required

CITY Wilmington, STATE Mass. ZIP

PICKUP	x	DELIVERY		BULK	x	DRUMS		THERMAL OXIDATION	x
RECYCLING		PLV RIGS 33 - 42 - 62 x	x	TANK TRAILOR 5000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 88	

	OILS	6000	SOLVENT RESIDUES xxxxxx
	OILS WASTE – WATER		ACETONE
		B.H.	CUSTOMER'S PLANT
			IN 9:00 (A-M)
			OUT 12:00 3 hrs charge 1 hr.

X Bob Harris

CUSTOMER'S SIGNATURE

CANNONS BY:

Remarks ① 4000 gal @ .28 = 1120.00
② 2000 gal @ .13 = 260.00
① Class C Disp A-2 1380.00
② Class A Disp B1 8/3/78 50.00 Lunch

W. O. No. 1783

IN	1430.00	10 3 29
OUT		10 1 10

0045-0355

INVOICE

No. B7-1711

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	8-8-78
OUR ORDER NO.	Cannons W.O. #1783
YOUR ORDER NO.	
TERMS	F.O.B.
Net	

Polyvinyl Chemical Ind.
730 Main St.
Wilmington, Mass.

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 6,000 Gals. Solvent Residues -		
	4,000 Gals. @ 28¢/gal.	1,120.00	
	2,000 Gals. @ 13¢/gal.	260.00	
	Lancing @ $50.00/hr.	50.00	
			1,430.00

ENTERED

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

0045-0356

SALES

CANNONS ENGINEERING

	Tank Cleaning-Repairing Labor		
	Tank Cleaning-Repairing Material		
	Tank Cleaning-Repairing Equipment		
.	Pumping Service-Labor		
.	Pumping Service-Equipment		
.	Oil Spill-Labor		
.	Oil Spill-Equipment		
.	Oil Spill-Boom Rental		
.	Oil Spill-Material		
0.	Absorbent Sale		
1.	Vactor Service-Labor		
2.	Vactor Service-Equipment		
3.	Water Blasting Service-Labor		
4.	Water Blasting Service-Equipment		
5.	Per Diem Charges		
6.	Waste Oil & Solvents-Bulk	1160	—
7.	Waste Oil & Solvents-Drums		
8.	Recycle Oil Sales		
9.	Delivery & pickup charges	150	—
0.	Engineering Services		
1.	Sub-Contract charges		
2.	Processing Extractor charges		
3.	Equipment Rentals		
4.	Miscellaneous		
5.	Sales Tax		
6.	Description of Service		

0045-0358

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
9/12/78	658-6600	Harold Thoma		☐ CASH ☐ CHARGE

NAME Polyvinyl Industries

JOB LOCATION Wilmington

ADDRESS 730 Main St.

DIRECTIONS Fill out sampling form Lancing Required

CITY Wilmington STATE Mass ZIP 01887

PICKUP	X	DELIVERY		BULK		DRUMS	X	THERMAL OXIDATION	X
RECYCLING		PLV RIGS 33 - 42 - 63	X	TANK TRAILOR 5000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 80	

	OILS	6,000	SOLVENT RESIDUES *
	OILS WASTE – WATER		ACETONE
			CUSTOMER'S PLANT
			IN 1:30 2 3/4 hr.
			OUT 4:15

X [signature] Total $1017.50

CUSTOMER'S SIGNATURE

[signature]

CANNONS BY:

Remarks 5000 gal @ .13/gal = 650.00
Class A Disp B1
1000 gal @ .28/gal = 280.00
Class C Disp A2 Lancing 1 3/4 hr @ $50/hr 87.50
1017.50

W. O. No. 1881 IN

OUT 11:50

PO 1811

6 20

INVOICE

No. 09-1811

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	9-1[illegible]-78
OUR ORDER NO.	Cannons W.O. #1[illegible]
YOUR ORDER NO.	
TERMS	Net
F.O.B.	

Polyvinyl Industries
730 Main St.
Wilmington, Ma. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of -		
	5,000 Gals. Solvents @ 13¢/gal.	$ 650.00	
	1,000 Gals. " @ 28¢/gal.	280.00	
	Lancing Charge - 1-3/4 hrs. @ $50.00/hr.	87.50	
	ENTERED		1,017.50

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

0045-0359

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

PURCHASE ORDER
72340
THIS NUMBER MUST SHOW ON ALL INVOICES, PKGS., PACKING LISTS AND RELATED CORRESPONDENCE.

DATE 9/27/78

TO.
CANNONS ENGINEERING CORP.
CYCLUBE PLANT
FIRST STREET
BRIDGEWATER, MA 02673

SHIP TO

DELY. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS:	INTERNAL DESTINATION
	YOUR TRUCK	X				X		NET 30	WJK(WAREHOUSE)

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
A					DISPOSE OF SOLID WASTE IN DRUMS IN 80 DRUM LOTS MATERIAL TO BE DISPOSED IN COMPLIANCE WITH ALL FEDERAL AND STATE LAWS.	01-744	35.00	DR.	
					1ST LOAD TO BE PICKED UP 9/26/78AM CONFIRMATION ONLY DO NOT DUPLICATE				

RECEIVED OCT 2 - 1978 CANNONS

SPECIFICATION REFERENCE	SPECS. ATT. YES	SPECS. ATT. NO	QUAL. CONTROL	MASS. SALES	TAXABLE YES	TAXABLE NO	REG. NO.	TOTAL VALUE	$
NONE		X				X	MAGO-783-330		

SHOW ON ALL SHIPPING PAPERS - RECEIVING HOURS 7:30 A.M. TO 2:00 P.M.

SHOW MATERIAL NUMBER ON TOP AND SIDES OF ALL DRUMS AND CARTONS OR FRONT OF ALL BAGS

ALL MATERIALS SPECIFIED ON THIS ORDER MUST BE PRODUCED IN CONFORMITY WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

ALL EXCEPTIONS TO THIS ORDER MUST BE MADE PRIOR TO SHIPMENT AND MUST BE AGREED TO, IN WRITING, BY POLYVINYL CHEMICAL INDUSTRIES.

VENDOR GUARANTEES THAT THE ITEMS COVERED BY THIS PURCHASE ORDER MEET ALL OSHA REQUIREMENTS.

"The provisions of Section 202 of Executive Order 11246 [illegible] the Rules and Regulations issued pursuant to Section 201 thereof, are hereby incorporated by reference, and the Seller represents, by acceptance of this purchase order, that he will comply with such Executive Orders and Rules and Regulations and amendments thereto, to the extent the same are applicable to the manufacture or sale of the goods purchased hereunder."

Confirming
X X To PER QUOTE OF 6/22/78 BY
DO NOT DUPLICATE

POLYVINYL CHEMICAL INDUSTRIES
BY [signature]
AUTHORIZED SIGNATURE
PURCHASING MAI

0045-0360

SALES

CANNONS ENGINEERING

.	Tank Cleaning-Repairing Labor		
.	Tank Cleaning-Repairing Material		
.	Tank Cleaning-Repairing Equipment		
.	Pumping Service-Labor		
.	Pumping Service-Equipment		
.	Oil Spill-Labor		
.	Oil Spill-Equipment		
.	Oil Spill-Boom Rental		
'.	Oil Spill-Material		
0.	Absorbent Sale		
1.	Vactor Service-Labor		
2.	Vactor Service-Equipment		
3.	Water Blasting Service-Labor		
4.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk		
17.	Waste Oil & Solvents-Drums	2400	00
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

CORRECTED **INVOICE**

No. B9-1854

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

Polyvinyl Industries
730 Main St.
Wilmington, Mass. 01887

INVOICE DATE	9-29-[illegible]
OUR ORDER NO.	Cannons W.O. #1924
YOUR ORDER NO.	#72340
TERMS / F.O.B.	Net

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 80 Drums Flammable Resin Solids - (Class L) - @ $35.00/drum As per our quote and your P.O.		2,800.00
		PAID	

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

0045-0362

SALES

CANNONS ENGINEERING

.	Tank Cleaning-Repairing Labor		
.	Tank Cleaning-Repairing Material		
.	Tank Cleaning-Repairing Equipment		
.	Pumping Service-Labor		
.	Pumping Service-Equipment		
.	Oil Spill-Labor		
.	Oil Spill-Equipment		
.	Oil Spill-Boom Rental		
.	Oil Spill-Material		
0.	Absorbent Sale		
1.	Vactor Service-Labor		
2.	Vactor Service-Equipment		
3.	Water Blasting Service-Labor		
4.	Water Blasting Service-Equipment		
5.	Per Diem Charges		
6.	Waste Oil & Solvents-Bulk		
7.	Waste Oil & Solvents-Drums	2800	ac
8.	Recycle Oil Sales		
9.	Delivery & pickup charges		
0.	Engineering Services		
1.	Sub-Contract charges		
2.	Processing Extractor charges		
3.	Equipment Rentals		
4.	Miscellaneous		
5.	Sales Tax		
6.	Description of Service		

CFR 49 172.506 Bill

CFR 49 172.508 Freeze Allowed

Shipper's No.

CARRIER: Common Engineering

Carrier's No.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Shipping Order,

AT Harlington, WOO 19 From Diamond Chem. Fiber TRUCK ☐ FREIGHT ☐

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee—For purposes of notification only.)

Consigned to Common Engineering

Destination 1ST ST State of WOOS County of WOO

Route Bridgewater

Delivering Carrier Bridgewater Vehicle or Car Initial C.O. Wilmington No.

NO. PACKAGES	HAZARDOUS MATERIALS	CFR 49 172.101 KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS AS NOTED	*WEIGHT (SUB. TO CORR.)	CLASS OR RATE	CHECK COLUMN
80	X	RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN N.O.I.	34000	60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN N.O.I.		60	
		RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		PLASTIC SYNTHETIC GRANULES N.O.I.B.N.		60	
		PAINT DRY BULK		55	
		PLASTIC SYNTHETIC LIQUID N.O.I.B.N. KEEP FROM FREEZING		60	
		Included is (1) drum			
		U-10-033-EF-154			
		for lab determination			
		of suitability for incineration			
		P.C.I. P.O# 72340			

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Per (Signature of Consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ to apply on prepayment of the charges on the property described hereon.

Agent or Cashier.

Per (The signature here acknowledges only the amounts prepaid.)

Charges Advanced:

$

SHIPPERS CERTIFICATION This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. In accordance with CFR 49 172.204

SIGNATURE TITLE

THIS SHIPMENT IS CORRECTLY DESCRIBED

CORRECT WEIGHT IS LBS

†The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of the Consolidated Freight Classification

†Shipper's imprint in lieu of stamp; not a part of Bill of Lading approved by the Interstate Commerce Commission

C. O. D. SHIPMENT

C. O. D. Amt.

Collection Fee

Total Charges

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is carrier's or shipper's weight.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

Shipper, Per William Henderson per

Shipper to retain this Shipping Order and may sign the Original Bill of Lading.

Permanent post-office address of shipper

2

FORM 811-BL

0045-0364

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL SERVICES

350 Main Street
West Yarmouth
(Cape Cod), Mass. 02673
617-775-2800
Mass. Toll Free
1-800-352-7154

CYCLUBE PLANT
Bridgewater, Mass. 02324
617-697-3344

Warren, Rhode Island
401-245-8683

Polyvinyl Industries
730 Main St.
Wilmington, Mass

MASS. LICENSE #31

CERTIFICATE # 1971

CERTIFICATE OF DISPOSAL

THIS IS TO CERTIFY THAT ON October 23, 1978

80 Drum UNITS OF Oils

WERE PROCESSED FOR DISPOSAL AT OUR PLANT.

CANNONS ENGINEERING CORP.

By [signature]

0045-0365

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

CANNON ENGINEERING INVOICES 1978 P

CAA015

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
9/26/78	658-6600	Harold Thoma		☐ CASH ☐ CHARGE

NAME Polyvinyl Industries

JOB LOCATION

ADDRESS 730 Main St.

DIRECTIONS

CITY Wilmington STATE Mass ZIP 01887

PICKUP	X	DELIVERY		BULK	DRUMS	X	THERMAL OXIDATION
RECYCLING		FLY RIGS 33 - 42 - 63		TANK TRAILOR 5000 - 6000 - 8000	DRUM TRUCK 32		DRUM TRAILER 80 X

	OILS		SOLVENT RESIDUES
	OILS WASTE – WATER		ACETONE
80 Drs	Flammable Resin ~~Solutions~~ solids approx 36,000 #		CUSTOMER'S PLANT IN 8:50 OUT 10:30

X Bob Harris
CUSTOMER'S SIGNATURE

[signature]
CANNONS BY:

Remarks 80 Drums @ 30.00/dm = 2400.00
Class D
Disp S1
9/27/78

W. O. No. 1924

IN

OUT

INV. No. B9-1854

TOTAL TIME

BILLING COPY

0045-0366

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

PURCHASE ORDER
72340
THIS NUMBER MUST SHOW ON ALL INVOICES, BILLS, PACKING LISTS AND RELATED CORRESPONDENCE.

DATE 9/27/78

TO
CANNONS ENGINEERING CORP.
CYCLUBE PLANT
FIRST STREET
BRIDGEWATER, MA 02673

SHIP TO

DELV. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS	INTERNAL DESTINATION
	YOUR TRUCK	X				X		NET 30	WJK(WAREHOUSE)

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
A					DISPOSE OF SOLID WASTE IN DRUMS IN 80 DRUM LOTS MATERIAL TO BE DISPOSED IN COMPLIANCE WITH ALL FEDERAL AND STATE LAWS.	01-744	35.00	DR.	
					1ST LOAD TO BE PICKED UP 9/26/78AM CONFIRMATION ONLY DO NOT DUPLICATE				

RECEIVED
OCT 2 - 1978
CANNONS

SPECIFICATION REFERENCE	SPECS. ATT. YES	SPECS. ATT. NO	QUAL. CONTROL	MASS. SALES	TAXABLE YES	TAXABLE NO	REG. NO.	TOTAL VALUE
NONE		X				X	MAGO-783-330	$

SHOW ON ALL SHIPPING PAPERS - RECEIVING HOURS 7:30 A.M. TO 2:00 P.M.

SHOW MATERIAL NUMBER ON TOP AND SIDES OF ALL DRUMS AND CARTONS OR FRONT OF ALL BAGS

ALL MATERIALS SPECIFIED ON THIS ORDER MUST BE PRODUCED IN CONFORMITY WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

ALL EXCEPTIONS TO THIS ORDER MUST BE MADE PRIOR TO SHIPMENT AND MUST BE AGREED TO, IN WRITING, BY POLYVINYL CHEMICAL INDUSTRIES.

VENDOR GUARANTEES THAT THE ITEMS COVERED BY THIS PURCHASE ORDER MEET ALL OSHA REQUIREMENTS.

"The provisions of Section 202 of Executive Order 11246 and the Rules and Regulations issued pursuant to Section 201 thereof, are hereby incorporated by reference, and the Seller represents, by acceptance of this purchase order, that he will comply with such Executive Orders and Rules and Regulations, and amendments thereto, to the extent the same are applicable to the manufacture or sale of the goods purchased hereunder."

[ ] Confirming
[X] To PER QUOTE OF 6/22/78 BY
DO NOT DUPLICATE

POLYVINYL CHEMICAL INDUSTRIES
BY [signature]
AUTHORIZED SIGNATURE
PURCHASING MANAGER

Please COMPLETE AND RETURN THE ATTACHED ACKNOWLEDGMENT AT ONCE.

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

CANNON ENGINEERING INVOICES 1978

CAA015

0045-0367

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

CANNON ENGINEERING INVOICES 1978 P

CAA015

I The vendor agrees in accepting this order that the merchandise purchased hereunder has been manufactured and delivered in accordance with the provisions of the Fair Labor Standards Act.

II "During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(3) The contractor will send to each labor union or representative of workers which he has a collective bargining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1565, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administrating agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each contractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States."

III Vendor guarantees that the merchandise purchased hereunder is as of the date of delivery or shipment, to be, on such date not adulterated or misbranded within the meaning of the Federal Food, Drug and Cosmetic Act, as amended, including, but not limited to, the Food Additives Amendment of 1958, and not an article which may not, under the provisions of sections 404 or 505 of the act, be introduced into interstate commerce.

IV Seller Warranties that each item supplied pursuant to this order complies with all existing standards promulgated and adopted pursuant to the Occupational Safety and Health Act of 1970 as amended.

V The vendor agrees in accepting this order that the merchandise purchased will be insured against product liability claims.

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

CANNON ENGINEERING INVOICES 1978 P

CAA015

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ·:· TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
9 26 /78	658-6600	Harold Thoma		☐ CASH ☐ CHARGE

NAME Polyvinyl Industries JOB LOCATION

ADDRESS 730 Main St. DIRECTIONS

CITY Wilmington STATE Mass. ZIP

PICKUP	X	DELIVERY		BULK		DRUMS	X	THERMAL OXIDATION	
RECYCLING		FLV RIGS 11 42 61		TANK TRAILOR 5003 - 6000 - 3000		DRUM TRUCK 32		DRUM TRAILER 80	X

	OILS		SOLVENT RESIDUES
	OILS WASTE – WATER		ACETONE
80 Dis	Flammable Resin ~~Solution~~ solids approx 36,000 #		CUSTOMER'S PLANT IN 8:50 OUT 10:30

X Bob Harris
CUSTOMER'S SIGNATURE

[signature]
CANNONS BY

Remarks 80 Drums @ 30.00/dm = 2400.00
Class D
Disp S1 (Land fill) Time (Not applicable)
9/27/78

W. O. No. 1924 IN OUT

INV. No. B9-1854 TOTAL TIME

BILLING COPY

24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

Cost for disposal of on drums??? – 10.00/dm

0045-0369

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INVOICE

No. [illegible]

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

Polyvinyl Industries
730 Main St.
Wilmington, Ma. 01887

INVOICE DATE	[illegible]-73
OUR ORDER NO.	[illegible]
YOUR ORDER NO.	
TERMS	Net
F.O.B.	

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of -		
	5,000 Gals. Solvents @ 13¢/gal.	$ 650.00	
	1,000 Gals. " @ 28¢/gal.	280.00	
	Lancing Charge - 1-3/4 hrs. @ $50.00/hr.	87.50	
	ENTERED		1,017.50

Finance Charge 1½% per month or an annual percentage rate of 18% – on balances past due 30 days and over.

CANNON ENGINEERING INVOICES 1978 P

CAA015

RECEIVED

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CANNON ENGINEERING INVOICES 1978 p

CAA015

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk	1017	50
17.	Waste Oil & Solvents-Drums		
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

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CANNON ENGINEERING INVOICES 1978

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
9/12/78	658-6600	Harold Thuma		☐ CASH ☐ CHARGE

NAME Polyvinyl Industries

ADDRESS 730 Main St.

CITY Wilmington STATE Mass ZIP 01887

JOB LOCATION Wilmington

DIRECTIONS Fill out sampling form
Lancing Required

PICKUP	X	DELIVERY		BULK		DRUMS	X	THERMAL OXIDATION	X
RECYCLING		FLV RIGS 33 - 42 - 63	X	TANK TRAILOR 5000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 66	

	OILS	6,000	SOLVENT RESIDUES *
	OILS WASTE – WATER		ACETONE
			CUSTOMER'S PLANT
			IN 1:30 2 3/4 hr
			OUT 4:15

X [signature] CUSTOMER'S SIGNATURE

CANNONS BY: [signature]

Total 317.50

Remarks 5000 gal @ .13/gal = 650.00
Class A Disp B1
1000 gal @ .28/gal = 280.00
Class C Disp A2 Lancing 1 1/2 hr @ 35/hr 87.50
317.50

W. O. No. 1881

INV. No. B9-1811

IN

OUT 11:30

TOTAL TIME

BILLING COPY

CAA015

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CANNON ENGINEERING INVOICES 1978

INVOICE

No. 28-1751

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	2-18-78
OUR ORDER NO.	Cannons P.O. 1821
YOUR ORDER NO.	
TERMS	Net

Polyvinyl Chemical Industries
730 Main St.
Wilmington, Ma. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 6,000 Gals. Solvent Residues -		
	4,000 Gals. @ 13¢/gal.	$ 520.00	
	2,000 Gals. @ 28¢/gal.	560.00	
	Lancing Charge - 3 hrs. @ $50.00/hr.	150.00	
			$1,230.00

ENTERED

Finance Charge 1½% per month or an annual percentage rate of 18% – on balances past due 30 days and over.

CAA015

15551

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CANNON ENGINEERING INVOICES 1978 P

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk	1160	—
17.	Waste Oil & Solvents-Drums		
18.	Recycle Oil Sales		
19.	Delivery & pickup charges	150	—
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

CAA015

1254

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CANNON ENGINEERING INVOICES 1978 P

CAA015

0225 L

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
8/9/78	658-6600	Harold Thoma		☐ CASH ☐ CHARGE

NAME Polyvinyl Chemical Industries

JOB LOCATION

ADDRESS 730 Main St.

DIRECTIONS Lance Required

CITY Wilmington STATE Mass ZIP 01887

PICKUP	X	DELIVERY		BULK	X	DRUMS		THERMAL OXIDATION	
RECYCLING		PLV RIGS 33 - 42 - 63	X	TANK TRAILOR 5000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 50	

	OILS	6,000	SOLVENT RESIDUES *
	OILS WASTE – WATER		ACETONE
			CUSTOMER'S PLANT
			IN 4:00 (PM)
			B.H. OUT 1:00 (PM) 4 hrs

X Bob Harris B.H. 120.00

CUSTOMER'S SIGNATURE

320.-

CANNONS BY:

Remarks
Class A 4000 gal @ .13 = 520.-
Disp B1
Class C 2000 gal @ .28 = 560
Disp A2 Lansing 3 hrs @ $5/hr ~~1160~~ 1080.00
~~$150~~ ~~1310~~ 1230.00
8/17/78

W. O. No.	1821	IN	
		OUT	7:30 (AM)
INV. No.	B8-1751	TOTAL TIME	

BILLING COPY

0045-0375

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CANNON ENGINEERING INVOICES 1978

INVOICE

No. 37-1711

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE: 8-8-78
OUR ORDER NO.: Cannons W.O. 41783
YOUR ORDER NO.:
TERMS: Net
F.O.B.:

Polyvinyl Chemical Ind.
730 Main St.
Wilmington, Mass.

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 6,000 Gals. Solvent Residues -		
	4,000 Gals. @ 28¢/gal.	1,120.00	
	2,000 Gals. @ 13¢/gal.	260.00	
	Lancing @ 350.00/hr.	50.00	
			1,430.00
	ENTERED		

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

CAA015

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CANNON ENGINEERING INVOICES 1978 p

CAA015

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk	1430	00
17.	Waste Oil & Solvents-Drums		
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

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CANNON ENGINEERING INVOICES 1978 P

CAA015

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
7 /25 /78	658-6600	Harold Thomas		☐ CASH ☒ CHARGE

NAME Polyvinyl Chemical Ind. JOB LOCATION

ADDRESS 730 Main Street DIRECTIONS Lance Required

CITY Wilmington, STATE Mass. ZIP

PICKUP	X	DELIVERY		BULK	X	DRUMS		THERMAL OXIDATION	X
RECYCLING		PLV RIGS 33 - 42 - 63 X	X	TANK TRAILOR 5000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 56	

	OILS	5000	SOLVENT RESIDUES XXXXXX
	OILS WASTE – WATER		ACETONE
		B.H.	CUSTOMER'S PLANT IN 9:00 (HM)
			OUT 12:00 3 hrs charge 1 hr.

X Bob Harris

CUSTOMER'S SIGNATURE

CANNONS BY:

Remarks ① 4000 gal @ .28 = 1120.00
② 2000 gal @ .13 = 260.00
① Class C Disp A2 1380.00
② Class A Disp B1 8/3/78 50.00 Lawn

W. O. No. 1783 IN 1430.00 .29

OUT

INV. No. 67-1711 TOTAL TIME

BILLING COPY

0045-0378

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CANNON ENGINEERING INVOICES 1978 P

CAA015

1229 FL

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

PURCHASE ORDER
71842
THIS NUMBER MUST SHOW ON ALL INVOICES, PKGS., PACKING LISTS AND RELATED CORRESPONDENCE.

DATE JUNE 30, 1978

TO . CANNONS ENGINEERING CORP.
CYCLUBE PLANT
FIRST STREET
BRIDGEWATER, MA 02673

SHIP TO

DELV. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS:	INTERNAL DESTINATION
7/7/78	YOUR TRUCK	X				X		NET 30	PLANT

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
A					DISPOSE OF BURNABLE SOLVENTS AND RESINS IN 6,000 GAL. LOTS PER QUOTE OF 6/22/78.	01-744	SEE BELOW		
					COST:				
					CLASS A 0.13/GAL.				
					CLASS B 0.18/GAL.				
					CLASS C 0.28/GAL.				
					PLUS $50.00/HR. AFTER SECOND HOUR OF LANCING DRUMS.				
					CONFIRMATION ONLY DO NOT DUPLICATE				

SPECIFICATION REFERENCE	SPECS. ATT. YES	SPECS. ATT. NO	QUAL. CONTROL	MASS. SALES	TAXABLE YES	TAXABLE NO	REG. NO.	TOTAL VALUE
NONE		X				X	MAGO-783-330	$

SHOW ON ALL SHIPPING PAPERS - RECEIVING HOURS 7:30 A.M. TO 2:00 P.M.

SHOW MATERIAL NUMBER ON TOP AND SIDES OF ALL DRUMS AND CARTONS OR FRONT OF ALL BAGS

ALL MATERIALS SPECIFIED ON THIS ORDER MUST BE PRODUCED IN CONFORMITY WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.

ALL EXCEPTIONS TO THIS ORDER MUST BE MADE PRIOR TO SHIPMENT AND MUST BE AGREED TO, IN WRITING, BY POLYVINYL CHEMICAL INDUSTRIES.

VENDOR GUARANTEES THAT THE ITEMS COVERED BY THIS PURCHASE ORDER MEET ALL OSHA REQUIREMENTS.

"The provisions of Section 202 of Executive Order 11246 and the Rules and Regulations issued pursuant to Section 201 thereof, are hereby incorporated by reference, and the Seller represents, by acceptance of this purchase order, that he will comply with such Executive Orders and Rules and Regulations, and amendments thereto, to the extent the same are applicable to the manufacture or sale of the goods purchased hereunder."

Confirming
XXX To F. KIELE 6/30/78 BY H. THOMA
DO NOT DUPLICATE

POLYVINYL CHEMICAL INDUSTRIES
BY H. Thoma
AUTHORIZED SIGNATURE
PURCHASING MANAGER

Please! COMPLETE AND RETURN THE ATTACHED ACKNOWLEDGMENT AT ONCE.

0045-0379

June 26, 1978

Polyvinyl Chemical
730 Main St.
Wilmington, Ma. 01887

ATTN: - Mr. Wm. Blagborough

RE: - Tank Cleaning

Dear Sir:

This company proposes to clean one 10,000 gallon tank divided by a center baffle with access to each side. Cleaning will be done by entering the tank and hot water washing, squeegeeing, pumping dry, and wiping dry.

If the interior of the tank is found to be in sound condition, this cleaning procedure will allow the tank to be suitable for storage of MEK.

The cost for this work will be $450.00 plus 15¢ a gallon for the disposal of all BSW.

Thank you for the opportunity to quote and trust we may be of service to you.

Very truly yours,

CANNONS ENGINEERING CORP.

John Scott Cannon

JSC:ej
Enc.

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CANNON ENGINEERING INVOICES 1978 p

CAA015

0045-0380

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CANNON
ENGINEERING
1979 P

-CAAO25

0045-0381

Polyvinyl Chemical Industries

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CANNON ENGINEERING 1979 P

INVOICE

No. [illegible]

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	[illegible]
OUR ORDER NO.	[illegible]
YOUR ORDER NO.	
TERMS	Net
F.O.B.	

[illegible]
[illegible]
[illegible]

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	[illegible]		[illegible]
	(One vest drum [illegible])		

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

CAA025

0045-0382

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CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL SERVICES

350 MAIN STREET
WEST YARMOUTH
(CAPE COD), MASS. 02673
617-775-2800
MASS. TOLL FREE
1-800-352-7154

BRANCHES
BRIDGEWATER, MASS.
617-697-3344
WARREN, RHODE ISLAND
401-245-8683

December 11, 1979

Polyvinyl Industries
730 Main St.
Wilmington, Mass. 01887

Ref: Waste Product Survey Form

Dear Sir:

Effective January 1, 1980, all waste streams for disposal at our site will require an identifying waste stream number and a one time documentation as provided by the above referenced form.

Your waste stream consisting of Solvent Residues has been assigned the following identifying waste stream number 7912-0088. Please use this number in all correspondence, purchase orders and request for pick ups.

Please typewrite all of the information requested in the Waste Generator's Section, using a separate form for each different waste stream you generate, and return same to me as soon as possible.

Please advise us of your EPA Identification Code Number as soon as it becomes available.

Should you have any questions pertaining to the foregoing, please do not hesitate to call me.

Sincerely,

Vincent E. Corsano
Sales Engineer

Encl:

CANNON ENGINEERING 1979 P
CAAO25
0045-0383

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL SERVICES

350 Main Street
West Yarmouth
(Cape Cod), Mass. 02673
617-775-2800
Mass. Toll Free
1-800-352-7154

CYCLUBE PLANT
Bridgewater, Mass. 02324
617-697-3344

Warren, Rhode Island
401-245-8683

Polyvinyl Industries
730 Main St.
Wilmington, Mass

MASS. LICENSE #31 CERTIFICATE # 1971

CERTIFICATE OF DISPOSAL

THIS IS TO CERTIFY THAT ON October 23, 1978

80 Drum UNITS OF Oils

WERE PROCESSED FOR DISPOSAL AT OUR PLANT.

CANNONS ENGINEERING CORP.

By [signature]

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CANNON ENGINEERING 1979 P

CAAO25

FILED

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CANNON ENGINEERING 1979 P

CAA025

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ∴ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
[illegible]	[illegible]	[illegible]	[illegible]	☐ CASH ☐ CHARGE

NAME [illegible] JOB LOCATION

ADDRESS [illegible] DIRECTIONS [illegible]

CITY [illegible] STATE [illegible] ZIP

PICKUP	X	DELIVERY		BULK	X	DRUMS	X	THERMAL OXIDATION	X
RECYCLING		PLV RIGS 33 - 42 - 43	X	TANK TRAILOR 5000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 80	X

	OILS		SOLVENT RESIDUES
	OILS WASTE – WATER		ACETONE
	[illegible]		
	* 1 Test drum included		[illegible]

X William Kennedy
CUSTOMER'S SIGNATURE

Remarks [illegible] "test" drum included on Shipment attn Frank [illegible]
80 Dm @ [illegible] = [illegible]

CANNONS BY: [illegible]

W. O. No.	1971	IN	T-12 8
		OUT	[illegible]
INV. No.	[illegible]	TOTAL TIME	

BRIDGEWATER

This Shipping Order Must be legibly filled in, in Ink, in Indelible Pencil or by Typewriter Carbon, and retained by the Agent. Red - Drivers copy by consignee that applicable Placards have been offered CFR 49 172.505 Red CFR 49 172.508 Placards Offered

Shipper's No. 4C116-C

CARRIER: Cannons Engineering

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Shipping Order.

Carrier's No.

At Farmington N.M. 19 From Elmwood Plant, Indust. TRUCK ☐ FREIGHT ☐

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee—for purposes of notification only)

Consigned to Cannons Engineering

Destination 1st St. **State of** New Mex. **County of** San Juan

Route Farmington

Delivering Carrier Farmington **Vehicle or Car Initial** **No.**

NO. PACKAGES	HAZARDOUS MATERIALS	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS AS NOTED (CFR 49 172.301)	WEIGHT (SUB TO CORR.)	CLASS OR RATE	CHECK COLUMN
80	X	RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN N.O.S.	34000	60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN N.O.S.		60	
		RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		PLASTIC SYNTHETIC GRANULES N.O.S.		60	
		PAINT DRY BULK		55	
		PLASTIC SYNTHETIC LIQUID N.O.S. KEEP FROM FREEZING		60	

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Per (Signature of Consignor)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ to apply on prepayment of the charges on the property described hereon.

Agent or Cashier

Per (The signature here acknowledges only the amount prepaid.)

Charges Advanced: $

Included is (1) drum
U-10-033-EF-154
for lab determination
of suitability for incineration
P.C.I. P.O.# 72340

SHIPPING CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. By Shipper 49 CFR 172.204 SIGNATURE TITLE

THIS SHIPMENT IS CORRECTLY DESCRIBED

CORRECT WEIGHT IS _____ LBS

(The rates based upon this shipment conform to the specifications set forth in the box marked "Freight Classification" and all other requirements of the Consolidated Freight Classification.)

(Shipper's shipment in lieu of staving, not a part of Bill of Lading approved by the Interstate Commerce Commission.)

C. O. D. SHIPMENT

C. O. D. Amt. _____

Collection Fee _____

Total Charges _____

To the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is carrier's or shipper's weight.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

_____ Shipper, Per William Jones Engineering Supervisor

Permanent post-office address of shipper _____

Consignee must retain this Shipping Order and Shipper must sign the Original Bill of Lading.

2

FORM 511-BL1

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CANNON ENGINEERING 1979 P

CAAO25

Cannons Engineering Corp.
Cyclube Plant
Bridgewater Industrial Park
Bridgewater, Ma. 02324
(617) 697-3344

WASTE PRODUCT SURVEY

9/14/78
Date

Cannons Representative

Company Polyvinyl Resin Inc.

Mailing Address

Address

Pickup Location Wilmington, Mass

Contact Person Mr. Harold Thorne

Title Purchaser

Phone Number

Sample: Supplied _____ Not Available _____ ~~Will Send~~ Intake from Test Tank

Sample Source: Tank ✓ Drum _____ Other _____

Method of Sampling: Top of Load _____ Bottom of Load ✓

After Mixing _____ Other Unable

Physical Properties @ Degrees ___ °F Thin ✓ Thick _____ Viscosity _____

Is Liquid Layered? No _____ Yes ✓ If yes, number of layers 2

Percentage each layer 80% top _____, 20% bottom _____, _____% _____

Percentage of Solids _____% Suspended ✓ Settled _____ Particle Size _____

Flashpoint _____, PH _____, Specific Gravity _____ Pounds Per Gallon

Characteristics of Odor Solvent

Product Color: Clear _____ Cloudy ✓ Opaque ✓

Chemical Properties: Water 4.4 % Metals _____% And Name _____

Sulfur _____% And Source _____ Chlorine _____% And Source _____

Nitrogen _____% And Source _____ Pigment _____% And Source _____

Ash _____% Acid Value _____ BTU Value _____ by lbs., Gals.

Known Chemicals or Solvents: Hydro-carbons _____% Identify _____

Oils _____% Identify _____ Aldehydes _____% Identify _____

Keytones _____% Identify _____ Alcohols _____% Identify _____

Plastic Resins: Disolved ✓ Dispersed _____ Monomers _____% Identify _____

Polymers _____% Identify _____ Other Materials _____% Identify _____

Other Remarks: Figures are only from some middle

Fill Out Other Side of Form

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CANNON ENGINEERING 1979 1980 W

CAA023

Handling & Trucking Requirements: Frequency of Pickups as per order.

Weekly ___, Monthly___, Annually___, Bulk___, Drum Lancing___, Drum Transporting___

Gallons each pickup 6000 Drums each pickup _____

Loading Requirements at Pickup Site: Need lancers for drums.

Mileage Round Trip from Cyclube Plant to Pickup Site _____ Miles

Best Route to Take: 74 - 128 to Wilmington

Other Requirements:

Cyclube Lab Report: Each sample must be taken from test tank because of ~~very~~ varial material in drums - Gell with water contamination settles to bottom rest of material Burns

By TSK.

Method of Disposal: Burning all except gel accumulated.

By LSK

Pricing Breakdown: Price per gal. .13 to .28/gal delivered Cyclube Plant

Transportation: 6,000 gals. ✓ 5,000 gals. _____ 4,000 gals. _____

3,000 gals. _____ 2,000 gals. _____ 1,000 gals. _____ Min.

Lancing Drums $50 per hr. after 1 hr Hour(s) at pickup site

Delays in loading $50 per hr. after _____ Hour(s) at pickup site

Drums: Price per drum _____ delivered Cyclube Plant

Transportation: Drums in Lots of: 80___ 70___ 60___ 50___ 40___ 30___ Minimum Chg. _____

Quote Given: Date _____ Quote Approved _____

REMARKS:

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CANNON ENGINEERING 1979 1980 W

CAA023

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CANNON
ENGINEERING INVOICES
1978 P

CAA015

1198 FF

Polyvinyl Chemical Corp
Wilmington, Ma.

0045-0389

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL TANK CLEANING
POLLUTION AND OIL SPILL CONTROL SERVICE
WET AND DRY VACTOR SERVICE AND WATER BLASTING

350 MAIN STREET
WEST YARMOUTH
(CAPE COD), MASS. 02673
617-775-2800
MASS. TOLL FREE
1-800-352-7154
WARREN, RHODE ISLAND
401-245-6683

CYCLUBE PLANT
First St.
Bridgewater, Mass. 02673
Tel. 617-697-3344

SUBJECT: LIQUID DISPOSAL QUOTATION

NAME Polyvinyl Chemical Industries

FILE #B

STREET [illegible] Main St.

Date [illegible]-78

CITY/TOWN Wilmington STATE Mass. ZIP 01887

CONTACT Mr. Harold Thoma TEL. # [illegible]

This Company proposes to dispose of Flammable Solvents & Resins
Material

as per sample submitted on [illegible] Date

in lots of 6,000 Gallons Loaded from Drums to be:
Gallons Drums Etc.

Picked Up [ ] At Wilmington, Mass.

Delivered [ ] To Bridgewater Cyclube Plant

At a cost of [illegible] Class A [illegible] per second hour
[illegible] gal. Class B per [illegible]
[illegible] gal. Class C Gallon, Drum, etc.

PRICES SUBJECT TO REVIEW

CANNONS ENGINEERING CORP.

By [illegible]

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CANNON ENGINEERING INVOICES 1978

CAA015

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL TANK CLEANING
POLLUTION AND OIL SPILL CONTROL SERVICE
WET AND DRY VACTOR SERVICE AND WATER BLASTING

350 MAIN STREET
WEST YARMOUTH
(CAPE COD), MASS. 02673
617-775-2900
MASS. TOLL FREE
1-800-352-7154
WARREN, RHODE ISLAND
401-245-8663

CYCLUBE PLANT
First St.
Bridgewater, Mass. 02673
Tel. 617-697-3344

SUBJECT: LIQUID DISPOSAL QUOTATION

NAME Polyvinyl Chemical Industries FILE #B

STREET 730 Main St. Date 6/22/75

CITY/TOWN Wilmington STATE Mass ZIP 01887

CONTACT Mr. Harold Thoma Thome TEL. # 617-658-6600

This Company proposes to dispose of Burnable Solvents + Resins
Material

as per sample submitted on 6/22/75 Date

in lots of 6000 Gallons Fanned from Drums to be:
Gallons Drums Etc.

Picked Up [X] At Wilmington

Delivered [ ] To Bridgewater Cyclube Plant

At a cost of .13/gallon Class A, .18/gallon Class B, .20/gallon Class C per + $50/hr after 2nd hr. Laining of Drums
Gallon, Drum, etc.

PRICES SUBJECT TO REVIEW

CANNONS ENGINEERING CORP.

By F. Hirk

0045-0391

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CANNON ENGINEERING INVOICES 1978 P

CAA015

1200L

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL TANK CLEANING
POLLUTION AND OIL SPILL CONTROL SERVICE
WET AND DRY VACTOR SERVICE AND WATER BLASTING

350 MAIN STREET
WEST YARMOUTH
(CAPE COD), MASS 02673
617-775-2900
MASS. TOLL FREE
1-800-352-7154
WARREN, RHODE ISLAND
401-245-8683

CYCLUBE PLANT
First St.
Bridgewater, Mass. 02673
Tel. 617-697-3344

SUBJECT: LIQUID DISPOSAL QUOTATION

NAME Polyvinyl Chemical Industries

FILE #B _____

STREET [illegible] Main St.

Date [illegible]-22-78

CITY/TOWN [illegible] STATE [illegible] ZIP [illegible]

CONTACT Mr. Harold Thoma TEL. # [illegible]

This Company proposes to dispose of Filters and resin water
Material

as per sample submitted on _____ Date

in lots of 80 to be:
Gallons Drums Etc.

Picked Up [ ] At [illegible]

Delivered [ ] To Bridgewater Cyclube Plant

At a cost of [illegible].00 per Drum must be specially processed-Flammable
Gallon, Drum, etc.

PRICES SUBJECT TO REVIEW

CANNONS ENGINEERING CORP.

By [illegible]

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CANNON ENGINEERING INVOICES 1978 P

CAA015

120 IF

0045-0392

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CANNON ENGINEERING INVOICES 1978 P

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL TANK CLEANING
POLLUTION AND OIL SPILL CONTROL SERVICE
WET AND DRY VACTOR SERVICE AND WATER BLASTING

350 MAIN STREET
WEST YARMOUTH
(CAPE COD), MASS. 02673
617-775-2800
MASS. TOLL FREE
1-800-352-7154
WARREN, RHODE ISLAND
401-245-8683

CYCLUBE PLANT
First St.
Bridgewater, Mass. 02673
Tel. 617-697-3344

SUBJECT: LIQUID DISPOSAL QUOTATION

NAME Polyvinyl Chemical Industries FILE #B _____

STREET 70 Main St. Date 6/22/78

CITY/TOWN Wilmington STATE Mass ZIP 01887

CONTACT Mr. Harold Thoma TEL. # 617 658-6600

This Company proposes to dispose of Filters and resin wastes
Material

as per sample submitted on _____ Date

in lots of 80 to be:
Gallons Drums Etc.

Picked Up [X] At Wilmington

Delivered [ ] To Bridgewater Cyclube Plant

At a cost of $35 per Drum (must be specially processed flammables removed)
Gallon, Drum, etc.

PRICES SUBJECT TO REVIEW

CANNONS ENGINEERING CORP.

By [signature]

CAA015

1202 L

0045-0393

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CANNON ENGINEERING INVOICES 1978 P

CAA015

1203 P

INVOICE

No. [illegible]

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	10-[illegible]-78
OUR ORDER NO.	Cannons [illegible]
YOUR ORDER NO.	
TERMS	Net
F.O.B.	

Polyvinyl Chemical Industries
730 Main St.
Wilmington, Mass. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 30 Drums Solvent Residues (Class D) - @ $35.00 ea.		2,800.00
	10-3200 $ 800 —		
	10-3600 $2000 —		
	ENTERED		

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

0045-0394

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CANNON ENGINEERING INVOICES 1978 P

CAA015

1204

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk		
17.	Waste Oil & Solvents-Drums	2800	ac
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

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CANNON ENGINEERING INVOICES 1978

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ☆ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
10/31/78	658-6600	Harold Thoma		☐ CASH ☐ CHARGE

NAME Polyvinyl Chemical Ind. JOB LOCATION

ADDRESS 730 Main St. DIRECTIONS

CITY Wilmington STATE Mass ZIP 01887

PICKUP	X	DELIVERY		BULK	50	DRUMS	X	THERMAL OXIDATION	
RECYCLING		FLV RIGS 33 - 42 - 63		TANK TRAILOR 3000 - 6000 - 8000		DRUM TRUCK 32		DRUM TRAILER 80	X

	OILS		SOLVENT RESIDUES ✓
	OILS WASTE – WATER		ACETONE
			CUSTOMER'S PLANT
			IN 10:00 A.M.
			OUT 12:15 P.M.

X Bob Harris
CUSTOMER'S SIGNATURE

Remarks 80 Drm @ $35/drm = 2800.00
Class D
Drip S.
11/3/78

CANNONS BY:
Bill Ewer

BILLING COPY

W. O. No. 1986 IN
OUT
INV. No. CH-1916 TOTAL TIME

CAA015

150551

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CANNON ENGINEERING INVOICES 1978 P

CAA015

1206 F

INVOICE

No. [illegible]

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	10-[illegible]-78
OUR ORDER NO.	Cannons W.O. [illegible]
YOUR ORDER NO.	
TERMS	Net
F.O.B.	

Polyvinyl Chemical Industries
730 Main St.
Wilmington, Mass. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 80 Drums Solvent Residues - (Class D) - $ 835.00 ea.		2,800.00
	ENTERED		
	10-3200 $ 800 —		
	10-3600 $ 2000 —		

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

0045-0397

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CANNON ENGINEERING INVOICES 1978

CAA015

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk		
17.	Waste Oil & Solvents-Drums	2800	00
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ·· TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
10/26/78	658-6600	Harold Thomas		☐ CASH ☐ CHARGE

NAME Polyvinyl Chemical Ind. JOB LOCATION

ADDRESS 730 Main St. DIRECTIONS

CITY Wilmington STATE Mass ZIP 01887

PICKUP	X	DELIVERY		BULK	80	DRUMS	X	THERMAL OXIDATION	
RECYCLING		PLV RIGS 33 · 42 · 63		TANK TRAILOR 5000 · 6000 · 8000		DRUM TRUCK 32		DRUM TRAILER 80	X

	OILS	80 drums	SOLVENT RESIDUES
	OILS WASTE – WATER		ACETONE
			CUSTOMER'S PLANT
			IN 900
			OUT 11:30

X Bob Johnson
CUSTOMER'S SIGNATURE

Remarks 80 Drums @ 35/drum = 2800.00
Class D
Drum S1
10/1/78

CANNONS BY: Bill Enos

W. O. No. 1985 IN

INV. No. CLI-1915 OUT

TOTAL TIME

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CANNON ENGINEERING INVOICES 1978

CAA015

15081

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CANNON ENGINEERING INVOICES 1978 P

INVOICE

No.

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	
OUR ORDER NO.	
YOUR ORDER NO.	
TERMS	F.O.B.

Polyvinyl Industries
730 Main St.
Wilmington, Mass. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	[illegible] - 11-2-78		
	Our Inv. #B9-1211 dated 9-19-78	1,017.50	
	" #B9-1254 " 9-29-78	2,500.00	
			3,517.50

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

CAA015

0045-0400

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CANNON ENGINEERING INVOICES 1978

INVOICE

No. 011-1001

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	[illegible]
OUR ORDER NO.	[illegible]
YOUR ORDER NO.	
TERMS	F.O.B. Net

Polyvinyl Industries
730 Main St.
Wilmington, Ma. 01837

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 80 Drums Oils (Class D) - @ 35.00 ea.		2,800.00
	(One test drum included in shipment)		
	10 - 3200 $800.00		
	10 - 3600 $2000.00		
		ENTERED	

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

CAA015

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CANNON ENGINEERING INVOICES 1978

CAA015

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk		
17.	Waste Oil & Solvents-Drums	[illegible]	∞
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

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CANNON ENGINEERING INVOICES 1978 P

CAA015

WORK ORDER

CANNONS ENGINEERING CORP.

CYCLUBE PLANT

FIRST ST., BRIDGEWATER, MASS. 02324 ÷ TELEPHONE 617-697-3344

ORDER DATE	CUST. PHONE NO.	REPORT TO	CUST. P.O. #	TERMS
10/19/78	658-6600	Harold Thoma	72340	☐ CASH ☐ CHARGE

NAME Polyvinyl Industries

JOB LOCATION

ADDRESS 730 Main St.

DIRECTIONS ~~Lance Pr[illegible]~~

CITY Wilmington STATE Mass. ZIP 2887

PICKUP	X	DELIVERY		BULK		DRUMS	X	THERMAL OXIDATION	X
RECYCLING		PLV RIGS 33 - 42 - 65		TANK TRAILOR 5000 - 6000 - 6000		DRUM TRUCK 32		DRUM TRAILER 80	X

	OILS		SOLVENT RESIDUES
	OILS WASTE – WATER		ACETONE
	80 Drums		CUSTOMER'S PLANT
	*1 Test drum included		IN 10:30
			OUT 9:05

X William Kennedy

CUSTOMER'S SIGNATURE

Remarks One "test" drum included on shipment attn Frank. U-10-063 Lot # EF-154

80 Drm @ $35/Drm = 2800.00 class D, Disp S1

CANNONS BY:

W. O. No. 1971 IN

OUT 7:15

INV. No. CL-1901 TOTAL TIME

BILLING COPY

0045-0403

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CANNON ENGINEERING INVOICES 1978

INVOICE

No. [illegible]

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	[illegible]-78
OUR ORDER NO.	Cannons W.O. [illegible]
YOUR ORDER NO.	
TERMS	Net

Polyvinyl Industries
730 Main St.
Wilmington, Mass. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 50 Drums Flammable Resin Solids - (Class D) - @ ~~[illegible]~~/drum		~~[illegible]~~
	Should be $35 per drum		2800.00

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

CAA015

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CANNON ENGINEERING INVOICES 1978 P

CAA015

CORRECTED **INVOICE**

No. B9-1854

CANNONS ENGINEERING CORP.
350 MAIN STREET
WEST YARMOUTH, MASS. 02673

INVOICE DATE	9-[illegible]-78
OUR ORDER NO.	Cannons [illegible] 1924
YOUR ORDER NO.	[illegible]
TERMS	Net
F.O.B.	

Polyvinyl Industries
730 Main St.
Wilmington, Mass. 01887

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Pick up and Dispose of 80 Drums Flammable Resin Solids - (Class D) - @ $35.00/drum As per our quote and your P.O.		2,800.00

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

0045-0405

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CANNON ENGINEERING INVOICES 1978

CAA015

SALES

CANNONS ENGINEERING

1.	Tank Cleaning-Repairing Labor		
2.	Tank Cleaning-Repairing Material		
3.	Tank Cleaning-Repairing Equipment		
4.	Pumping Service-Labor		
5.	Pumping Service-Equipment		
6.	Oil Spill-Labor		
7.	Oil Spill-Equipment		
8.	Oil Spill-Boom Rental		
9.	Oil Spill-Material		
10.	Absorbent Sale		
11.	Vactor Service-Labor		
12.	Vactor Service-Equipment		
13.	Water Blasting Service-Labor		
14.	Water Blasting Service-Equipment		
15.	Per Diem Charges		
16.	Waste Oil & Solvents-Bulk		
17.	Waste Oil & Solvents-Drums	2400	00
18.	Recycle Oil Sales		
19.	Delivery & pickup charges		
20.	Engineering Services		
21.	Sub-Contract charges		
22.	Processing Extractor charges		
23.	Equipment Rentals		
24.	Miscellaneous		
25.	Sales Tax		
26.	Description of Service		

ROUTE TO: ~~IS~~ ~~HT~~ CAH

POLYVINYL CHEMICAL INDUSTRIES

A BEATRICE CHEMICAL COMPANY / DIVISION OF BEATRICE FOODS CO.
730 MAIN STREET • WILMINGTON, MASS. 01887

PUR. ORDER NO. Actually issued on 8/8

REQUISITION

IS would like you to initial

DATE 7-12-79

TO: CHEM-WASTE INC.
105 Capital Hill Drive
Londonderry, N.H. 03053
Att: Rick Brodie

Ship To: (603) 434-2129

DELY. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS	INTERNAL DESTINATION
As Released	Your truck	X				X		Net 10 days	—

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
1					Disposal of assorted waste materials in accordance with applicable federal and state laws				
					Initial lot of 500-600 drums		20.00	dr.	
					Certificate of disposal to accompany invoice showing actual disposition of waste. prior to payment to include the firm or actual location of disposal				
					Vendor agrees to protect us against claims for improper disposal of PCI waste material				
					This order to cover blanket releases as additional material becomes available. price to be negotiated				
					Vendor holds valid license # 138 for conveyance of hazardous material				

OPO 12,000 total approx

FICATION REFERENCE | SPECS. ATT. YES NO | QUAL. CONTROL | MASS. SALES | TAXABLE YES NO | REG. NO. MAGO-783-330 | TOTAL VALUE NOT TO EXCEED $

BY WJK | APPROVED BY | PRIORITY: ☐ ROUTINE ☒ CALL IN | CONFIRMING TO Mr Brodie by H. Thorne

0045-0407

POLYVINYL CHEMICAL INDUSTRIES

Division of Beatrice Foods Company
730 MAIN STREET, WILMINGTON, MASS. 01887
TEL. (617) 658-6600

73712

THIS NUMBER MUST SHOW ON ALL INVOICES, PKGS., PACKING LISTS AND RELATED CORRESPONDENCE.

DATE 8/8/79

TO

CHEM-WASTE INC.
105 CAPITAL HILL DRIVE
LONDONDERRY, NH 03053

SHIP TO ABOVE ADDRESS

DELY. REQUIRED	SHIP VIA	PPD.	COLL.	P/PAY & ADD	F.O.B. SP.	F.O.B. DEST.	EQUALIZED WITH	TERMS:	INTERNAL DESTINATION
AS RELEASED	YOUR TRUCK	X				X		NET 10 DAYS	WJK

ITEM	QUANTITY	UNIT MEASURE	POUNDS PER UNIT	MATERIAL NUMBER	DESCRIPTION	ACCOUNT CHARGED	PRICE	PER	AMOUNT
A					DISPOSAL OF ASSORTED WASTE MATERIALS IN ACCORDANCE WITH APPLICABLE FEDERAL AND STATE LAWS				
					INITIAL LOT OF 500 - 600 DRUMS		20.00	DRUM	
					CERTIFICATE OF DISPOSAL TO ACCOMPANY INVOICE SHOWING ACTUAL DISPOSITION OF WASTE, PRIOR TO PAYMENT TO INCLUDE THE FIRM OR ACTUAL LOCATION OF DISPOSAL. VENDOR AGREES TO PROTECT US AGAINST CLAIMS FOR IMPROPER DISPOSAL OF P.C.I. WASTE MATERIAL.				
					THIS ORDER TO COVER BLANKET RELEASES AS ADDITIONAL MATERIAL BECOMES AVAILABLE. PRICE TO BE NEGOTIATED.				
					VENDOR HOLDS VALID LICENSE #138 FOR CONVEYANCE OF HAZARDOUS MATERIAL.				
					CONFIRMATION ONLY DO NOT DUPLICATE				

CIFICATION REFERENCE | SPECS. ATT. YES NO | QUAL. CONTROL | MASS. SALES | TAXABLE YES NO | REG. NO. MAGO-783-330 | TOTAL VALUE $

M	DATE	EXPEDITED BY	SPOKE TO	INFO./COMMENTS
			CANCELLED	
			11/28/79	
			WJK	

0045-0408

POLYVINYL CHEMICAL INDUSTRIES

WJK

INTEROFFICE MEMO.

TO: M. Potash cc: I.S.

FROM: W. J. Kennedy

SUBJECT: WASTE DISPOSAL

DATE TYPED: October 18, 1979 DATE WRITTEN

Chem-Waste,Inc. during the period of August 28-30, 1979 picked up four (4) loads of waste material. The breakdown was: one load of "flammable" material which included 12 Permuthane drums of obsolete product; 50 30's of gelled U-110 (5 years old); and approximately 12 55's of gelled U-110, U-105, U-760 drums; 3 loads of material which had been removed from the Avco tank for disposal.

In addition to these loads, we have had two loads which are essentially the drums containing filter bags, coag, solvent/solution polymer drainings from filters and mixed solvent/polymer from labs and pilot labs which in general cannot be incinerated.

At the present time, we must dispose of a third category via Chem-Waste (or equivalent vendor). All polymer, liquid latex, raw material bags, and containers are no longer allowed into the Tewksbury disposal area that our normal contractor, Canelas, had been using.

Overall, we have essentially four (4) categories of waste at this point. The first three (3) require certified disposal.

A. Solvent Waste - suitable for incineration and/or reclaim.
B. Solvent Waste/Product - which may not be incinerated or reclaimed, e.g. drums of coag, filters, lab or pilot lab mixtures, etc.
C. Any Non-solvent Chemical Waste, coag, raw material bags, scrap and/or coagulated latex, etc.
D. Non-Chemical Waste - e.g. office trash, empty damaged containers, metal, etc.

On the present basis, unless we plan for reclaiming solvent, possibly not only chemically coagulate and dewater latex, which then would be compacted, the disposal of materials will be certainly over 150 - 175 drums per month to the Chem-Waste type of disposal contractor.

I suggest that a complete review with the goal of the establishemnt of a formal disposal program be arranged quickly. It is clear now that the only trash that may be disposed of by lower cost methods is paper, etc. All of our other materials we have disposed of previously, must now be disposed of at at least $25 - $30 per drum. Some estimates range as high as $55 per drum. At this rate we would have approximately $50,000. per year just in chemical disposal area alone.

Bill

W.J. Kennedy

WJK:pfe

0045-0409

POLYVINYL CHEMICAL INDUSTRIES

INTEROFFICE MEMO.

TO: M. Potash

FROM: H. J. Thoma

SUBJECT: Liquidators - Waste Disposal

cc: ML
LS
WJK
HJT
DHN

DATE TYPED: June 19, 1979

DATE WRITTEN

In reply to your questions on why we chose to use Liquidators the following information is given:

1. We used Cannon's Engineering to dispose of low viscosity (pumpable) materials - but had to switch to Recycling Industries when Cannon could not handle the heavy viscosity (permuthanes) materials. (August - November 1978).

2. We then went to Recycling Industries who could handle heavy materials, but they were more expensive than Cannon. (Jan.- Feb. 1979)

3. We then turned to Liquidators who claimed they could handle just about any material at $20.00/drum. They were liscensed only to transport not to dispose of. We gave them a total of four loads, three of which were handled properly. The final load 3/14/79 invoiced 3/30/79, at $1,620.00 with a questionable certificate of disposal in that it was made out by Liquidators and not Chem-Waste as for the first two loads. About this time the Boston papers gave an unfavorable publicity to Liquidators. Bill Kennedy checked Chem-Waste and found they have not received our material from Liquidators. In a subsequent discussion with Mr. Greenburg he admitted to having the drums on the premises.

We held up the payment of the invoice based on our findings that the material was not properly disposed of in accordance with our purchase order(copy attatched)- they, of course, are insisting on payment.

The last load was for 81 drums and these drums, less whatever burned up, remain on Liquidators' premises.

At the present time we have the following waste materials on hand:

	388 O. H. 55's from sump (non-flammable)	
	73 O. H. 55's Flammable (waste, filters, bottles, solvent product, etc.)	
	70 T. H. 55's Flammable (solvent wash etc.)	
	15 T. H. and O. H. 30's (misc. from labs etc.)	
Total:	546 drums-estimated cost to remove $16,000. (546 x $30.00)	

We presently are working with Chem-Waste direct. They also can handle all types of waste. While they only have a liscence to convey in Mass., they say it is legal for them to process the work in New Hampshire for final disposal in a legal landfill in New York State. We should have a response from him this week.

A difficulty that has just recently occurred is that Canelas, our local disposer of non-toxic waste, has been barred from dumping the sump waste drums in the Tewksbury landfill. In fact, the state inspector has not allowed any drums to be dumped.

Obviously waste disposal is a costly and delicate matter at present and will be more so in the future.

Harold J. Thoma

HJT/dcs
ENC. (2)

Chem-Waste Inc. 6-13-79

John French

permit No 135 Conveyance only!

Flammable Low to high viscosity -

picked up in rain - would appear to have destroyed

Cannons - to burn

or SCA to burn

SCA Svcs PO Box 200

Model City, N.Y. 14107 (716) 754-8231

$25 - 35.00/drum with good drums.

No manifest needed as yet to final destination.

Separate Filters & stock by type

work with Ralph Swanson -

Have equipment to pump out sludge from collecting tank

0045-0412

RECYCLING INDUSTRIES INC.

MONTVALE LABORATORIES DIVISION
385 QUINCY AVENUE, BRAINTREE, MASSACHUSETTS 02184

617/848-0612

INVOICE Nº 4656

SOLD TO
POLYVINYL CHEMICAL INDUSTRIES
730 Main Street
Wilmington, Mass. 01887

SHIP TO

ACCOUNT NUMBER	CUSTOMER ORDER NUMBER	TERRITORY	INVOICE DATE
	72759		12/11/78
FREIGHT TERMS	**VIA**	**SHIPPING DATE**	**TERMS**
Freight allowed	Recycling	12/6/78	As shown

QUANTITY	DESCRIPTION	WEIGHT	PRICE		PER	AMOUNT		
4[illegible]	55 Gal. Drums Resin solution		3[illegible]	00	dr	$1,[illegible]	00	325

0045-0413

ACCOUNTING COPY

002239

RECYCLING INDUSTRIES INC.

MONTVALE LABORATORIES DIVISION
385 QUINCY AVENUE, BRAINTREE, MASSACHUSETTS 02184

617/848-0612

INVOICE Nº 4656

SOLD TO
POLYVINYL CHEMICAL INDUSTRIES
730 Main Street
Wilmington, Mass. 01887

SHIP TO

ACCOUNT NUMBER	CUSTOMER ORDER NUMBER	TERRITORY	INVOICE DATE
	72759		12/11/78
FREIGHT TERMS	**VIA**	**SHIPPING DATE**	**TERMS**
Freight allowed	Recycling	12/6/78	As shown

QUANTITY	DESCRIPTION	WEIGHT	PRICE	PER	AMOUNT	
48	55 Gal. Drums Resin solution		36 00	dr	$1,584 00	325

0045-0414

ACCOUNTING COPY

002240

RECEIVING RECORD

7628

RECEIVED FROM
Polyvinyl Chemical Ind. 2948

ADDRESS
Wilmington

PURCHASE ORDER NO. OR RETURNED GOODS	FREIGHT BILL NO.	DATE
		12/6/78

VIA	PREPAID	COLLECT

	QUANTITY	ITEM NUMBER	DESCRIPTION
1	23 X	55	~~Flammable~~
2	21 X	55	~~Semi-Solid~~ Permuthane *
3			
4	44/55		Resin Solution @ 36¢ - 1584.00 32
5			
6			Transp. Incl.
7			
8			
9			
10			
11			
12			

REMARKS: CONDITIONS, ETC. * Will be Dumped in Dike.

NO. PACKAGES	WEIGHT	RECEIVED BY	CHECKED BY	DELIVERED TO
		Paul		

Rediform ®
2H 259

BE SURE TO MAKE THIS RECORD ACCURATE AND COMPLETE

002241

0045-0415

STRAIGHT BILL OF LADING — SHORT FORM — ORIGINAL — NOT NEGOTIABLE

CONTROL No. 2948

RECEIVED, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

To [X] From [ ]
RECYCLING INDUSTRIES, INC.
385 QUINCY AVENUE
BRAINTREE, MASS. 02184 • (617) 848-0612

To [ ] From [X]
POLYVINYL CHEMICAL INDUSTRIES
730 Main Street
Wilmington, Mass. 01887

CARRIER: Recycling

PICK-UP AT:

DATE	CUST. ORDER NO.	
12/6/78	72759	
VEHICLE NO. T36	TIME IN 9:05	TIME OUT 1000
DRIVER Rohmelberg	CUSTOMER INITIAL, IF OK →	

- [ ] DRUMS CHECKED FOR LEAKS AND PROPER SEALS
- [ ] DOT AUTHORIZED CONTAINERS
- [ ] DOT LABELS APPLIED AND SECURED
- [ ] PROPER DOT NAMES ON ALL PACKAGES

✓	HAZARDOUS MATERIAL	CONTAINER #	CONTAINER SIZE/WGT.	NAME OF MATERIAL AND COMPOSITION	HAZARD CLASS	SOLID	LIQUID	GAS	SEMI-SOLID	CORROSIVE	FLAMMABLE	POISON	OXIDIZER	OTHER
		44	55 gal	DRUMS OF WASTE SOLVENTS			✓				✓			

23 Liquid
21 Semi Solid - Dino
Permuthane

THIS IS TO CERTIFY THAT THE ABOVE NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

PLACARDS PROVIDED OR AFFIXED

[ ] PLACARDS REFUSED

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Per _____ (Signature of Consignor.)

Received $_____ to apply in prepayment of the charges on the property described hereon.

_____ Agent or Cashier.

Per _____ (The signature here acknowledges only the amount prepaid.)

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE, "TO BE PREPAID"

SHIPPER'S SIGNATURE William Kennedy

RECEIVER'S SIGNATURE

ADDRESS OF SHIPPER

0045-0416

002242

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of receipt by the carrier of the property described in the Original Bill of Lading,

CONTROL No. 2948

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

To [X] From [ ]
RECYCLING INDUSTRIES, INC.
385 QUINCY AVENUE
BRAINTREE, MASS. 02184 • (617) 848-0612

To [ ] From [X]
POLYVINYL CHEMICAL INDUSTRIES
730 Main Street
Wilmington, Mass. 01887

CARRIER: Recycling PICK-UP AT:

DATE: 12/6/78
CUST. ORDER NO.: 72759
VEHICLE NO.: T36
TIME IN: 9:05
TIME OUT: 1900
DRIVER: ROHMELBERG
CUSTOMER INITIAL, IF OK →

DRUMS CHECKED FOR LEAKS AND PROPER SEALS
DOT AUTHORIZED CONTAINERS
DOT LABELS APPLIED AND SECURED
PROPER DOT NAMES ON ALL PACKAGES

✓	HAZARDOUS MATERIAL	CONTAINER #	CONTAINER SIZE/WGT.	NAME OF MATERIAL AND COMPOSITION	HAZARD CLASS	PHYSICAL STATE (CHECK ONE): SOLID	LIQUID	GAS	SEMI-SOLID	DOT LABEL (IF REQUIRED): CORROSIVE	FLAMMABLE	POISON	OXIDIZER	OTHER
		44	55 gal	DRUMS OF WASTE SOLVENTS			✓				✓			

THIS IS TO CERTIFY THAT THE ABOVE NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

PLACARDS PROVIDED OR AFFIXED

[ ] PLACARDS REFUSED

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Per _____ (Signature of Consignor.)

Received $_____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier.

Per _____
(The signature here acknowledges only the amount prepaid.)

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE, "TO BE PREPAID"

SHIPPER'S SIGNATURE: William Kennedy

RECEIVER'S SIGNATURE

PERMANENT POST OFFICE ADDRESS OF SHIPPER

0045-0417

002243

ORIGINAL

002244

This Shipping Order must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

Highway Carriers - Drivers certify by acceptance that applicable Placards have been offered CFR 49 172.506

Rail

CFR 49 172.508 Placards Affixed

RECEIVE, subject to the classifications and tariffs in effect on the date of the issue of this Shipping Order,

Recycling Industries
(NAME OF CARRIER)

Shipper's No. 41711

AT WILMINGTON, MASS. Date 19 **from** **POLYVINYL CHEMICAL INDUSTRIES** A Division of Beatrice Foods Co.

Carrier's No.

[redacted]

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee—For purposes of notification only.)

Consigned to

Destination

State

Route

County

Delivering Carrier

Car or Vehicle Initials

No.

NO. PACKAGES	HAZARDOUS MATERIALS	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS, AND EXCEPTIONS 49 172.101	*WEIGHT (SUBJECT TO CORRECTION)	CLASS OR RATE	CK. COL.
44	X	RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN N.O.I.	19,800	60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN N.O.I.		60	
		RESIN SOLUTION FLAMMABLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		RESIN SOLUTION COMBUSTIBLE LIQUID PLASTIC SYNTHETIC RESIN KEEP FROM FREEZING		60	
		PLASTIC SYNTHETIC GRANULES N.O.I.B.N.		60	
		PAINT DRY BULK		55	
		PLASTIC SYNTHETIC LIQUID N.O.I.B.N. KEEP FROM FREEZING		60	

If charges are to be prepaid, write or stamp here; "To be Prepaid."

Received $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

Charges Advanced:

$

†(Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.)

The fibre boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon [illegible] requirements of Uniform Frei[illegible]

C.O.D. SH[illegible]

0045-0418

C.O.D. AMT.

COLLECTION FEE

TOTAL CHARGES

SHIPPERS CERTIFICATION This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation in accordance with CFR 49 172.204

SIGNATURE TITLE

POLYVINYL CHEMICAL INDUSTRIES
BEATRICE CHEMICAL, DIV. OF BEATRICE FOODS

Shipper, Per

For Agent [illegible] and retain this Shipping Order and must sign the Original Bill of Lading

Permanent post-office address of shipper: 730 MAIN ST. WILMINGTON, MASS. 01887 (617) 658-6600

CARRIER: ON PREPAID SHIPMENTS ONLY, INVOICE FIRST NATIONAL BANK OF BOSTON, FREIGHT PLAN #2975-3, BOX 1974, BOSTON, MA. 02105.

POLYVINYL CHEMICAL INDUSTRIES
730 MAIN STREET
WILMINGTON, MASSACHUSETTS 01887

PACKING LIST

DATE: 10/6/78

SHIPPED TO: RECYCLING INDUSTRIES
BRAINTREE MASS

DESCRIPTION	GROSS	TARE	NET
U-4849 EB-335 (30)			
EF-328 (14)			
44			
Our Order# 41711			

0045-0419

002245

[Document reproduced by AstraZeneca to ensure legibility]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I – EPA NEW ENGLAND

Information Request Waste Survey

Name of Respondent: Polyvinyl Chemicals Inc. Respondent's Location: Wilmington, MA Date: April 9, 2001

	Substance	**Physical State When Disposed/ Type of Container** (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	**Trade Name/ Chemical Composition** (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	**Volume (Per Month)**	**Disposal Method and Location/Years of Disposal** (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Acids	Organic acids acrylic & methacrylic acid (1990 – 92)		Limited Quantity	Pursuant to applicable law
	Adhesives	Lower weight polyurethane off spec adhesive (1990 – 92)		Small quantities on infrequent occasions	Pursuant to applicable law
	Asbestos	Pipe insulation and wallboard (Approx.1990)		Approximately 100 lbs.	Secure landfill
	Solids	On site in event of spills – kitty liter, socks, pads, etc. (1990 – 92)	Infrequent		Pursuant to applicable law

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Automotive Related Wastes:				
	Antifreeze				
	Batteries	Lead acid batteries removed from fork lift. (1990 – 92)		Unknown	Pursuant to applicable law. Single event (1990-92)
	Brake Fluids				
	Degreasers				
	Lubricants				
	Oils				
	Oil Filters				
	Transmission Fluids				
	Other:				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Batteries	See above			
	Bleaches				
	Caustics/Alkalis	See below		Unknown	Pursuant to applicable law
	Chemicals	Lab packs See Response and Documents	Misc.		Annual disposal for incineration (1990 – 92). See also Response and Documents
	Cleaning Compounds or Fluids	Spent alkali cleaning solution – See Response and Documents			Recycled pursuant to MADEP Permit (1990-92).
	Coolants				
	Degreasers	Limited use as parts cleaner			
	Disinfectants				
	Distillation Byproducts (Still Bottoms)				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Dyes				
	Etching Solutions				
	Filters	Filters & filter bags See Response and Documents		Several thousand per year (1990 - 92)	See Response and Documents.
	Flammable, Reactive, or Explosive Materials	Solvents & reactive monomers See Response and Documents			See Response and Documents
	Fungicides				
	Herbicides				
	Insecticides				
	Insulating/Fire Proofing Materials				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Laboratory Wastes	Misc. chemicals in lab packs. See Response and Documents.			See Response and Documents
	Lubricants				
	Metals:	Small quantities of pigments (1990 – 92)			
	Grindings				
	Powders				
	Shavings				
	Sludges				
	Solutions				
	Other:				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Paint and Coating Wastes:				
	Paint				
	Pigments				
	Stripper				
	Stains				
	Thinner				
	Turpentine				
	Varnish				
	Other:				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

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	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	PCBs (Polychlorinated Biphenyls)	Fixed transformers filled with PCB oil. See Response and Documents			See Response and Documents
	Pesticides				
	Photocopying Wastes:				
	Toners				
	Other:				
	Photocopying Wastes:				
	Developers				
	Fixers				
	Other:				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Plating Solutions				
	Pretreatment Sludges/Solutions (Sewage)	Pre-1991 Settling basin sludge from tank washing; See Response and Documents Post 91 – activated sludge waste			See Response and Documents
	Printing Wastes:				
	Inks				
	Dyes				
	Other:				
	Rags, Used (Indicate Prior Use)	Drums (1990 – 92) See Response and Documents			See Response and Documents
	Rodenticides				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

	Substance	Physical State When Disposed/ Type of Container (e.g., Liquid/5 Gal. Pails, Sludge/55 Gal. Drums, Solid/Directly Into Dumpster)	Trade Name/ Chemical Composition (e.g., Nitric Acid/HNO_3, Tetrahydrofuran/C_4H_8O.)	Volume (Per Month)	Disposal Method and Location/Years of Disposal (e.g., Dumpster/ '55-'68, [Name] Landfill/ '69-'81, [Name] Solvent Reclaimer/ '82-'91)
	Septic System Wastes				
	Sludges	See above			
	Soldering Solutions				
	Solutions of Polymers, resins, plastics	See Response and Documents			See Response and Documents.
	Solvent Extracts				
	Solvents	See Response and Documents			See Response and Documents.
	Waste Oils				
	Wood Preservatives				
	Other:				

* Unless otherwise provided in Response and Documents, source for Waste Survey information is Bechard Interview.

SACO MUNICIPAL LANDFILL SUPERFUND SITE
EVIDENTIARY SUMMARY

Polyvinyl Chemical Industries
c/o Zeneca Resins, Inc.
1800 Concord Pike
Wilmington, DE 19897

Contact Person: Marjorie J. Lee, Senior Paralegal; Michelle T. Dillione, Environmental Attorney

PRP Class: Generator

Nature of Business: Manufacturer of specialty polymers for coating applications.

Polyvinyl Chemical Industries' ("Polyvinyl") connection to the Saco Municipal Landfill Site (the "Site") is through transactions Polyvinyl had with Chem-Waste, Inc. ("Chem-Waste") in 1979. There is evidence documenting the pick-up of 321 drums of hazardous waste from Polyvinyl Chemical by Chem-Waste in October 1979 and transport of those drums to Robert Stanwood in Saco, Maine. There is documentary evidence as well as the statements of several witnesses that Chem-Waste did business with Robert Stanwood.

Robert Stanwood lived and did business in Saco, Maine. For a number of years in the 1970s, Stanwood's business was the purchase and resale of drums, after emptying the contents. Several witnesses state that Stanwood disposed of drums and/or the contents of drums or barrels of hazardous substances at the Saco landfill, on a regular basis, throughout all or most of the 1970s, especially the period from 1976-1980.

In early 1979, Stanwood started doing business with Chem-Waste. Chem-Waste paid Stanwood for the number of drums per week that he received from Chem-Waste. Stanwood used the Site to dispose of drums and/or their contents on a regular basis during the time he received shipments from Chem-Waste. A witness recalls that many of the barrels disposed of at the Site by Stanwood had diamond-shaped hazardous waste stickers or flammable, chlorine, corrosive, irritant and oxidizer labels on them. They contained liquids and sludges.

Documentation is provided to show:

1. Pick-up of drums of waste from Polyvinyl Chemical by Chem-Waste
2. Shipment of those drums to Saco, Maine
3. Receipt of the drum shipment by Robert Stanwood

Transactional Information:

Trans. No.	Date	Doc. No.	Type of Document
1	10/10 & 10/11/79	1-A	Trucker's pick-up record showing pick-up of drums from "Poly-vinyle" and "Poly-vinyle" to Maine
		1-B	Stanwood billing record for October 1979 showing receipt of 84 drums
		P-1	Polyvinyl drum summary from 104(e) response heade "Chem Waste" showing pick-up of 84 drums on 10/5
		P-2	Polyvinyl drum summary from 104(e) response showing pick-up of 84 drums on 10/5
2	10/16/79	2-A	Trucker's pick-up record showing pick-up of drums from "Poly vinyle"
		2-B	Stanwood billing record for October 1979 showing receipt of 89 drums on 10/16
		P-1	Polyvinyl drum summary from 104(e) response headed "Chem Waste" showing pick-up of 89 drums on 10/16
		P-2	Polyvinyl drum summary from 104(e) response showing pick-up of 89 drums on 10/16
3	10/17 & 10/19/79	3-A	Trucker's pick-up record showing pick-up of drums from "Poly vinyle" on 10/17 and "Poly vinyle" to Maine on 10/17 and 10/19
		3-B	Stanwood billing record for October 1979 showing receipt of 78 drums on 10/19
		P-1	Polyvinyl drum summary from 104(e) response headed "Chem Waste" showing pick-up of 78 drums on 10/17
		P-2	Polyvinyl drum summary from 104(e) showing pick-up of 78 drums on 10/17

ENV - 47078

Trans. No.	Date*	Doc. No.	Type of Document
4	10/23/79	4-A	Trucker's pick-up record showing pick-up of drums from "Polyvinle" with notation 5011
	11/01/79	4-B	Trucker's pick-up record showing "Polyvinyle to Maine 5011"
		4-C	Stanwood billing record dated Nov. 3, 1979 showing receipt of 70 drums on Nov. 1
		P-1	Polyvinyl drum summary from 104(e) response headed "Chem Waste" showing pick-up of 79 drums on 10/23
		P-2	Polyvinyl drum summary from 104(e) response showing pick-up of 79 drums on 10/23

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue
Boston, Massachusetts 02129

Telephone: (617) 242-6000
Facsimile: (617) 241-6070

CERTIFIED MAIL

January 17, 1991

Permit Revision # Two

ICI Resin U S
730 Main Street
Wilmington, MA 01887 - 0667

Attention: Mr. William Kennedy

Subject: Revised Sewer Use Discharge Permit # 40 004 688-0

Dear Mr. Kennedy:

Enclosed please find a revised MWRA Sewer Use Discharge Permit for your facility located at 730 Main Street, Wilmington, Massachusetts. Please note that we have included additional permit conditions on pages two (2) and four (4) of the permit under the headings "Additional Requirements at Location 1" and "Analysis" respectively. We have also revised the list of compounds that fall under 40 C.F.R. 414 subpart D as Outlined on pages six (6) and seven (7) of the permit.

The enclosed permit supersedes all previous permits and is valid until its date of expiration so long as all stipulated conditions are complied with; it is subject to renewal and change as stated in the MWRA Sewer Use Rules and Regulations, 360 C.M.R. 10.000.

If you disagree with the terms of this permit, you may, pursuant to 360 C.M.R. 10.103(1), submit a request for reconsideration to the Authority's Toxic Reduction and Control Department within ten (10) working days from the date of the letter. The request shall set forth in detail the facts supporting it.

If you have any questions pertaining to the permit's conditions or any information set forth in this letter, please contact Ravi Joshi, Permit Developer at 241-2330.

Sincerely,

Richard A. Kanoff
Director
Toxic Reduction and Control Department
Sewerage Division

ENV - 38074

Enclosures

0045-0432

Printed on 100% Recycled Paper

Sewer Use Discharge Permit

Permit No. 40 004 688-0
Category: 1
Expiration Date: 09/30/1992

The Massachusetts Water Resources Authority and Town of Wilmington hereby jointly issue this permit. Pursuant to 360 C.M.R. 10.000 and the Town of Wilmington Sewer Use Ordinance,

ICI Resins U.S.
730 Main Street
Wilmington, MA 01887-0667

is authorized to discharge wastewater into the MWRA Sewerage System through the Town of Wilmington Sewerage System subject to the conditions set forth in this permit. The permittee shall not discharge any pollutant or pollutant properties or wastewater from any production operation, industrial process, or any source of discharge not identified in its Sewer Use Discharge Permit Application or this permit.

Compliance with this permit does not relieve ICI Resins U.S. of its obligations to comply with all other applicable Local, State, and Federal pretreatment laws, regulations, standards and requirements, including those that may become effective during the term of this permit.

This permit does not relieve ICI Resins U.S. of its obligation to comply with the Massachusetts Department of Environmental Protection (DEP) permitting requirements pursuant to 314 C.M.R. 7.00 and 12.00 and the DEP regulations governing the approval of pretreatment systems and the certification of pretreatment system operators pursuant to 257 C.M.R. 2.00.

This permit may be modified by the MWRA and the Municipality in accordance with 360 C.M.R. 10.058.

Failure to comply with any requirement of 360 C.M.R. 10.000 or any of the conditions of this permit may be cause for the MWRA to take enforcement measures pursuant to 360 C.M.R. 10.101, including but not limited to, immediate revocation of this permit.

This Sewer Use Discharge Permit shall not be assigned or transferred except with prior written approval of the MWRA.

This permit will remain effective if the permittee files a complete permit application for a renewal permit in accordance with 360 C.M.R. 10.062(2), a minimum of thirty (30) days prior to the expiration of the permit.

APPROVED:
Town of Wilmington

By: Paul C. Duggan
Paul C. Duggan
Superintendent of Water and Sewer Department

Date: Jan 8 1991

APPROVED:
Massachusetts Water Resources Authority

By: Richard A. Kanoff
Richard A. Kanoff
Director, Toxic Reduction and Control

Date: 1/16/91

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Issued this 17th day of January, 1991.

Printed on 100% R

0045-0433

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART A - Sampling and Reporting Requirements

Samples shall be taken of ICI Resins U.S.'s wastewater from the specified locations. Industrial User Sampling Report Forms (Report Forms) provided with this permit shall be used to record sampling and laboratory data. The forms are originals which should be kept with the permit and photocopied as needed. The permittee shall follow the sampling and reporting schedule(s) provided in this Part

Wastewater Sampling Location 1:

Wastewater effluent from the settling tank shall be sampled, prior to mixing with any other streams.

Sampling and Reporting Schedule for Location 1

Pollutant/Parameter	Recommended EPA Analysis	Sample Type	Sampling Frequency	Reporting Frequency
TTO (Volatile Organic Fraction)	624	Grab	Semiannually	Semiannually
TTO (Extractable Organic Fraction)	625	Composite	"	"
Hexavalent Chromium (Cr^{+6})	218.5	Grab	Quarterly	Quarterly
Cyanide (total)	335.2	"	"	"
pH	150.1	"	"	"
Cadmium	200.7	Composite	Quarterly	Quarterly
Chromium	200.7	"	"	"
Copper	200.7	"	"	"
Lead	200.7	"	"	"
Zinc	200.7	"	"	"
Total Suspended Solids (TSS)	160.2	"	"	"

For a definition of the terms in the table above, refer to the key to sampling and reporting terms in Part A of this permit.

Flow Measurement Required at Location 1:

The permittee shall install an open-channel, primary flow measuring device and continuous recording flow meter after pretreatment at location 1 to allow the accurate measurement of wastewater flow prior to mixing with any other streams. The device shall be installed within 45 days from the MWRA written ruling issued to ICI Resins U S on November 8, 1990. It shall be engineered and installed to accommodate portable MWRA flow measuring and sampling equipment and shall be safely and accessibly located. When installation is complete, the as-built plans for the device shall be submitted to the MWRA. Access to a 110V continuously powered electrical outlet located near the flow measuring device shall be provided.

Measured average daily flow and maximum daily flow for every quarterly sampling period shall be recorded in gallons per day on the appropriate Report Form.

Additional Requirements for Location 1: The permitte shall submit copies of manifests for hazardous wastes hauled away from the premises annually, by the fifteenth (15th) of January.

The permittee shall submit a Compliance Report by February 5, 1991 pursuant to 40 C.F.R. 403.12.

0045-0434

ENV - 38076

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART A - Sampling and Reporting Requirements

Key to Sampling and Reporting Terms

Sample Type

Grab - A grab sample is an individual sample which is taken on a one time basis without regard to the flow of the wastestream and without consideration of time to represent a wastestream.

Composite - A composite sample is a combination of a minimum of eight grab samples of wastewater taken at preselected intervals to represent the integrated composition of the wastestream. A daily composite shall be taken throughout the period(s) of the day when wastewater is being discharged to the sanitary sewer from the sample location.

Sampling Frequency

Semiannually - Samples shall be taken twice a year, once during each six month period of January to June and July to December.

Quarterly - Samples shall be taken four times a year, once during each three month period of January to March, April to June, July to September, and October to December.

Reporting Frequency

Annually - Report Forms shall be submitted for each annual sampling period. For the January to December sampling period, the forms are due by January 15.

Semiannually - Report Forms shall be submitted for each semi-annual sampling period. For the January to June period, the forms are due by July 15. For the July to December period, they are due by January 15.

Quarterly - Report Forms shall be submitted for each quarterly sampling period. For the January to March sampling period, the forms are due by April 15. For the April to June period, they are due by July 15. For the July to September period, they are due by October 15. For the October to December period, they are due by January 15.

If the permittee is not discharging wastewater to the sanitary sewer system during the required sampling period, the permittee shall submit a statement indicating this on the appropriate report form.

Completed Report Forms and any additional reporting information shall be submitted to the MWRA at the following address:

Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue
Boston, MA 02129

Attn: Toxic Reduction and Control Department

0045-0435

ENV - 38077

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART A - Sampling and Reporting Requirements

Sampling, Analysis, and Record Keeping

Sampling

All samples and measurements collected for the purpose of this permit shall be representative of the typical volume and nature of the permittee's discharge. The discharge shall be free of any uncontaminated water, sanitary wastes, or other non-process water. Samples shall be collected, preserved, and handled in accordance with the procedures established in 40 C.F.R. Part 136 and amendments.

Sampling required by the MWRA shall be performed by a DEP certified independent laboratory unless otherwise specified or approved by the MWRA.

Sampling locations shall be safely located and accessible to MWRA staff and monitoring equipment. Wastewater measuring devices, which the MWRA reserves the right to approve, shall be compatible with MWRA monitoring equipment. In addition, the devices shall be properly maintained and calibrated at all times to ensure measurement accuracy.

If the permittee samples more frequently than required in this permit, for any pollutant being discharged, using test procedures prescribed in 40 C.F.R. Part 136 or other United States Environmental Protection Agency (EPA) approved methods, the results of such monitoring shall be submitted to the MWRA, with the appropriate report forms.

Analysis

Analysis required by the MWRA shall be performed by a DEP certified independent laboratory unless otherwise specified or approved by the MWRA. The permittee shall submit annually a copy of the Massachusetts Certification for Chemical Analysis of Waters for each environmental laboratory which performed analytical services for this permit's requirements.

Analysis for wastewater pollutants and parameters shall be conducted in accordance with applicable procedures approved by the United States Environmental Protection Agency (EPA) included in 40 C.F.R. Part 136, unless otherwise authorized by the MWRA and the EPA.

The MWRA recommends an EPA analysis method for each pollutant listed in the Sampling and Reporting Schedule(s). The method may be one of a few that is approved by the EPA for a specific pollutant. A certified laboratory may substitute a non-recommended method which is listed in 40 C.F.R. Part 136 or otherwise authorized by the MWRA and EPA.

The permittee shall take all steps necessary to ensure that the method detection limits for all regulated parameters (including toxic organics) fall below the corresponding MWRA limits. Any report submitted to the MWRA with a detection limit above the corresponding MWRA limit will not satisfy the terms of this permit

ENV - 38078

0045-0436

PART A - Sampling and Reporting Requirements

Sampling, Analysis, and Record Keeping (continued)

Record Keeping

ICI Resins U.S. shall maintain accurate records of all monitoring activities including:

a. date, exact place, time, and methods of sampling or measurements, and sample preservation techniques or procedures;

b. name of the person performing the sampling or measurements;

c. date(s) analyses were performed;

d. name of person performing the analysis;

e. analytical techniques or methods used, detection limit, analysis/extraction date;

f. results of the analyses; and.

g. laboratory quality control/quality assurance documentation for the analysis performed.

The permittee shall retain records of all monitoring activities for at least three years. This includes calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of reports required by this permit, and information used to complete the Sewer Use Permit Application. This period may be extended by notice from the MWRA at any time. In addition, the MWRA may examine or require the submittal of records upon request in accordance with 360 C.M.R. 10.007(4).

All records that pertain to matters that are the subject of special orders or any other enforcement or litigation activities brought by the MWRA shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART B - Discharge Limitations

The permittee shall comply with the most stringent of the EPA National Categorical Pretreatment Standards, State or Local requirements, or the limits and prohibitions contained in 360 C.M.R. 10.023 and 10.024. If the National Categorical Pretreatment Standard includes a monthly, weekly or production based limit, that limit must be met in addition to the more stringent of the maximum for one day and daily average limits.

I. National Categorical Pretreatment Standards

The MWRA has determined that the permittee is subject to the National Categorical Pretreatment Standards as set by the EPA, listed below.

40 C.F.R. 414 - Organic Chemicals, Plastics, & Synthetic Fibers
Point Source Category

Subpart D - Thermoplastic Resins § 414.45
Pretreatment Standards for Existing Sources (PSES)

Pollutant	Maximum for any 1 day (lbs/day)	Maximum for any Monthly Average (lbs/day)
Benzene	0.08	0.04
Carbon Tetrachloride	0.24	0.09
Chloro Benzene	0.24	0.09
1,2,4 - Trichlorobenzene	0.50	0.12
Hexachlorobenzene	0.50	0.12
1,2 - Dichloroethane	0.36	0.11
1,1,1 - Trichloroethane	0.04	0.01
Hexachloroethane	0.50	0.12
1,1 - Dichloroethane	0.04	0.01
1,1,2 - Trichloroethane	0.08	0.02
Chloroethane	0.19	0.07
Chloroform	0.20	0.07
1,2 - Dichlorobenzene	0.50	0.12
1,3 - Dichlorobenzene	0.24	0.09
1,4 - Dichlorobenzene	0.24	0.09
1,1 - Dichloroethylene	0.04	0.01
1,2 - Trans - Dichloroethylene	0.04	0.02
1,2 - Dichloropropane	0.50	0.12
1,3 - Dichloropropylene	0.50	0.12
Ethylbenzene	0.24	0.09
Methylene Chloride	0.11	0.02
Methyl Chloride	0.18	0.07
Hexachlorobutadiene	0.24	0.09
Nitrobenzene	4.01	1.40
2 - Nitrophenol	0.14	0.04
4 - Nitrophenol	0.36	0.10
4,6 - Dinitro - o - cresol	0.17	0.05

ENV - 38080

Sewer Use Discharge Permit

Permit No: 40 004 688-0

40 C.F.R. 414 - Organic Chemicals, Plastics, & Synthetic Fibers
Point Source Category (continued)

Subpart D - Thermoplastic Resins § 414.45
Pretreatment Standards for Existing Sources (PSES)

Pollutant	Maximum for any 1 day (lbs/day)	Maximum for any Monthly Average (lbs/day)
Tetrachloroethylene	0.10	0.03
Toluene	0.05	0.02
Trichloroethylene	0.04	0.02
Vinyl Chloride	0.11	0.06
Total Cyanide	0.76	0.26
Total Lead	0.43	0.20
Total Zinc	1.64	0.66

NOTE: The discharge quantity (mass) is determined by multiplying the process wastewater flow subject of this subpart (75,000 gpd) times the concentration listed in the Table 40 CFR 414 (Subpart D).

NOTE: The permittee shall comply with the most stringent of the EPA National Categorical Pretreatment Standards, State or Local requirements, or the limits and prohibitions contained in C.M.R. 10.023 and 10.024.

ENV - 38081

0045-0439

Sewer Use Discharge Permit

Permit No: 40 004 688-0

II. MWRA Discharge Limitations

The Permittee shall comply with the Specific Discharge Limitations/Local Limits contained in the MWRA Sewer Use Rules and Regulations, 360 C.M.R. 10.024.

Any discharge of the following materials is prohibited:

(a) Mercury;
(b) PCBs;
(c) Pesticides, including but not limited to, Dieldrin, Chlordane, 4-4 DDT, Endosulfan I, Endosulfan II, Guthion, Heptachlor, Malathion, Methoxychlor, Mirex, Parathion, Acrolein, Aldrin, Hexachlorocyclopentadiene and Toxaphene.

No discharge into the MWRA Sewerage System shall exceed the following limitations:

Pollutant	Daily Average Limit (mg/l)
Antimony	10.0
Arsenic (III)	0.5
Boron	5.0
Cadmium	0.1
Chromium (hexavalent)	0.1
Copper	1.5
Cyanide	0.5
Lead	0.4
Nickel	1.0
Selenium	5.0
Silver	2.0
Zinc	1.0
Chromium (total)	1.0
Chlorinated Naphthalenes	0.8
Fluoranthene	1.5
Hexachlorobutadiene	3.0
Pentachlorophenol	0.05
Phenol	5.0
Phenolic Compounds	0.5
TTO (any one Toxic Organic not elsewhere limited in these regulations may not exceed 1.0 mg/l)	5.0

The discharge prohibitions for the following are stated in the Specific Prohibitions section below.

Petroleum hydrocarbons	10.023(3)
pH	10.023(6)
Fats, oils, and grease	10.023(10)

The permittee shall comply with the limits and prohibitions set forth in Part B according to the sample type required by the Sampling and Reporting Schedules of Part A.

ENV - 38082

0045-0440

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART B - Discharge Limitations

Dilution Prohibition

The attempt to achieve compliance with the discharge limitations of these regulations by dilution, including increased use of process water, as a substitution for adequate treatment is prohibited.

Specific Prohibitions

The permittee shall comply with all the Specific Prohibitions contained in the MWRA Sewer Use Rules and Regulations, 360 C.M.R. 10.023.

The following discharges are specifically prohibited:

1. Ground, storm, and surface waters, roof and surface runoff, tidewater, and subsurface drainage.

2. Non-contact cooling water and non-contact industrial process waters or uncontaminated contact cooling water and uncontaminated industrial process water.

3. Fuel oils, crude oils, lubricating oils or any other oils, or greases of hydrocarbon or petroleum origin in excess of 15 milligrams per liter.

4. Any liquids, solids or gases which by reason of their nature and quantity are, or may be sufficient either alone or by interactions with other substances to cause fire or explosion or be injurious in any other way to the MWRA sewerage system or receiving waters. At no time shall a reading on any explosion meter at the point of discharge to the sewer or at any point therein exceed 10 percent of the lower explosive limit of the meter. Substances regulated hereby include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, and methyl ethyl ketone and any other substances which the MWRA, DEP, local municipality or EPA has notified the permittee is a fire hazard or a hazard to the MWRA sewerage system or receiving waters.

5. Any noxious or malodorous liquids, gases, or solids which either singly or by interaction with other wastes are sufficient to create a public nuisance or are sufficient to prevent entry into the sewers for maintenance and repair.

6. Waters or wastes having a pH lower than 5.5 or higher than 10.0 or having other corrosive or injurious properties capable of causing damage or hazard to structures, equipment, sewerage systems, and personnel. If National Pretreatment Standards promulgated by the EPA impose more stringent standards, affected permittees within that category must comply with the more stringent limitations.

7. Waters or wastes which adversely affect the MWRA's ability to dispose of its wastewater residuals in an environmentally sound and economic manner in accordance with applicable state and federal requirements.

8. Solids or viscous substances in quantities or of such size as to be capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewerage system, such as, but not limited to, sand, mud, metal, glass, wood, plastics, improperly shredded garbage, rubber, latex, lime or other slurries, grease, animal guts or tissues, bones, hair, hides or fleshings, entrails, feathers, ashes, cinders, stone or marble dust, straw, shavings, grass clippings, rags, spent grains, spent hops, tar, asphalt residues, residues from refining or processing of fuels or lubrication oil, or glass grindings or polishing wastes.

9. Liquids or vapors having a temperature higher than 82 degrees centigrade or 180 degrees fahrenheit unless the MWRA approves alternative temperature limits but in no case heat in such quantities that it may cause the temperature at the MWRA treatment facility to exceed 40 degrees centigrade or 104 degrees fahrenheit.

ENV - 38083

0045-0441

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART B - Discharge Limitations

Specific Prohibitions (continued)

10. Waters or wastes containing fats, wax, grease or oils, not specifically prohibited in 360 C.M.R. 10.023(3) in excess of 100 mg/l or containing other substances which may solidify or become viscous at temperatures between 32 degrees fahrenheit or 0 degrees centigrade, and 180 degrees fahrenheit or 82 degrees centigrade. Waters or wastes containing such substances, excluding normal household waste, shall exclude all visible floating oils, fats, and greases. The use of chemical or physical means to bypass or release fats oils, and greases into any sewer is prohibited.

11. Waters or wastes containing amounts of toxic or objectionable metals or non-metals in excess of the limits contained herein or as designated by the MWRA or in the Sewer Use Discharge Permit; such designation shall be made in accordance with the criteria contained in 360 C.M.R. 10.021.

12. Radioactive wastes or isotopes of such half-life or concentrations as may exceed limits established by federal or state regulations.

13. Sludge.

14. Substances exerting or causing turbidity or discoloration in such quantities as to change noticeably the color of the wastewater at the sewerage treatment facility including, but not limited to, dye waters and vegetable tanning solutions

15. Slugs.

16. Hazardous Waste or wastewater resulting from treatment of hazardous or toxic wastes as designated under state and federal law, and discharged to the MWRA sewerage system by dedicated pipe, truck, or rail.

17. Septage originating from outside the MWRA sewerage district, or septage containing any form of hazardous waste, or septage from haulers other than those listed pursuant to 360 C.M.R. 10.024(3).

18. Discharges containing pathogenic organisms in such quantities as determined by appropriate local, federal and/or state officials to be a hazard to public health.

19. Filter backwash from industrial pretreatment processes or wastewater treatment plants unless specifically authorized by the MWRA.

ENV - 38084

0045-0442

Sewer Use Discharge Permit

Permit No: 40 004 688-0

PART C - Permit Conditions

The permittee shall comply with all requirements contained in the MWRA Sewer Use Rules and Regulations, 360 C.M.R. 10.000. Those requirements include, but are not limited to, compliance with:

Pretreatment

The permittee shall provide pretreatment as is required to comply with this permit. When a pretreatment facility is required, it shall be constructed and maintained continuously in satisfactory and effective operation by the permittee at its own expense.

Operators of individual Wastewater Pretreatment facilities must possess the appropriate operators' licenses required by applicable state law or regulations including, without limitation, 257 C.M.R. 2.00.

Bypass Prohibition

A bypass is an intentional or negligent diversion of a wastestream to the MWRA sewer system (by direct or indirect means) from any portion of the permittee's pretreatment facility, or from any industrial process or other source of wastewater prior to pretreatment. A bypass is prohibited. Further, no pretreatment facility, production line, or other source of wastewater shall be designed, installed, modified, or operated to allow for a bypass of all or a portion of its pretreatment equipment.

Right of Entry

The permittee shall allow representatives of the MWRA, Municipality, DEP, and EPA ready access at all reasonable times to all parts of the premises where wastewater is generated or discharged or in which records are required to be kept under 40 C.F.R. 403.12(m) for inspection, sampling or record examination and copying, or in performance of any of their duties.

Notification of Noncomplying Discharges

The permittee shall notify the MWRA and the Municipality immediately by telephone upon the occurrence of an accidental discharge of substances prohibited or limited by this permit or by 360 C.M.R. 10.021 - 10.024, or of any slug loads or spills that may enter the sanitary sewer from the permittee's facility. During normal business hours the MWRA should be notified by telephone at 242-7310. At all other times the MWRA should be notified by telephone at (617) 846-5800 after 5:00 p.m. Monday - Friday or weekends and holidays. The notification shall include location of the discharge, date and time thereof, type of waste, including concentration and volume, and corrective actions taken. The permittee's notification of accidental release in accordance with this section does not relieve it of other reporting requirements that arise under local, State, or Federal laws, regulations, or this permit.

This notification shall be followed, within 15 calendar days of the date of occurrence, by a detailed written statement to the MWRA and the Municipality describing the causes of such discharge and the measures being taken to prevent future occurrence.

ENV - 38085

0045-0443

PART C - Permit Conditions

Notification of Noncomplying Discharges (continued)

The notification shall provide the following information:

(1) Description of the discharge, type of waste, concentration and volume.

(2) Duration of noncompliance, including exact dates and, if the noncompliance continues, the time by which compliance is reasonably expected to occur.

(3) All steps taken or to be taken to reduce, eliminate, and prevent recurrence of such an upset or other condition of noncompliance.

Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact to the MWRA treatment plants or the environment resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

Duty to Notify

The permittee shall notify the MWRA at least thirty days prior to any change at the facility (for example: expansion, production increase, process modifications, changes to pretreatment system or the operation of the pretreatment system) which results or may result in a change in the volume or nature of its discharge.

Posting Requirements

The permittee shall inform its employees of the existence of the MWRA Sewer Use Rules and Regulations, 360 C.M.R. 10.000, and this permit, and at least one copy of each shall be permanently posted on the permittee's bulletin board. The permittee shall permanently post a notice clearly visible at all times on the permittee's bulletin board, which lists the individual responsible for compliance with MWRA regulations and whom should be notified of any upsets or noncomplying discharges. The permittee shall distribute a copy of this Permit to each employee working in pretreatment operations.

Confidentiality

In accordance with Title 40 of the Code of Federal Regulation Part 403, Section 403.14 and M.G.L. c. 21 and 27, information and data provided in this permit and the reports submitted in accordance with this permit which identifies the nature and frequency of discharge shall be available to the public without restriction. Requests for confidential treatment of other information shall be governed by procedures specified in 40 C.F.R. part 2 and 360 C.M.R. 10.008.

ENV - 38086

Resins

Sent 10/27/8
dr

ICI Resins US
730 Main Street
Wilmington
Massachusetts 01887-0677
Telephone [redacted]
Telex 200240
Fax (617) 657-7978

AFFIDAVIT OF ROBERT C. FREDETTE:
County of Middlesex, Commonwealth of Massachusetts

Robert C. Fredette being duly sworn deposes and says:

1. That I am Director of Finance of ICI Resins US and as such, have personal knowledge as to the corporate history of ICI Resins US, as set forth below:

2. That through an acquisition in 1985, Polyvinyl Chemical Industries became Polyvinyl Chemicals Inc., a Delaware Corporation.

3. That on January 1, 1987 Polyvinyl Chemicals Inc. was merged into ICI Americas Inc., a Delaware Corporation as evidenced by the Certification of Merger filed with the Secretary of State of Delaware on, December 29, 1986, a copy of which is attached hereto as Exhibit A.

4. That subsequent to the merger, the entity formerly Polyvinyl Chemicals Inc. transacted its business as Polyvinyl Chemicals, a business unit of ICI Americas, Inc.

5. That on May 1, 1988 Polyvinyl Chemicals changed its business name to ICI Resins US, a business unit of ICI Americas, Inc.

6. That the business now known as ICI Resins US is identical to those entities formerly known as Polyvinyl Chemical Industries, Polyvinyl Chemicals Inc. and Polyvinyl Chemicals.

IN WITNESS WHEREOF, I, ROBERT C. FREDETTE, HAVE HERE UNTO SET MY HAND ON THE RESPECTIVE DAY SET FORTH BELOW.

ROBERT C. FREDETTE
DIRECTOR OF FINANCE

10/27/88
DATE

0045-0445

ENV - 29675

State of Delaware

Office of the Secretary of State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT "POLYVINYL CHEMICALS INC." HAS FILED THE FOLLOWING DOCUMENTS:

CERTIFICATE OF INCORPORATION, FILED THE TWENTY-SECOND DAY OF APRIL, A.D. 1985, AT 9 O'CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE SEVENTH DAY OF OCTOBER, A.D. 1986, AT 9:01 O'CLOCK A.M.

CERTIFICATE OF MERGER, FILED THE TWENTY-NINTH DAY OF DECEMBER, A.D. 1986, AT 9 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CERTIFICATES ARE THE ONLY CERTIFICATES ON RECORD OF THE AFORESAID CORPORATION.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

2059993 8340

AUTHENTICATION: 1052312

010154403

DATE: 03-29-01

0045-0446

State of Delaware

Office of the Secretary of State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"POLYVINYL/PERMUTHANE CO.", A DELAWARE CORPORATION,

WITH AND INTO "POLYVINYL CHEMICALS INC." UNDER THE NAME OF "POLYVINYL CHEMICALS INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, WAS RECEIVED AND FILED IN THIS OFFICE THE SEVENTH DAY OF OCTOBER, A.D. 1986, AT 9:01 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CORPORATION SHALL BE GOVERNED BY THE LAWS OF THE STATE OF DELAWARE.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

0045-0447

2059993 8330

010156967

AUTHENTICATION: 1055344

DATE: 03-30-01

State of Delaware

Office of the Secretary of State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE CERTIFICATE OF MERGER, WHICH MERGES:

"ARBCO ELECTRONICS INC.", A DELAWARE CORPORATION,

"ATLAS CHEMICAL INDUSTRIES, INC.", A RHODE ISLAND CORPORATION,

"ATLAS CHEMICAL INDUSTRIES, INC.", A TEXAS CORPORATION,

"ATLAS CHEMICAL INDUSTRIES, INC.", A OREGON CORPORATION,

"ATLAS CHEMICAL INDUSTRIES, INC.", A CALIFORNIA CORPORATION,

"CONVERTER'S INK CO.", A DELAWARE CORPORATION,

"ICI SPECIALTY CHEMICALS INC.", A DELAWARE CORPORATION,

"IMPERIAL OIL AND GREASE CO.", A DELAWARE CORPORATION,

"KATALCO CORPORATION", A DELAWARE CORPORATION,

"LNP CORPORATION", A DELAWARE CORPORATION,

"PERMUTHANE INC.", A DELAWARE CORPORATION,

"POLYVINYL CHEMICALS INC.", A DELAWARE CORPORATION,

"STAHL CHEMICAL CO.", A DELAWARE CORPORATION,

"THORO SYSTEM PRODUCTS, INC.", A DELAWARE CORPORATION,

WITH AND INTO "ICI AMERICAS INC." UNDER THE NAME OF "ICI AMERICAS INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

2059993 8330

010156967

AUTHENTICATION: 1055343

DATE: 03-30-01

LAWS OF THE STATE OF DELAWARE, WAS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-NINTH DAY OF DECEMBER, A.D. 1986, AT 9 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CORPORATION SHALL BE GOVERNED BY THE LAWS OF THE STATE OF DELAWARE.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

2059993 8330

010156967

AUTHENTICATION: 1055343

DATE: 03-30-01

0045-0449

State of Delaware

Office of the Secretary of State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT THE SAID "ICI AMERICAS INC.", FILED A CERTIFICATE OF AMENDMENT, CHANGING ITS NAME TO "ZENECA INC.", THE TWENTY-EIGHTH DAY OF DECEMBER, A.D. 1992, AT 10 O'CLOCK A.M.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

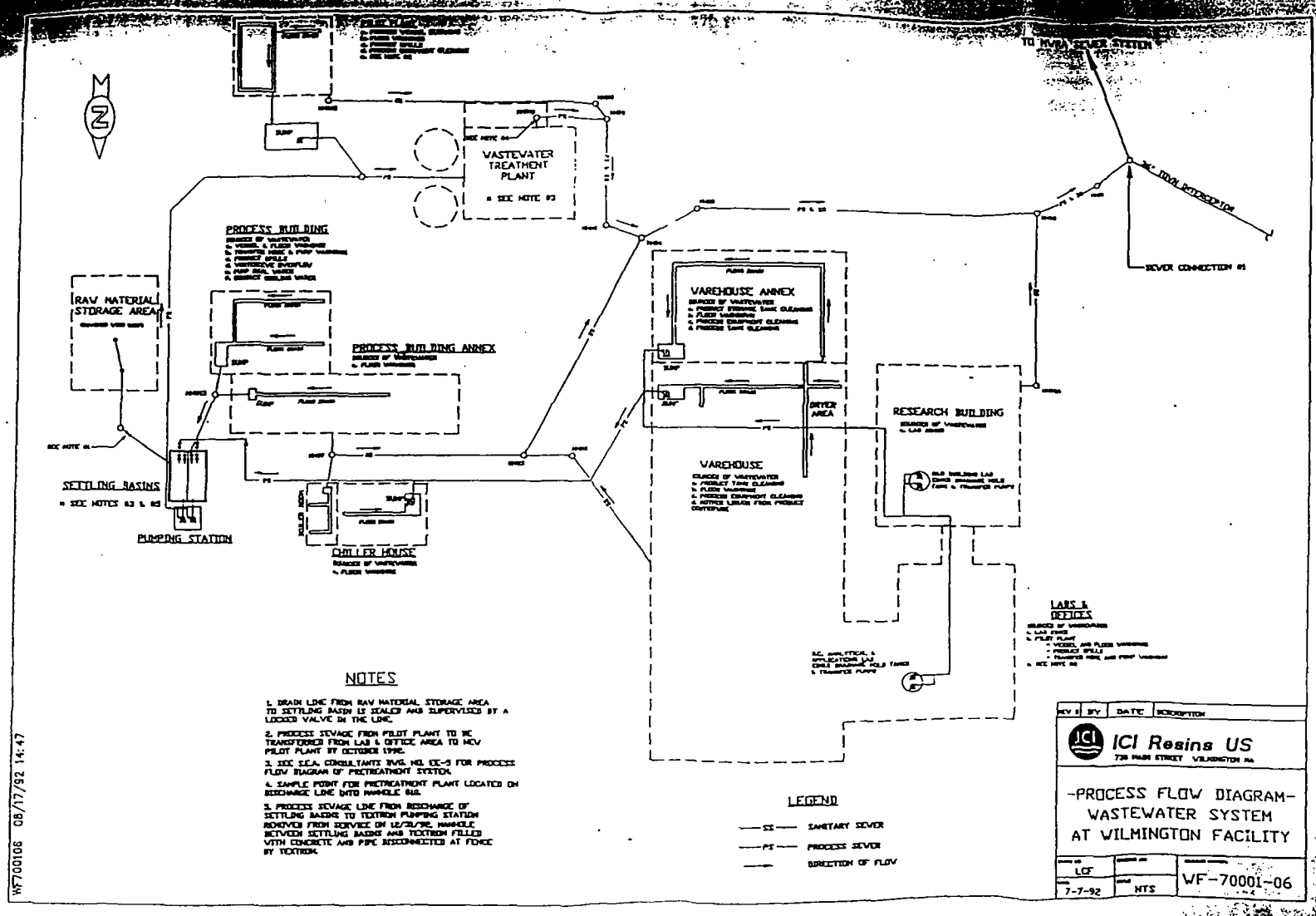
0771654 8320

010154403

AUTHENTICATION: 1052313

DATE: 03-29-01

0045-0450



ENV-38065

0045-0451

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Hazardous Waste

32000
Transmittal #

116360
Facility ID (if known)

BWP HW 01 Hazardous Waste - Level 1
BWP HW 02 Hazardous Waste - Level 2
BWP HW 03 Hazardous Waste - Level 3

Hazardous Waste Recycling Summary

A Facility

ICI Resins US
Name of Facility

MAD 048269 062
EPA Identification Number

Jim Karlis
Person Responsible for Supervising Recycling Activity

B Description of Recycling Activity

1. Recycling Permit Applied For:

Level	Class	Regulatory Citation
One	"A"	310 CMR 30.212 (1)

(see Recycling Permit Guide Chart for assistance)

2. Describe recycled material and its waste code.

Spent alkaline, aqueous cleaning solution. D002

3. Describe proposed recycling activity, including amount/year to be recycled.

Spent alkaline solution will be used for adjusting the pH of effluent going to the Wastewater Treatment Plant. Up to 20,000 gallons could be recycled.

4. Describe plans for storage prior to recycling, if any, and steps taken to ensure that speculative accumulation of the recyclable material will not occur.

Speculative accumulation will not occur because we expect to generate less than 10,000 gallons in a year. In the event that more than 20,000 gallons of this spent material were generated in one year, the excess material would be managed as hazardous waste. The material will be packed into DOT specification steel drums or totes of a type compatible with this material in a concrete bermed area with an impervious base.

C Attachments

1. Depending on the type of recycling activity proposed, the applicant may need to complete a Recycling Data Sheet(s) to provide the additional information necessary to complete the requested review. Is a Recycling Data Sheet(s) attached?

☐ Yes ☒ No

If Yes, specify which Recycling Data Sheet(s) is attached.

2. This application is made up of a total of _____ pages of additional information (not including this form).

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Hazardous Waste

32000
Transmittal #

116360
Facility ID (if known)

BWP HW 01 Hazardous Waste - Level 1
BWP HW 02 Hazardous Waste - Level 2
BWP HW 03 Hazardous Waste - Level 3

Hazardous Waste Recycling Summary

D Confidentiality Request

Application is hereby being made to hold the following pages of text confidential :

Note: Those pages identified above as requiring confidentiality must be clearly marked "confidential." (See 310 CMR 3.00)

E Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment.

Uday D. Wagle

Print Name

Authorized Signature

Plant Manager

Position/Title

August 7, 1992

Date

ENV - 30117

0045-0453

Massachusetts Department of Environmental Protection

Supplemental Transmittal Form

(to accompany supplementary material for previously submitted applications)

Transmittal Number

32000 (from upper right-hand corner of application's ORIGINAL 4-part DEP Transmittal Form for Permit Application and Payment)

Facility Information

ICI Resins US
Facility Name

730 Main Street
Facility Address

Wilmington — (508) 658-6600
City/Town — Telephone

Permit Information

Permit Name: Hazardous Waste - Level 1

Permit Category: B W P H W 0 1
(seven character code from title of original application)

Type of Submittal

X Response to Request for Additional Information (per 310 CMR 4.04(2)(c))

___ Response to a Statement of Administrative Deficiency (per 310 CMR 4.04(1))

___ Response to a Statement of Technical Deficiency (per 310 CMR 4.04(2))

___ Withdrawal of Application

___ Other (please specify) _____

Application Prepared By

Uday D. Wagle
Name — Affiliation

730 Main Street - Wilmington, MA
Address

Contact — Telephone

Submit to:
DEP Permitting Location for Primary and Reserve copies as indicated in the Permit Guide for appropriate category.

(REV 1/91)

ENV - 30118

0045-0454

OCT. 28 '92 18:05 LAID

Voucher # 82056

LAIDLAW
WASTE SYSTEMS

THIS IS
INVOICE

ACCOUNT NO. 012000
BALANCE DUE 7449.00

AMOUNT PAID

ICI RESINS US
730 MAIN STREET
WILMINGTON, MA
01887

LAIDLAW WASTE SYSTEMS, INC.
PLAINVILLE, MA

REMIT TO LAIDLAW WASTE SYSTEMS, INC.
14 BELCHER STREET
PLAINVILLE, MA 02762

77702702012006007469000000

PLEASE DO NOT STAPLE

REFER ALL INQUIRIES TO: (508) 699-2267
LAIDLAW WASTE SYSTEMS, INC.
INVOICE: 20920-007

ACCOUNT NO. 012000
14 BELCHER STREET
PLAINVILLE, MA

DATE			
	BALANCE FORWARD		0.00
09/18/92	170090 ICI RESINS US	26.06 TN	1443.60
09/18/92	170173 ICI RESINS US	24.36 TN	1472.40

Pay # 42966
OK to Pay
10/28/92

APPROVE FOR PAYMENT
DEPT TO CHARGE
CLOSE OUT BALANCE Y/N

LAIDLAW WASTE SYSTEMS 09/28/92
TERMS: NET 10 DAYS
INTEREST ON OVERDUE PAYMENTS OF 1.50% PER MONTH
7449.00

CURRENT	TOTAL 30 DAYS	TOTAL 60 DAYS	TOTAL 90 DAYS & OVER
7,449.00	0.00	0.00	0.00

7449.00
BALANCE DUE

WEIGHT - 124.15 YARDS - 0.00 ITEMS - 0 LOADS - 0

PAYMENTS OR CHARGES NOT SHOWN WILL APPEAR ON NEXT MONTH'S INVOICE

OCT 28 '92 11:05 5086431219 PAGE.002

ENV - 30329

Voucher # 83863

Richard Iovino, Inc. Excavating

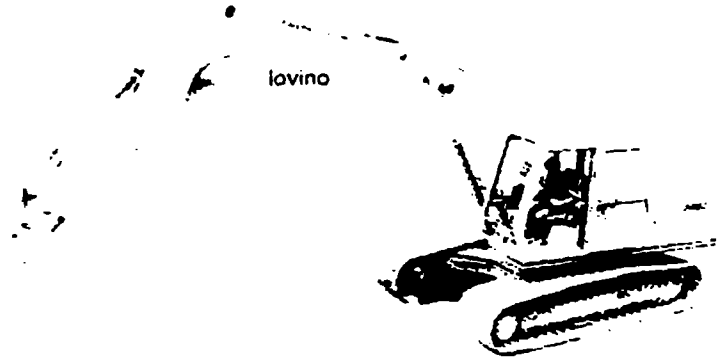
21 Independence Road Bedford, MA 01730 (617) 275-3046

P.O. #	Invoice Date
43242	10-5-92

TO: ICI Resins US

730 Main St.

Wilmington, Ma. 01887-0677



Date	Description	Unit Price	Amount
	Load Material On Trucks		
	Loader 6 Hrs.	65.00	390.00
	TOTAL =		$ 390.00

10/20 Larry

APPROVE FOR PAYMENT
DEPT TO CHARGE
RETURN TO MMA TAP
CLOSE OUT BALANCE Y/N

OK to Pay JCF

ENV - 30330

ICI Resins US

ICI Resins US
730 Main Street
Wilmington
Massachusetts 01887-0677
Telephone (508) 658-6600
Telex RCA 200240
Fax (508) 657-7978

May 7, 1990

Mr. Carl G. Buzawa, Vice-president
Textron Defense Systems
201 Lowell Street
Wilmington, MA 01887

Dear Mr. Buzawa,

With respect to your letter dated 5/2/90, it was our understanding that our waste water was being pumped via the Textron pumping station under an agreement executed between Avco and Polyvinyl Chemical Industries. Polyvinyl was then part of the Beatrice Chemical Division of Beatrice Foods, and we believe the original document dates from about 1967. We assumed that the agreement applied to successor companies, that is to ICI Resins US (a business unit of ICI Americas Inc.) as successors to Polyvinyl and Textron Defense Systems (a subsidiary of Textron, Inc.) as successor to Avco.

We are in the process of designing an industrial waste water treatment system for the Wilmington site. As a part of this project we will be constructing a pipeline from the new waste water plant to the interceptor sewer that cuts across our property at Route 38 near the rail overpass. We are pushing hard to design and construct this facility for start up by Nov. 1990. At that time both our sanitary and our industrial waste water would be diverted from the Textron pumping station to the interceptor. However since there is a lot of state and local permitting to be cleared before this can happen we would like to keep the Textron pumping capability until the waste water treatment project is once and for all in operation.

I have enclosed a copy of our letter to the DEP notifying them of the contamination detected on our site. A separate copy will be sent to Mr. Pinciaro.

We have appreciated the relationship that developed between our two companies over the years and we will work to maintain that good relationship. Our General Manager (Dr. Robert A. Krueger) and

ENV - 38329

Director of Manufacturing, Engineering and SHE (Dr. Will Barton) would welcome the opportunity to visit you to discuss this further, though they are unfortunately unavailable together until after May 16th.

Sincerely yours

William P. Blagbrough/pp

William P. Blagbrough
Engineering Manager

90042.WPB.pmm

ENV - 38330

ICI Resins US

March 22, 1990

ICI Resins US
730 Main Street
Wilmington
Massachusetts 01887-0677
Telephone (508) 658-6600
Telex RCA 200240
Fax (508) 657-7978

Massachusetts Department of Environmental Protection
Metropolitan Boston-Northeast Region
Five Commonwealth Avenue
Woburn, MA 01801

Attention: Mr. John Fitzgerald, Section Head for Site Assessment

RE: Case # 3-2549

Dear Mr. Fitzgerald:

This is to confirm my telephone notification of March 20, 1990 to Ms. Ida Babroudi. During the course of site planning for a new waste water treatment plant, standing water in a swale on the boundary of the operating plant area that appears to be contaminated was discovered.

Analysis of this water by a certified laboratory has shown it to contain both toluene and styrene. The presence of these substances cannot be explained in the context of our current operations. We are proceeding with plans to investigate further to locate the source and to determine what has caused this problem.

A more complete report will be filed as soon as more information is available.

Sincerely,

James F. Tynan, C.S.P.
Manager-Safety, Health
and Environment

JFT:eam
90125.JFT

CC: Greg Erickson, Wilmington L.E.P.C.

BCC: WB JHK
WPB RAK
KSM

ENV - 38331

1999 Annual Review

Leading innovation in world healthcare

0045-0460

CONTENTS

Chairman's Introduction	1
Chief Executive's Review	2
Group Review	4
Group Strategy	6
AstraZeneca in Healthcare	7
Major Pharmaceutical Products	8
Pharmaceutical Product Review	9
Other Healthcare	15
Pharmaceutical Research and Development	16
Pharmaceutical Portfolio Management, Manufacturing, Sales and Marketing	19
Zeneca Agrochemicals	20
Marlow Foods	21
People, Community and Environment	22
Corporate Governance	26
Board of Directors	27
Summary Financial Review	28
Summary Financial Statement	31
Group Profit and Loss Account	32
Group Balance Sheet	34
Statement of Group Cash Flow	35
Notes to the Summary Financial Statement	36
Group Financial Record	38
Shareholder Information	40

In April 1999, Astra AB and Zeneca Group PLC merged to form AstraZeneca, one of the world's leading pharmaceutical and agrochemical companies, which provides innovative, effective products to improve health, nutrition and quality of life worldwide. The company is research and technology intensive, with extensive international development and marketing skills. Its healthcare business is strategically focused on seven major therapeutic areas: gastrointestinal, oncology, pain control and anaesthesia, cardiovascular, central nervous system, respiratory and infection. Zeneca Agrochemicals provides crop protection products designed to improve crop yields and food quality.

Trade marks of AstraZeneca group companies appear throughout this document in italics.

AstraZeneca, the AstraZeneca logotype and the AstraZeneca symbol are all trade marks of the AstraZeneca group of companies.

All figures quoted on pages 1 to 7 are on a pro forma basis and at constant currency, unless otherwise stated.

The contents of this AstraZeneca Annual Review are derived wholly and exclusively from the AstraZeneca Annual Report and Form 20-F for the financial year ended 31 December 1999, to which the reader is referred for additional analytical information.

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0045-0461

A new force

As Chairman of AstraZeneca, it gives me great pleasure to report on the impressive progress that has been made in establishing a new and vibrant player in the global pharmaceuticals market. I have some experience of the challenges associated with mergers and am fully aware of the pitfalls that lie in wait for the unwary. In any industry, a successful integration depends on clarity of purpose, clear leadership and, above all, speed. Cross-border mergers easily give rise to nationality tensions as restructuring takes place and new responsibilities are defined. The Chief Executive, Tom McKillop, and his executive team have set the tone and achieved a remarkable spirit and sense of unity within AstraZeneca. What has been achieved is impressive by any standards. It is all the more satisfying to recognise that the business has continued to flourish during this period of great change.

Both Astra and Zeneca were great companies in their own right, proud of their histories, with strong, independent cultures and each was intent on building a better future. Twelve months on, a more powerful entity is emerging which incorporates much that was good from its predecessors but with a new and different approach and style. AstraZeneca is now intent on establishing itself as one of the leaders in the industry.

At the start of the year we identified opportunities, across the organisation, for rationalisation, which was required in order to create the efficiency and effectiveness needed to deliver industry-leading performance. The management team has addressed this challenge head on and is now in a position to be able to see the benefits of scale, both in the delivery of the promised synergy benefits to the bottom line and, more importantly, in the emergence of an organisation which will be able to compete with the best in the industry.

The business performed well during 1999, meeting or exceeding expectations. Group sales increased by 9%, with operating profit before exceptional items growing by 12%. Earnings per share before exceptional items increased by 14% to $1.54. Synergies of $130 million out of the target of $1.1 billion have been delivered and AstraZeneca's financial performance will continue to improve as a well planned process of integration continues to deliver its benefits. The second interim dividend of $0.47 per Ordinary Share, which will be paid on 17 April 2000, brings the dividend for the full year to $0.70.

In August 1999, we announced our intention to maintain a distribution policy which includes both a regular dividend cash flow and a share repurchase component to give the company more flexibility in managing its capital structure over time. The share repurchase programme started towards the end of 1999 with the buy-back of 4,338,444 Ordinary Shares for an aggregate sum of $183 million. The programme will continue in 2000 with further repurchases being made.

The requirement to undertake global restructuring within the pharmaceuticals business has not deflected the executive team from its objective of converting AstraZeneca from a bioscience business into an essentially pure healthcare company. This strategy was seen as the most effective way to realise the intrinsic value of the company's specialty chemicals and agrochemicals businesses, leaving a pharmaceuticals business of impressive size and global reach to pursue its objectives single-mindedly. The completion during 1999 of the sale of the Zeneca Specialties businesses for $2 billion and, latterly, the announcement of the intention to merge the Zeneca Agrochemicals business with the agrochemicals and seeds businesses of Novartis to create Syngenta takes AstraZeneca well down its chosen road.

AstraZeneca's achievements in 1999 are a tribute to the excellent performance by Tom McKillop and the Senior Executive Team, the good working relationship with the Board and the skills, quality and enthusiasm of employees. The new business is undoubtedly off to a very good start and I am certain that it can fulfil its aim of becoming a true leader in its field.

I would like to thank all my colleagues on the Board and the Senior Executive Team for the key contribution they have made. Thanks are also due to the Directors of the former Astra and Zeneca companies who retired earlier this year; their contributions over the years are very much appreciated.

Finally, on behalf of the Board, I would like to thank, firstly, AstraZeneca employees throughout the world without whose skill and dedication we would have failed and, secondly, our shareholders for their faith in our ability to succeed. We fully intend to reward that faith by continuing to deliver true value.

Percy Barnevik
Chairman

0045-0462

Delivering the benefits

1999 has been a year of great challenge and excitement. We set out with ambitious goals and have met or exceeded these. The merger was completed in record time, a new, single, integrated organisation has been put in place and the group's portfolio of businesses has been restructured to focus on healthcare. AstraZeneca increased its market share of the world pharmaceuticals' market in 1999, a first for a pharmaceuticals merger of this size.

Achievements such as these are a testament to the energy and creativity of all my colleagues in AstraZeneca and I would like to thank every employee for their commitment and contribution.

At group level, good financial growth has been achieved with sales up 9% and operating profit before exceptional items up 12%, primarily driven by the performance of the ongoing businesses which achieved a 17% increase in sales and a 20% increase in operating profits over the full year.

The pharmaceuticals business showed sales growth of 18% and profits growth before exceptional items of 19%. *Losec/Prilosec* sales of $5.9 billion continued to make a major contribution with sales growth of 24% and the performance of newer products such as *Casodex* (up 41%), *Atacand* (up 312%) and *Seroquel* (up 254%) represent very positive pointers for the future. The strong sales growth in the US of 23%, reflects our commitment to the world's most important market for pharmaceuticals.

The agrochemicals business, soon to become an integral part of Syngenta, showed a sales and profits decline of 5% and 21% respectively as poor trading conditions in the Americas impacted performance. *Amistar* continues to excel, posting a sales increase of over 40% during the year, to become the largest proprietary fungicide in the industry.

I want AstraZeneca to be one of the world's great companies through leading innovation and the delivery of value to all our stakeholders, be they patients, customers, the communities in which we work, shareholders or employees. We are privileged to have the opportunity to make a difference to human health and we take our obligation seriously.

Our strategy is clear, to grow the value of the company through serving the needs of customers and, in particular patients, with new, effective treatments for disease. Likewise, the immediate business priorities are established and are being actively addressed. Speedy completion of the integration is a high priority. Excellent progress has been made towards this and we are increasingly confident of delivering the $1.1 billion of synergies envisaged at the time of announcing the merger.

It is essential that we realise the full sales potential of our established product range, in particular those products launched in the last five years such as *Casodex*, *Atacand* and *Seroquel*. Equally, we must realise the potential of our new R&D products. *Nexium* will deliver improved customer value in the treatment of acid-related gastrointestinal disease and our portfolio of late stage development compounds includes several other products of substantial potential. We are particularly excited about the prospects for the superstatin ZD4522 for the treatment of lipid disorders, *Viozan* for chronic obstructive pulmonary disease, melagatran and H376/95 for thrombosis and *Iressa* for cancer. All of these products are on track to reach the market by 2002, with the first launches of *Nexium* scheduled within the next few months.

Our research base has been strengthened by the creation of centres of excellence in Sweden and the UK and an expansion of research in America in line with our objective of 'winning in the US'. More effort is also being committed both in-house and via collaborations to establish leading positions in those key enabling technologies which will give competitive advantage.

Our first Annual Report as AstraZeneca is also the first of a new millennium and this year, more than ever, it is appropriate for us to consider the broader environment in which we operate. It is clear that change, paradoxically, is the only constant. We stand on the threshold of a technological revolution in our science base, driven by the potential of pharmacogenetics and genomics. At the same time the explosion of the internet and e-commerce has the potential to change for ever the nature of our customer base and the way we communicate and do business with them. Add to this a degree of political uncertainty as governments worldwide wrestle with the growing problem of matching their ability to fund healthcare with inexorably increasing demand and we have a complex and challenging picture.

0045-0463

Tom McKillop speaking to AstraZeneca employees worldwide via video link on the day the new unified company was launched

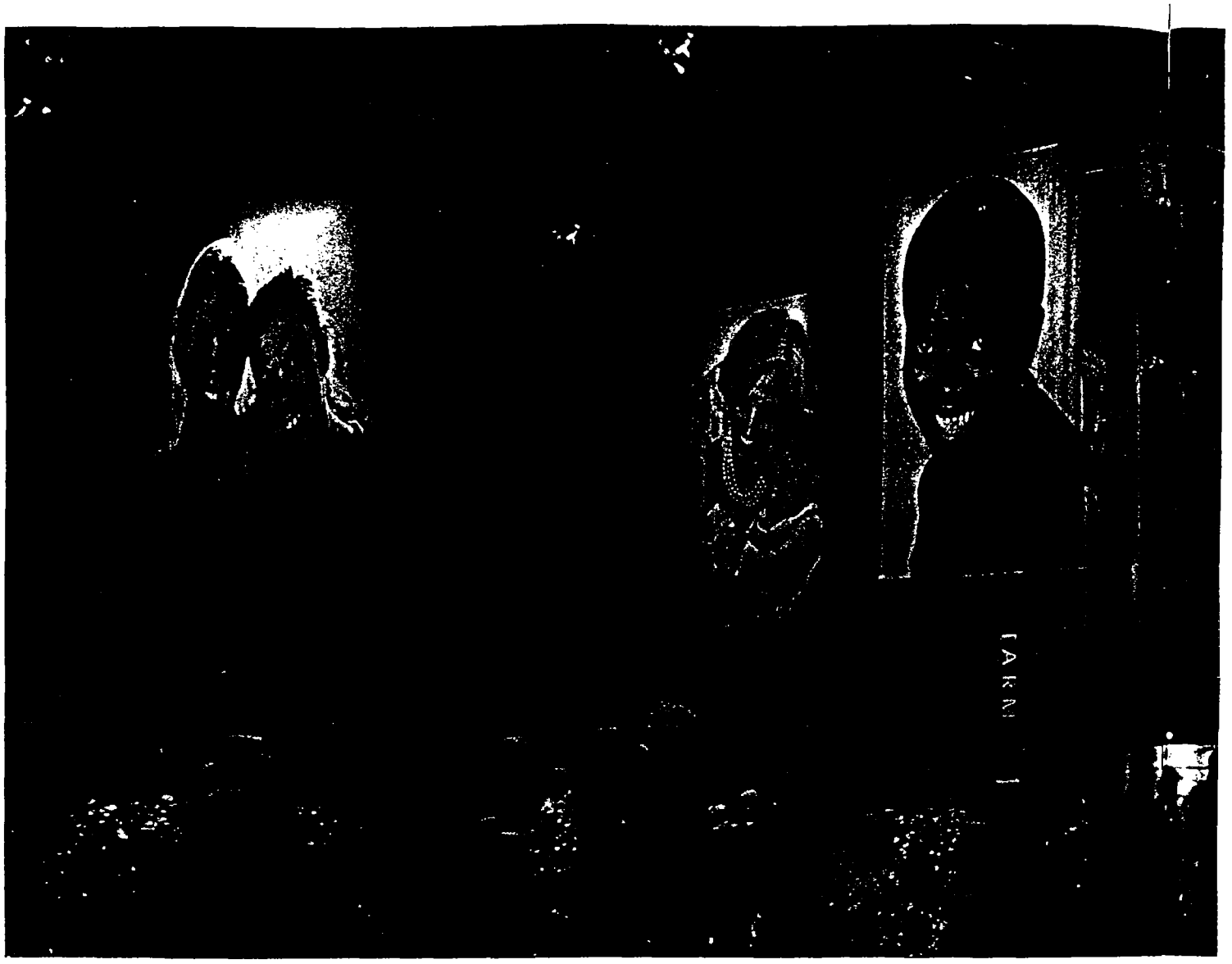
The R&D based pharmaceutical industry, in partnership with governments, regulators and healthcare providers, is well positioned to provide solutions which deliver improved healthcare and quality of life.

In AstraZeneca, we face the future with confidence, ready to embrace the challenges. I feel proud and privileged to have been appointed AstraZeneca's first Chief Executive. I believe we have the people and products to deliver an industry leading performance and in so doing create one of the world's great enterprises.

Tom McKillop

Tom McKillop
Chief Executive

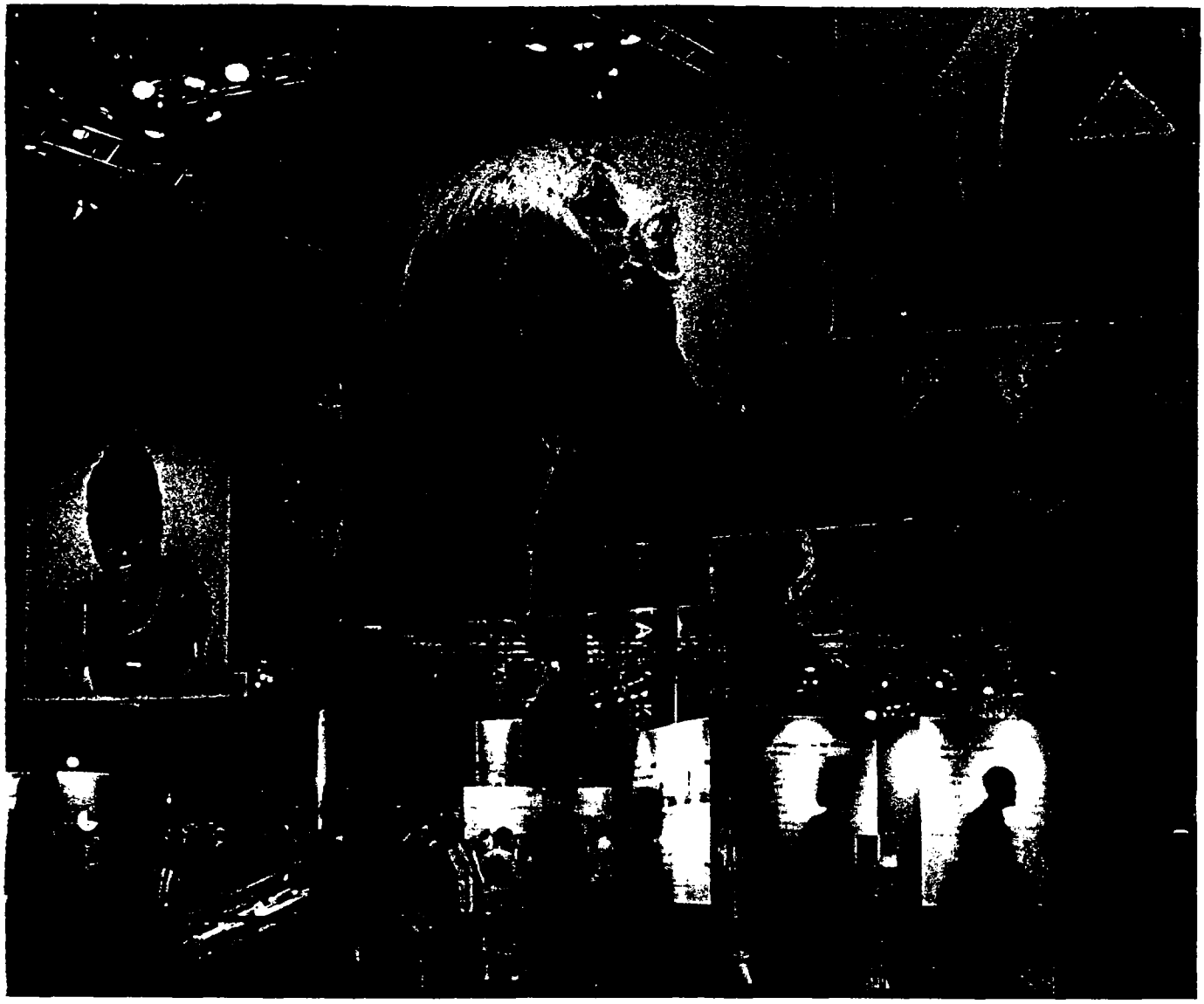
0045-0464



Key achievements

- Merger of equals delivers profit growth and market share gains in its first year
- Group sales up 9%; up 17% for ongoing operations
- Group operating profit up 12%; up 20% for ongoing operations (before exceptional items)
- Group earnings per share up by 14%; up 22% for ongoing operations (before exceptional items)
- Pharmaceutical sales up 18%
- US pharmaceutical sales up 23%
- Rapid and effective integration. Synergies of $130 million exceed $100 million target for 1999
- Further record sales of $5.9 billion for *Losec*, for gastric acid-related diseases

0045-0465



Merger communication event, Stockholm

- Performance of newer products such as *Casodex* (+41%), *Atacand* (+312%) and *Seroquel* (+254%) represent very positive pointers for the future
- Filing for marketing approval in Europe and US of *Nexium* which offers significant clinical improvements over *Losec*
- Other new products are progressing well through development towards the market including: ZD4522, treatment of lipid disorders; H376/95 and melagatran, thrombin inhibitors; *Viozan* and *Symbicort*, respiratory therapies; *Faslodex* and *Iressa*, anti-cancer treatments; and *Zendra*, treatment of stroke
- Restructuring of pharmaceutical research and development to create an integrated, globally managed organisation which is therapy area led and project driven
- *Amistar* now the world's largest selling proprietary fungicide (sales up over 40%)
- Announcement of agreement to merge the Zeneca Agrochemicals business with the agrochemicals and seeds businesses of Novartis to create the world's first global, dedicated agribusiness, Syngenta
- Successful completion of sale of Zeneca Specialties for $2 billion

0045-0466

Taking the lead, making a difference

As a research and development based company dedicated to improving health and the quality of life, AstraZeneca will serve the best interests of its shareholders by effectively meeting the needs of its customers and, in particular, patients.

During 1999, AstraZeneca took the actions necessary to optimise the future development of each of its businesses. Zeneca Specialties was sold in a buy-out jointly financed by Cinven and Investcorp, putting that business in a better position to achieve future growth within its own sector. Plans have also been announced to spin off and merge Zeneca Agrochemicals with the agrochemicals and seeds business of Novartis to form Syngenta, which will become the world's largest, free-standing, agribusiness.

This will leave AstraZeneca positioned as a pure healthcare company with a primary focus on pharmaceuticals. AstraZeneca's pharmaceuticals' sales of $14.8 billion in 1999 made it one of the world's largest pharmaceutical companies. Its research investment of $2.5 billion also places it amongst the largest in the industry. The company has the products and pipeline required to build for the future.

The core of AstraZeneca's strategy is the application of science and technology to deliver a continuous flow of effective new products, designed to meet the needs of healthcare providers and patients; products which deliver true value in the treatment of disease.

AstraZeneca intends to use its leading position in many important areas of medicine to make a difference to the lives of patients and the healthcare professionals who treat them. The company will strive to be first with new ideas and innovative in all areas of the business in order to create value for its customers, shareholders, employees and the communities in which it works.

AstraZeneca's business priorities are:

Customer focus
In all aspects of the company's enterprise, the needs of the customer will be paramount.

Fast, effective integration
AstraZeneca is committed to the completion of the work required to integrate its two predecessor companies into a single, coherent new organisation. It is creating an efficient, effective company, capable of competing with the best and delivering the synergy benefits promised at the time of the merger.

Growth through key products
The growth of the business through the next decade will be fuelled by ensuring optimal market shares for AstraZeneca's range of existing products, coupled with the successful introduction of the new products in late stage development.

Winning in the US
Such is the importance of the US market that special focus is being given to the growth of the US business as a critical, integrated part of the global organisation. The strategy includes major investments in R&D in the US.

Secure the flow of new products
Increasing efforts are being devoted to the application of leading-edge science and technology to improve the quality and efficiency of the drug discovery process, thereby providing a strong flow of high potential candidates for development as new medicines. AstraZeneca's in-house work is complemented by an extensive network of collaborations with leading academic centres and biotechnology companies in addition to an active in-licensing programme.

Build the talent base
The company aims to attract and retain the best talent. This will be done by building a culture which values, recognises and rewards outstanding performance in all aspects of its business.

0045-0467

Meeting the needs

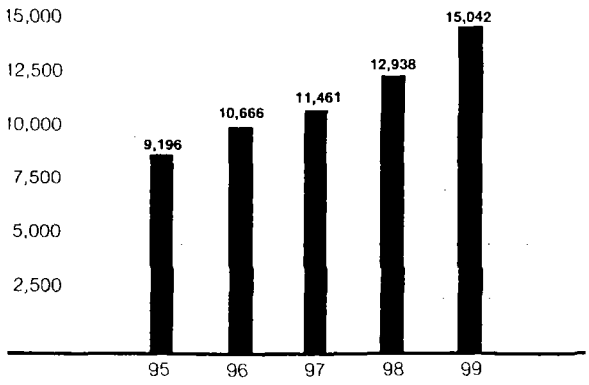
AstraZeneca is one of the world's leading healthcare companies. Its key skills lie in inventing, developing and commercialising innovative products which are designed to fight disease in important areas of medical need.

The company's pharmaceutical business is focused on seven major therapeutic areas: gastrointestinal, cardiovascular, oncology (anti-cancer), respiratory, central nervous system, pain control and anaesthesia, and infection. This emphasis enables AstraZeneca to build up teams with scientific, medical, regulatory and customer expertise within disease areas, thereby capitalising on the breadth of experience of its workforce and its existing product base.

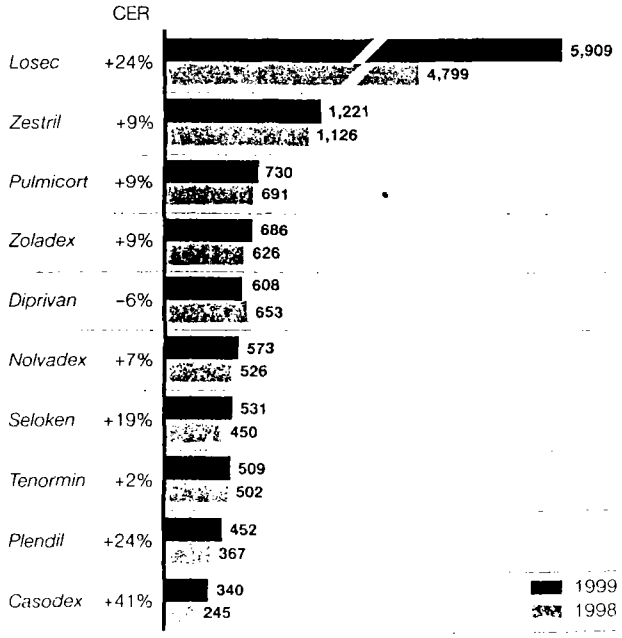
Major products include the world's largest selling pharmaceutical, *Losec/Prilosec,* for gastric acid-related diseases; the most widely prescribed ACE inhibitor in the US, *Zestril*; Europe's leading asthma treatment, *Pulmicort*; *Zoladex* and *Nolvadex*, which are leading treatments for prostate and breast cancer respectively; the world's largest selling cardioselective beta-blocker, *Seloken*; and *Diprivan* and *Xylocaine*, the world's largest selling general and local anaesthetics respectively.

AstraZeneca's pharmaceutical sales in 1999 were $14.8 billion, an 18% increase over 1998. This reflects the rapid and effective process of integration, initiated immediately after completion of the merger, throughout which the priority has been continued customer focus.

HEALTHCARE SALES $m
Pro forma combined



SALES OF MAJOR PHARMACEUTICAL PRODUCTS $m
Pro forma combined



0045-0468

Gastrointestinal	
Losec/Prilosec	Proton pump inhibitor for peptic ulcer, reflux oesophagitis, heartburn and dyspepsia
Losec MUPS	Omeprazole in a Multiple Unit Pellet System tablet formulation
Entocort	Anti-inflammatory for inflammatory bowel diseases, such as ulcerative colitis and Crohn's disease
Cardiovascular	
Atacand[1]	Angiotensin II type 1 (AT_1)-receptor blocker for hypertension
Zestril[2]	ACE (angiotensin converting enzyme) inhibitor for hypertension, heart failure, acute MI and renal and retinal complications of diabetes
Zestoretic[2]	ACE inhibitor and diuretic combination for hypertension
Seloken ZOK/ Toprol-XL	Beta-blocker for hypertension, angina, MI, migraine and other uses
Tenormin	Beta-blocker for hypertension, angina, MI and other uses
Plendil	Calcium antagonist for hypertension and angina
Imdur	Nitrate in a *Durules* formulation for angina
Oncology	
Zoladex	LHRH analogue administered as a subcutaneous implant for prostate and pre-menopausal breast cancer, certain benign gynaecological disorders and assisted reproduction
Casodex	Anti-androgen for prostate cancer
Arimidex	Aromatase inhibitor for advanced breast cancer in post-menopausal women
Tomudex	Cytotoxic agent for advanced colorectal cancer
Nolvadex	Anti-oestrogen for all stages of breast cancer treatment
Respiratory	
Pulmicort	Inhaled anti-inflammatory for control of asthma*
Oxis	Inhaled long acting bronchodilator for relief of asthma symptoms*
Bricanyl	Inhaled short acting bronchodilator for relief of asthma symptoms*
Rhinocort	Topical nasal anti-inflammatory for control of rhinitis*
Accolate	Oral leukotriene receptor antagonist for control of asthma
CNS	
Seroquel	Atypical anti-psychotic for schizophrenia and other psychotic disorders
Zomig	5-$HT_{1B/1D}$ receptor agonist for acute treatment of migraine with or without aura
Pain Control and Anaesthesia	
Diprivan	Intravenous general anaesthetic for induction/maintenance of anaesthesia and sedation of intensive care patients
Naropin	Local anaesthetic for surgical anaesthesia and acute pain management
Xylocaine	Local anaesthetic for use in surgery and dentistry
EMLA	Topical local anaesthetic for use prior to needle insertion and minor surgery
Infection	
Merrem/Meronem[3]	Ultra broad spectrum antibiotic injection for a wide range of serious infections including meningitis
Apatef/Cefotan[4]	Antibiotic injection for prophylaxis and treatment of bacterial infections
Hibitane	Skin antiseptic for a variety of hospital and other uses

* Available as *Turbuhaler* dry powder inhaler

[1] Product under licence from Takeda Chemical Industries Ltd.
[2] Product under licence from Merck & Co., Inc.
[3] Product under licence from Sumitomo Pharmaceuticals Co., Ltd.
[4] Product under licence and trade marks owned by Yamanouchi Pharmaceutical Co., Ltd.

0045-0469

Gastrointestinal

Between 5% and 10% of the world's population suffer at some point in their lives from duodenal or gastric ulcers, and in the Western world, some 40% of the adult population experience heartburn, the principal symptom of gastro-oesophageal reflux disease, at least once a month.

AstraZeneca is a world leader in the research, development, production and marketing of pharmaceuticals designed to combat acid-related diseases.

Launched in 1988, *Losec* (*Prilosec* in the US) was the first in a new class of drugs, the proton pump inhibitors (PPI), which provide highly effective control of gastric acid secretion. *Losec* offers a rapid and more efficacious resolution of symptoms and improved response rates over H_2-receptor antagonists.

During more than a decade of use in some 400 million patient treatments in over 100 countries, and through data from extensive clinical trials, *Losec* has become established as the gold standard for treatment of acid-related diseases and is the world's largest selling pharmaceutical.

In addition to the original capsule formulation, *Losec* is also now available in a new tablet formulation, the Multiple Unit Pellet System (MUPS), which gives patients and physicians increased convenience, flexibility and predictability. This is already available in 19 countries with further launches planned.

Nexium is the first PPI to offer significant clinical improvements over *Losec* in terms of bio-availability, acid control, efficacy and predictability. *Nexium* is the first PPI developed as an optical isomer. Clinical trial data show that, in the treatment of gastro-oesophageal reflux diseases, it healed more patients in a shorter period of time than *Losec*. One week of *Nexium* triple therapy healed H.pylori associated duodenal ulcers without the need for follow up anti-secretory monotherapy.

Nexium was filed for marketing approval in Europe and the US at the end of 1999 after successfully completing a fast and comprehensive development programme involving more than 15,000 patients and covering six indications.

The global launch of *Nexium* is expected to start in the second half of 2000 and will be followed by further lifecycle development to maximise the product value to customers.

In addition to the original capsule formulation, *Losec* is also now available in a new tablet formulation

Cardiovascular

Cardiovascular and cerebrovascular disease present the greatest risk to life for most adults, accounting for at least 15 million deaths globally each year – approximately 30% of all mortality. With 40 years of experience in the cardiovascular area, AstraZeneca has a well established franchise and offers a broad portfolio of products targeted at this substantial area of clinical need.

Initially introduced in 1988 for hypertension, *Zestril* is now the world's second largest selling ACE inhibitor and the most widely prescribed ACE inhibitor in the US. AstraZeneca's successful life-cycle management of the product has increased its indications to include acute myocardial infarction, congestive heart failure and the renal and retinal complications of diabetes. Data from two new studies published in 1999 – *ATLAS* and STOP II – further support the clinical utility of *Zestril*.

Zestril is also marketed in combination with a diuretic as *Zestoretic*.

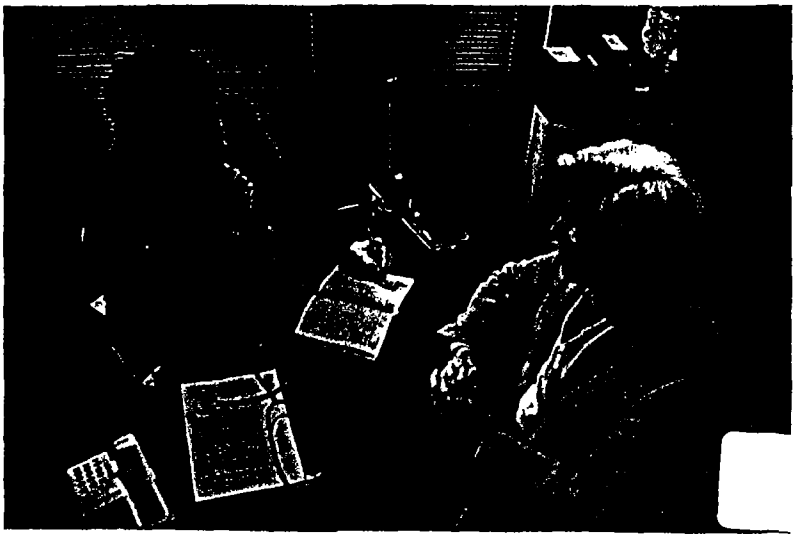
Atacand is an angiotensin AT_1 receptor blocker, a relatively new, rapidly growing therapeutic class for the treatment of high blood pressure. First launched in 1997, *Atacand* is now available in over 25 countries including all major markets. AstraZeneca is conducting an ongoing clinical development programme for *Atacand* aimed at extending its clinical utility. This programme includes major mortality studies in hypertension (SCOPE) and heart failure (CHARM). In addition, the company has developed *Atacand Plus/Atacand HCT*, a combination of *Atacand* with a diuretic for the treatment of hypertension and launches in major markets are expected during 2000.

One of the first cardio-selective beta-blockers launched on the market, *Seloken ZOK* (*Toprol-XL* in the US), including *Seloken*, is now the leading product in this class worldwide. Key to its continued growth has been the development of the once-daily controlled release formulation (*ZOK*) that improves efficacy and tolerability.

Plendil is a vasoselective calcium antagonist with well established safety and efficacy for the treatment of hypertension and outside the US for angina pectoris. *Plendil* was selected as the baseline therapy in the landmark Hypertension Optimal Treatment (HOT) study, which has had a major influence on recommendations for the optimal treatment of hypertension in national and international guidelines.

Tenormin is the second largest selling beta-blocker worldwide, used to treat hypertension, ischaemic heart disease and abnormal heart rhythm.

AstraZeneca's ongoing cardiovascular research and development is aimed at bringing to market innovative new products that represent a significant advance over existing therapies



0045-0471

Oncology

Cancer is a devastating disease which caused over seven million deaths worldwide in 1998. The risk of cancer in older people is rising with the increase in life expectancy. Significant medical advances have been made and many cancers can now be treated, particularly if they are diagnosed early.

AstraZeneca is one of the world's leading suppliers of anti-cancer medicines.

Zoladex, the second largest selling LHRH analogue worldwide, is used in the treatment of prostate cancer, breast cancer and gynaecological disorders. It has been proven to be an effective, patient preferred, alternative to surgical castration in men and oophorectomy in women. *Zoladex* is available in over 100 countries, as a one-month depot or the more convenient three-month formulation, *Zoladex LA*. New indications introduced for *Zoladex* include its use in the treatment of pre- and peri-menopausal breast cancer and endometriosis.

Nolvadex is the world's most commonly prescribed breast cancer medicine and the most widely accepted endocrine therapy in the treatment of early and advanced breast cancer in pre- and post-menopausal women. More than 10 million patient years of its use to treat breast cancer have demonstrated that this medication significantly reduces recurrences and prolongs overall patient survival. *Nolvadex* continues to be the only drug registered in the US for the reduction of the incidence of breast cancer in women at high risk of developing the disease. A submission for regulatory approval was filed in the US in November 1999 for Ductal Carcinoma in Situ.

Casodex 50mg is the world's leading anti-androgen, available in over 80 countries for use in combination with surgical or medical castration in patients with advanced prostate cancer. *Casodex* 150mg was first launched in the UK in 1999 as a monotherapy treatment for locally advanced prostate cancer. It is the first anti-androgen as monotherapy to offer men a more acceptable alternative to the currently available options of surgical or medical castration, both of which have significant quality of life issues. Specially designed for the Japanese market, *Casodex* 80mg was launched there in 1999 where it achieved 20% market share after five months.

First launched in 1995, *Arimidex* is now the world's largest selling aromatase inhibitor. It prevents the synthesis of the hormone oestrogen and is used in the treatment of advanced breast cancer in post-menopausal women. It is available in the US, Europe and many other countries. A regulatory submission for Japan was made in November 1999.

Tomudex, the first of AstraZeneca's cytotoxic agents, is used as monotherapy treatment of advanced colorectal cancer, and is approved in 36 countries.

Anti-cancer medicines are broadly classified as endocrine, cytotoxic or immunomodulators. AstraZeneca is the world's leading supplier of endocrine medicines with a broad range of anti-cancer products

0045-0472

Respiratory

Respiratory diseases include several chronic and acute conditions such as asthma, bronchitis and rhinitis, that give rise to symptoms of varying degrees of severity. Deaths from severe respiratory diseases, including asthma and chronic obstructive pulmonary disease, have increased in recent years and now account for 8% of deaths in the developed world.

AstraZeneca markets a wide range of products and inhalation devices for the treatment of prevalent respiratory diseases such as asthma, rhinitis and chronic bronchitis and is committed to offering a strong respiratory product portfolio.

The *Turbuhaler* inhaler is a medical device which permits administration of active substances without the need for CFC or any other propellant.

AstraZeneca currently markets five products using *Turbuhaler* and a new generation of the *Turbuhaler* device is in development.

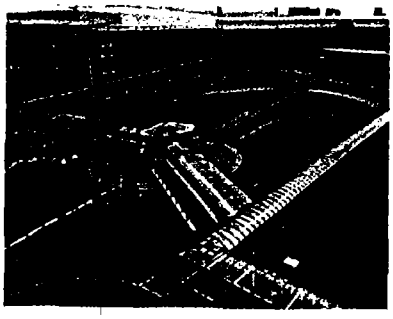
Pulmicort is a corticosteroid anti-inflammatory inhalation drug used for the treatment of persistent asthma. *Pulmicort* is available in several forms. It is most frequently administered via the *Turbuhaler* device, but is also marketed in pressurised metered dose inhalers (pMDIs) and as *Respules* which are single doses of a suspension for nebulisation. In the US, *Pulmicort Turbuhaler* has been marketed since 1998 and was the first inhaled corticosteroid to receive approval as a once-a-day asthma treatment for adults and children from the age of six with mild to moderate asthma. AstraZeneca received an 'Approvable' letter from the FDA for *Pulmicort Respules* in November 1999.

Oxis Turbuhaler is a new, long-acting Beta$_2$ agonist provided in the *Turbuhaler* device for the relief of broncho-obstructive symptoms in asthma patients when corticosteroid treatments are not adequate. A unique claim for *Oxis* use 'as needed' for rescue medication and maintenance, allowing patients to use only one inhaler, was approved in the EU in January 2000.

Accolate is an orally active leukotriene receptor antagonist (LTRA) used in the prevention and control of asthma. It was the first LTRA to be marketed in the US and is now approved in 65 countries. Approval was granted for paediatric use of *Accolate* in the US in 1999.

Rhinocort is a corticosteroid administered by aqueous solution (*Aqua*), pMDIs and the *Turbuhaler* device for the treatment of diseases of the upper respiratory tract such as allergic and non-allergic rhinitis and recurrent polyp formation.

Symbicort, a combination of budesonide (inhaled steroid) and formoterol (Beta$_2$ agonist) in the *Turbuhaler* device, is in development for asthma and chronic obstructive pulmonary disease. A submission to the authorities in Sweden for marketing approval for maintenance therapy in asthma was made in late 1999, which is the first step in the EU's mutual recognition procedure.



Research at AstraZeneca's Charnwood facility in the UK is focused primarily on respiratory and inflammatory diseases

0045-0473

CNS

Diseases of the central nervous system (CNS) not only affect the sufferers, they pose an immense financial and emotional burden to society in general and to healthcare systems specifically. It is an area of significant need for innovative therapies.

AstraZeneca markets products for schizophrenia and migraine and has R&D programmes covering most major CNS disorders.

Zomig, a novel anti-migraine compound (triptan), is a selective serotonin receptor agonist. First launched in 1997, it is now available in over 50 countries for the treatment of acute migraine with or without aura. *Zomig* reinforced brand leader status over second generation triptans in 1999 by capturing 25% triptan market share. Regulatory filing for *Zomig* in Japan is planned in 2000.

In 1999 AstraZeneca gained approval for its *Zomig rapimelt* fast-melt tablet in 11 European countries. The product was launched in Sweden in September 1999 and launch in the US is expected in 2000. In addition, the *Zomig* nasal spray formulation development programme is on track and filing is expected in 2000. Other key migraine treatment areas for *Zomig* under investigation include menstrual migraine and adolescent migraine.

Seroquel is an atypical anti-psychotic, effective in treating both the positive and negative symptoms of schizophrenia, with comparable efficacy to competitor drugs and a unique low side-effect profile. Launched in 1997 in the UK and US, it is in the process of gaining further approvals worldwide including successful mutual approval in the EU. In Japan, where exclusive marketing rights for *Seroquel* have been licensed to Fujisawa Pharmaceutical Co. Ltd., a New Drug Application was submitted in December 1998.

In 1999, *Seroquel* sales showed strong growth, particularly in the US.

Seroquel is also in further development for the treatment of psychoses in Alzheimer's Disease and mania.

Therapies for CNS diseases have shown the greatest rate of increase of all therapeutic categories over the last five years, due mainly to the introduction of innovative products to treat depression and schizophrenia

0045-0474

Pain Control and Anaesthesia

Anaesthetics are necessary for many procedures carried out in hospitals, clinics and, increasingly, in day-care surgeries which help to reduce healthcare costs and shorten waiting lists for surgery. They are also used in intensive care sedation. Local anaesthetics provide pain relief in various surgical procedures as well as for post-operative pain management, and their use is growing steadily.

AstraZeneca is committed to maintaining its leading position in anaesthesia, as well as developing new treatments for chronic pain.

Diprivan, the world's leading general anaesthetic, is an intravenous sedative hypnotic agent for use in the induction and maintenance of anaesthesia and for intensive care sedation. Launched in 1986, it is particularly suited to meeting the increasing demand for out-patient surgery as well as early transfer from the recovery room to the ward.

AstraZeneca's *Diprifusor*, a micro-processor which, when incorporated into infusion pumps, facilitates the administration of *Diprivan* for the maintenance of general anaesthesia, is now widely available.

1999 sales of *Diprivan* were particularly strong in Japan, benefiting from the launch in intensive care sedation and the ongoing expansion and acceptance of intravenous anaesthesia.

Launched in 1995, *Naropin*, a local anaesthetic and analgesic, is now available in 38 countries worldwide.

It is well tolerated by patients and used in major surgery, post-operative pain management and obstetrics. In lower doses, it provides highly effective post-operative pain relief without affecting the patient's ability to move.

AstraZeneca markets *Naropin* in ready-to-use *Polyamps* and *Polybags*, a patented system of plastic vials which reduce the risk of needle stick injury and are more convenient for hospital staff to use.

In 1999, *Naropin* gained two further EU approvals: one that expands its post-operative pain management usage to 72 hours from 24 hours and a second, which allows its use for peripheral nerve blocks.

After more than 50 years on the market, *Xylocaine* remains the most widely used local anaesthetic in the world, and sales continue to grow.

AstraZeneca is developing new treatments for chronic pain

0045-0475

The global infection market, including anti-bacterial, anti-viral and anti-fungal products accounts for some 14% of total pharmaceutical sales.

Infection

AstraZeneca is committed to the discovery, development and marketing of novel agents with new mechanisms of action which address the growing area of unmet clinical need in infection resulting from drug resistance and inadequate therapies.

Merrem/Meronem is a broad-spectrum carbapenem antibiotic, used to treat serious infections in hospitals.

Merrem is being further developed in the US for additional indications in hospital and community acquired pneumonia, neutrapenics and cystic fibrosis.

AstraZeneca also sponsors an international microbiology study (MYSTIC), which is producing data to show *Merrem* has a low resistance potential compared to other hospital intravenous antibiotics.

Other Healthcare

DIAGNOSTICS

Diagnostics provides specialised human genetic testing services through the Cellmark Diagnostic business, and sells diagnostic products and reagents for DNA analysis of human gene variants.

ASTRA TECH

Astra Tech researches, develops, manufactures and markets advanced medical devices and implants for use in healthcare, primarily in the area of urology but also in surgery, diagnostic radiology and odontology. Astra Tech has a leading market position in the Nordic countries and is expanding its operations in European and other key markets.

All product lines showed good sales growth and in particular, sales of *LoFric* hydrophilic urinary catheter continued to increase in both established and new markets. The Dental Implant System has now been successfully introduced in most key markets, and is rapidly gaining acceptance among dentists and implantologists.

SALICK HEALTH CARE

Salick Health Care, Inc. (SHC) is a leader in the provision and management of care for patients with cancer in the US. Ownership of SHC enables AstraZeneca to provide a broad range of services to health insurers, oncologists, other specialists and their patients, and gives AstraZeneca access to the direct medical care cancer market in addition to that accounted for by pharmaceuticals.

AstraZeneca will continue to review options with potential growth opportunities across the range of its interests in cancer.

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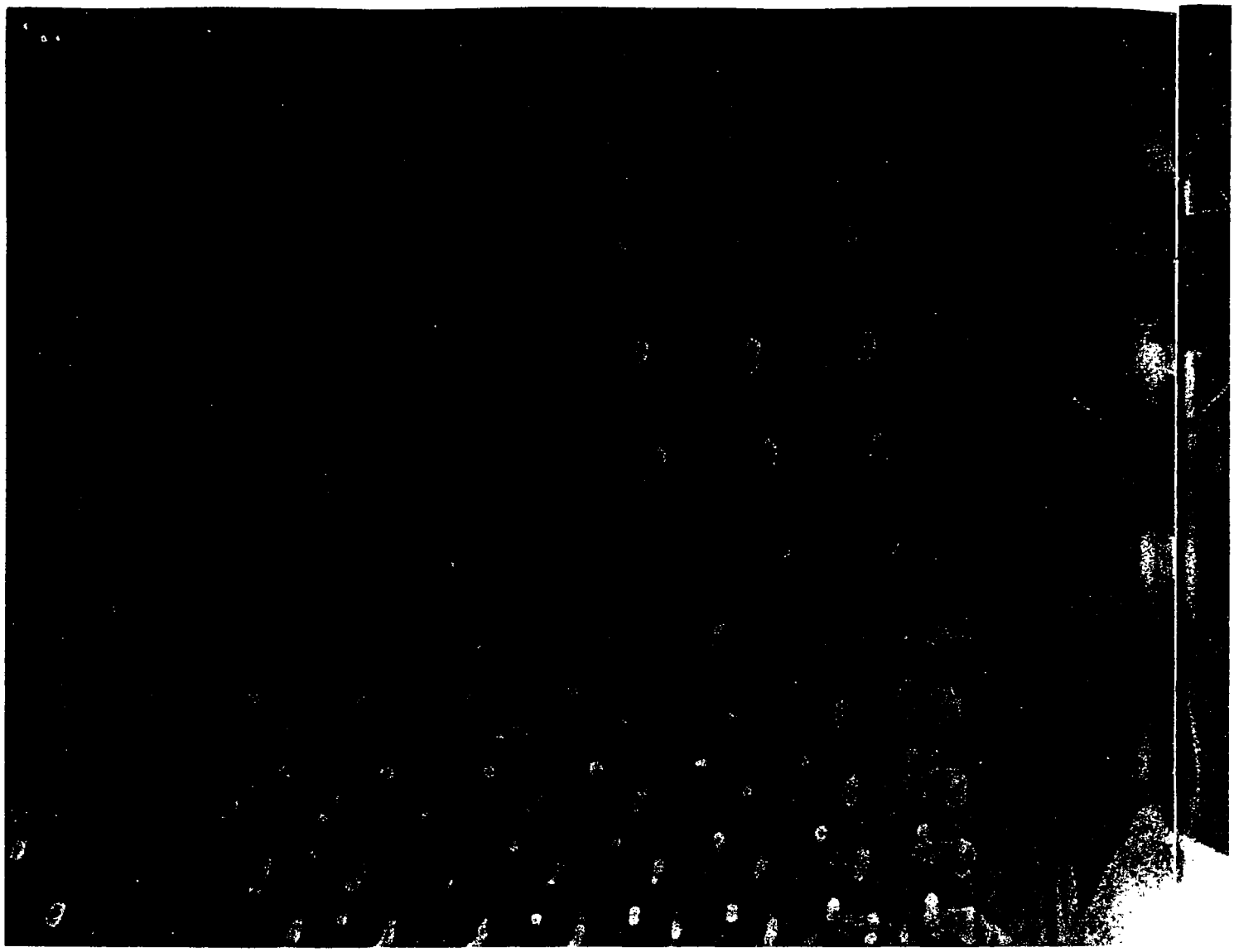

Leading innovation in world healthcare

AstraZeneca has a world-class record of successful R&D aimed at generating a flow of new prescription medicines and preserving or enhancing the competitive advantages and market position of existing products. Research is strategically focused on important commercial targets and on real medical needs within several therapy areas including: gastrointestinal, oncology, cardiovascular, respiratory, central nervous system, infection, pain and inflammation.

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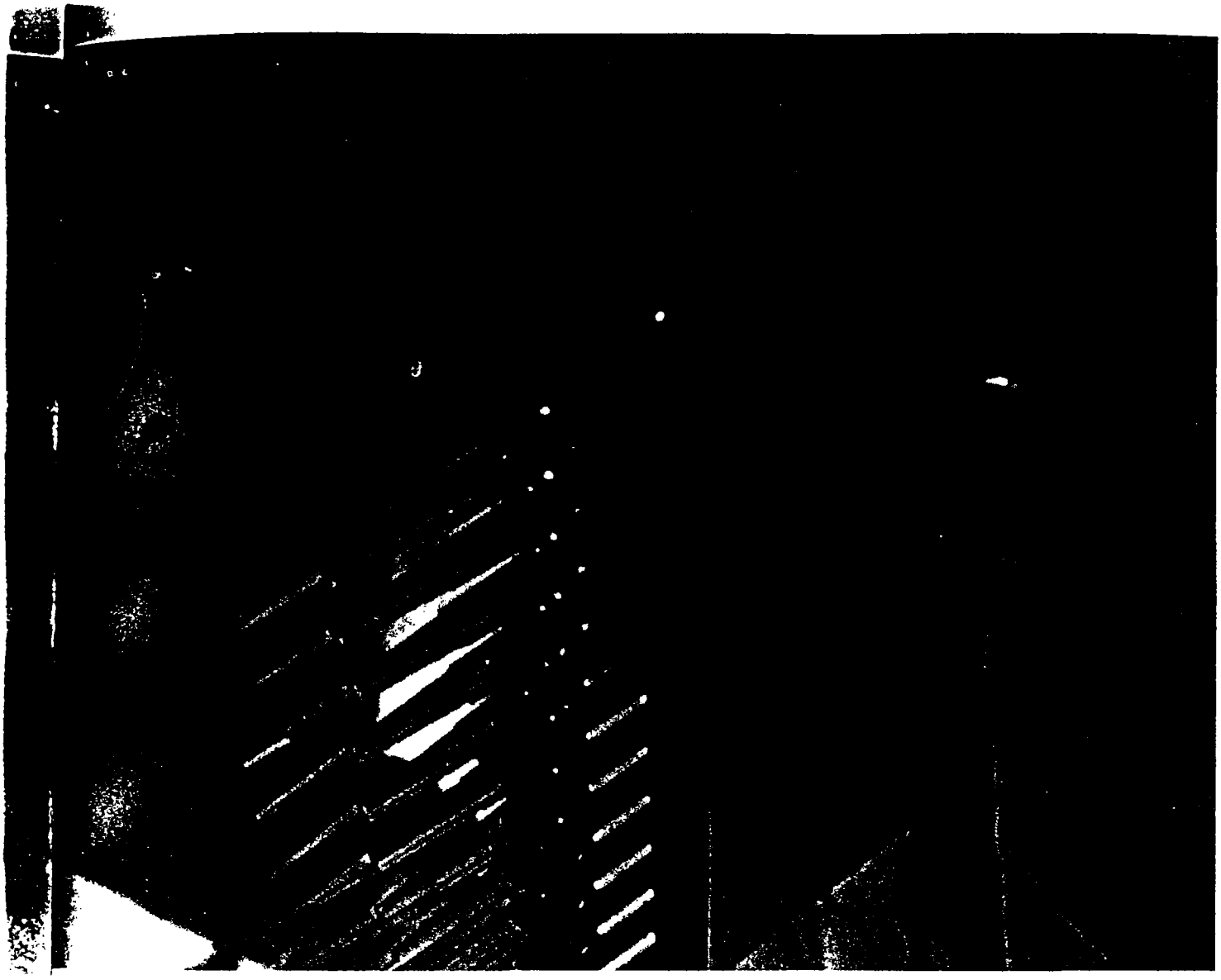


Following the merger, AstraZeneca reorganised its R&D and prioritised its development portfolio, creating an integrated, globally managed R&D organisation which is therapy area led and project driven. The strategic review of R&D in 1999 also led to the realignment of resources in specific centres in the UK and Sweden (where AstraZeneca's R&D is headquartered) and an expansion of its new research facilities in the US.

A key objective of AstraZeneca's new R&D organisation and strategy is to enhance output and performance, whilst maintaining the fundamental imperatives of product efficacy, patient safety and an ethical approach. As part of this objective, the company aims to build a world leading drug discovery force.

The Discovery Process

AstraZeneca's new Discovery organisation will consist of approximately 3,500 people worldwide, working in a number of different research areas. Improving discovery output and quality will be achieved through a combination of increased medical input early in target identification, increased use of enabling science and technology to speed lead identification and lead optimisation, and earlier use of safety assessment and drug disposition technologies to eliminate less promising projects. By these methods, AstraZeneca aims to increase its Candidate Drug (CD) output and have more CDs proceed through development to launch. In order to reach these goals, the company has initiated a number of changes in the Discovery organisation including increased incorporation of informatics and genetics into the discovery process as these will be major levers for successful CD discovery in the years to come.

AstraZeneca supplements its in-house capabilities through external collaborations with academic institutions and other companies from which it seeks to obtain appropriate rights whenever possible to any resulting patents and technology. These collaborations broaden the range of exploratory research and allow access to a wider base of scientists and technologies. For example, during 1999, a major collaboration was signed with Incyte Pharmaceuticals Inc.

0045-0478

The Development Process

The process of developing a pharmaceutical product from the start of development to the submission of an application for registration, typically takes between five and seven years, but this period varies considerably from case to case and country to country.

In Phase I, a compound is tested in a small group of healthy volunteers for safety, side-effects and pharmacological profile.

In Phase II, a compound is tested in a limited number of patient volunteers for safety, efficacy, and appropriate dosage.

In Phase III, a compound is tested in a larger diverse group of patient volunteers to assess safety, efficacy, side-effects and dosage in a statistically significant fashion. The results of these clinical trials are submitted to appropriate regulatory bodies with the objective of obtaining approval to sell the compound.

After commercial launch, trials monitor the safety and efficacy of the product in large patient groups.

A compound may fail at any stage during this process.

AstraZeneca's new Development organisation will consist of more than 4,000 people, mainly located on the six major R&D sites based in the US, UK and Sweden. The organisation will be globally managed to leverage industry best practice processes across the whole organisation, and to improve the speed of development, within an overall strategic portfolio management framework.

R&D Pipeline

AstraZeneca's current pipeline of new products includes:

- *Nexium*, for acid-related gastro-intestinal disease, filed for marketing approval in Europe and the US in 1999.
- *Symbicort Turbuhaler*, for the treatment of asthma and chronic obstructive pulmonary disease, filed for marketing approval for asthma in Sweden in December 1999.
- *Faslodex*, for the treatment of breast cancer, currently in Phase III trials with regulatory submissions expected in 2000.
- ZD4522, which lowers blood levels of lipids (including cholesterol), currently in Phase III development with launch planned for the second half of 2002.
- *Zendra*, for the treatment of acute ischaemic stroke, currently in Phase III development. Filing for approval in the US is expected in 2001.
- *Viozan*, in Phase III development for the treatment of chronic obstructive pulmonary disease.
- *Iressa*, which acts to block signals for cancer growth and survival. Promising efficacy has been demonstrated in early trials and Phase III studies are expected to begin in early 2000.
- H376/95 and melagatran, thrombin inhibitors in Phase III development for the treatment of thrombosis.

R&D Performance Targets

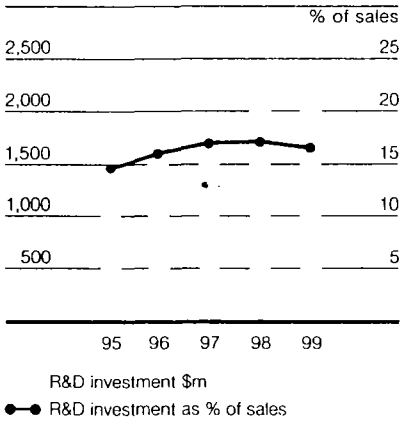
Industry statistics indicate that only a small proportion of compounds entering development succeed in reaching the market, and there can be no guarantee that the compounds in development will survive the development process and obtain necessary approvals for sale.

Nevertheless, AstraZeneca has set clear targets for its R&D:

- Deliver three or more medically important, commercially successful new products each year.
- Increase candidate drug output to more than 15 per year by 2003.
- Double the project success rate to 20% by 2005.
- Reduce the time from candidate drug to launch to less than six years.
- Register in all major markets in a time window of 12 months.

R&D INVESTMENT $m

Pro forma combined



0045-0479

Making it happen

Strategic Product Portfolio Management

AstraZeneca recognises the value of its portfolio and the need to manage it strongly and actively.

An international marketing and licensing organisation, Product Strategy and Licensing (PS&L), has been put in place by the new company, charged with the responsibility for the optimisation of the global product portfolio. PS&L works closely with R&D and the sales and marketing network to agree the priorities for the development resources needed to deliver both new molecules to the market and life-cycle support to the selling organisations for those already commercialised.

Working with cross-functional teams within therapeutic areas and across geographic boundaries, PS&L works to make certain that individual products meet the target product profiles for successful commercialisation and that the portfolio meets overall business needs.

Licensing plays an important part in all major pharmaceutical company portfolios. In-licensing of development candidates and marketed products is led by PS&L and integrated into a single global product portfolio prioritisation process alongside medicines from AstraZeneca's own laboratories.

Manufacturing

In order to serve its international business, AstraZeneca has 36 manufacturing facilities in 20 countries and employs 12,500 people. Since the merger, production units have been rationalised in Australia and Brazil with manufacturing consolidated into one facility in each country. Further consolidation of manufacturing facilities will take place as the integration plans are delivered.

AstraZeneca has continued to develop its manufacturing capability and in 1999 invested over $700 million globally to meet the growth of current products and to prepare for the introduction of new products. Further major investments have been approved for manufacturing facilities in Sweden, UK, Germany, France and Puerto Rico.

Manufacturing has concentrated on maintaining customer service and securing product supply throughout the merger whilst building a responsive organisation that can meet the changing demands of its markets and customers worldwide. The manufacturing focus is to build on these achievements and deliver a capability that offers competitive advantage for the international business.

Sales and Marketing

The formation of AstraZeneca created an extensive worldwide sales and marketing network. A priority during the merger process was to ensure the rapid integration of sales forces and associated resources, with minimal disruption in service to the customer and to the business. The new sales and marketing force has been designed to better anticipate and respond to customer needs, and a robust structure has been defined in line with the company's strong presence in the US, Western Europe and Japan, and with its operations in all other important pharmaceutical markets.

AstraZeneca's products are marketed primarily to physicians (both general and specialist). However, marketing efforts are also directed towards explaining products' economic and therapeutic benefits to healthcare buying groups such as Managed Care Organisations in the US and trust hospitals and budget-holding medical groups in the UK.

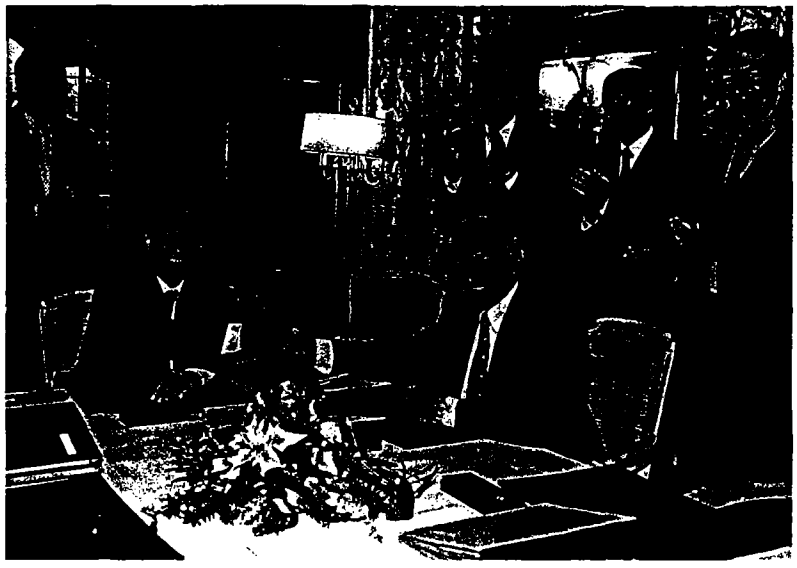
Direct-To-Consumer (DTC) advertising has become a significant force in physician communication and patient education in the US. AstraZeneca has a number of DTC advertising programmes in place in the US for its key products including *Prilosec* and *Nolvadex*.

AstraZeneca uses the Internet as a communications medium to inform customers about its products, and to share corporate information with the public.

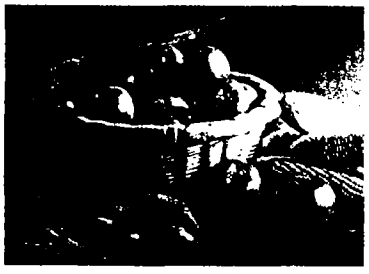
0045-0480

Zeneca Agrochemicals

Zeneca Agrochemicals is one of the world's leading suppliers of crop protection chemicals with sales in 1999 of $2.7 billion. Its broad range of products, designed to improve crop yields and food quality, controls major weeds, diseases and pests in all principal crops.



Chairman and CEO of Novartis AG, Daniel Vasella, and Tom McKillop shake hands on the signing of the agreement to form Syngenta AG. Standing (left to right) are: Raymund Breu, CFO of Novartis; Michael Pragnell, CEO Designate of Syngenta; Heinz Imhof, Chairman Designate of Syngenta and Jon Symonds, CFO of AstraZeneca



Leading products include the herbicides *Gramoxone*, *Touchdown*, *Reglone*, *Surpass*, *Fusilade*, *Flex*, and *Achieve*; the insecticides *Karate* and *Force*, and the fungicides *Amistar* and *Bravo*. The international scale and breadth of Agrochemicals' operations enable it to develop products cost-effectively and quickly bring them to the market.

The business environment was unfavourable in 1999. With prices of the major crop commodities at their lowest level for many years, farmers' expenditure was reduced in most major markets. Competition has been intense and overall, the agrochemicals market declined by an estimated 5%.

Against this difficult background, Zeneca Agrochemicals delivered a solid sales performance, down 5%, due mainly to a sharp market downturn in the Americas. The business increased sales in Europe against a market contraction and in Asia, where a steady recovery is underway.

Highlights of the year for Zeneca Agrochemicals included:

- December announcement of agreement with Novartis AG to spin off and merge Zeneca Agrochemicals with Novartis' agribusiness to create the world's first global, dedicated agribusiness company, Syngenta AG.
- The establishment of *Amistar* as the world's leading proprietary fungicide, with a sales increase of over 40%.
- Significant progress in the development of two new products which are scheduled for launch in 2002/3.
- Two significant new biotechnology collaborations with Japan Tobacco and Maxygen.

0045-0481

Product Pipeline
In herbicides, Zeneca Agrochemicals' main development compound is mesotrione, a pre- and post-emergence herbicide effective against key broad-leaved weeds in corn. It is from the novel triketone area of chemistry and will complement the grass weed control of *Surpass*. The product has been granted reduced risk status in the US, reflecting its favourable environmental and toxicological profile. A new $47 million manufacturing facility has been sanctioned at Cold Creek, Alabama, in the US which is due to open in time for an expected 2002/3 product launch.

In the fungicides area, picoxystrobin, a second generation strobilurin from the same area of chemistry as *Amistar*, is scheduled for launch in 2002/3. Construction of a $75 million manufacturing plant is now underway at Grangemouth in the UK. The business is also developing anti-fungal proteins and other genetic fungal control mechanisms to complement its strong range of fungicides and offer growers an integrated approach to plant disease management.

Plant Biotechnology
A significant development in Zeneca Agrochemicals' R&D in recent years has been an increase in the level of resources devoted to biotechnology and the formation of key collaborations with other organisations with complementary interests. In 1999 the business formed a series of new partnerships, including a joint venture with Japan Tobacco to develop new enhanced varieties of rice, the world's largest staple crop. It also initiated a collaboration with Maxygen of the US which complements the investments already made in genomics.

Sales and Marketing
Zeneca Agrochemicals has marketing organisations in its major markets, with dedicated sales forces which provide customer and technical service, product promotion and market support. Products are sold to the end-user through independent distributors and dealers, most of whom also handle other manufacturers' products.

Agrochemicals' marketing network enables it to launch its products quickly and effectively and to exploit its range of existing products.

Manufacturing
Zeneca Agrochemicals' five main active ingredient manufacturing facilities are at Grangemouth and Huddersfield in the UK, in the US at Cold Creek, Alabama and at Bayport and Greens Bayou in Texas. The business formulates, packages and labels products at locations around the world, close to the principal markets in which such products are sold. A new $65 million plant for the manufacture of *Gramoxone* in Nantong, China is planned to start production in 2000.

Marlow Foods

Marlow Foods produces and sells the *Quorn* branded range of innovative healthy protein foods. *Quorn* foods are naturally low in fat and calories, and are a good source of protein and fibre. They are available in a wide variety of meal dishes and all products are presented under the *Quorn* brand; some are co-branded with larger retailers and are sold in both chilled and frozen forms.

In 1999, the *Quorn* foods range continued to grow. In the UK, which is still currently the largest market for *Quorn* products, sales volume grew by 3% despite difficult trading conditions, and the *Quorn* brand improved its market leadership position.

In other European markets, sales increased by 32%, supported by several new product introductions, including a very successful launch in Sweden. *Quorn* products are now rapidly moving towards being recognised as the leading meat alternative brand in Europe, as a consequence of its versatility, taste and health appeal.

Plans are progressing well for entry into the large US market which is a key target for 2000.

The *Quorn* brand now has total sales in excess of 150 million meals per year.

Quorn is the leading meat alternative brand in the UK

0045-0482

A responsible approach .

The merger of Astra and Zeneca combined a wealth of experience and skills which are key to AstraZeneca's future success. With over 55,000 employees worldwide, the company recognises that the competence, motivation and performance of its people is fundamental to long term success and that diversity and creative potential are among its most valuable assets. A main priority since the merger has been to develop and widely communicate the new company values and operating principles, and to build a culture which unites employees in a common purpose.

0045-0483

Building a new culture

At the heart of AstraZeneca's new culture is the company's ambition to be one of the world's great enterprises through leading innovation and delivery of value to its stakeholders. Success depends on a shared understanding and commitment to this aim among AstraZeneca's people.

AstraZeneca is creating a dynamic performance culture in which all employees understand the impact they have on the company objectives and know that they benefit from achieving high levels of performance.

To help them achieve their best, employees are encouraged and supported in developing their potential to the full, in line with business needs, against a background of equal opportunity where individual success is based solely on personal merit and performance. Respect, openness, honesty and trust are cornerstones of the new culture and leadership by example at all levels is expected.

An ongoing and comprehensive internal communications process engaging all employees in their respective teams aims to ensure that the new values and principles are widely understood and rapidly embedded in the developing culture. The development of the new corporate culture will also be supported by international leadership programmes and comprehensive information on the company's internal websites. Feedback will be obtained through global attitude surveys.

To enable AstraZeneca to attract and retain excellent people, the company is strongly committed to becoming an employer of choice in all parts of the world. Planning procedures are being implemented to ensure that key positions can be appropriately staffed at all times and a pool of future leaders will be created through development processes engaging all parts of the business.

0045-0484

Contributing to the community

AstraZeneca recognises the importance of good relations not just with shareholders, customers and employees, but with all those in society who have an interest in the company's activities and progress. Improvement in environmental performance, responsible labour practices, ethical conduct and an enhanced appreciation of the role of business in society flow from the company's interaction with many organisations in the voluntary sector.

AstraZeneca's sponsorship programmes include a range of community, medical and environmental initiatives and all are consistent with the company's aim of improving health and quality of life.

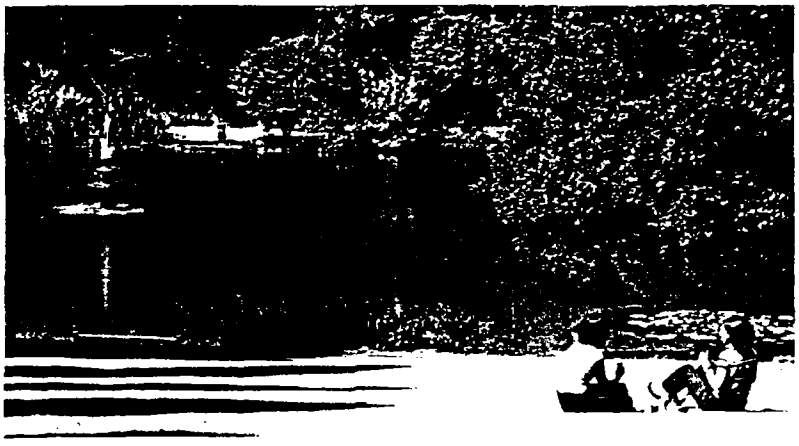
In the US, for example, AstraZeneca sponsors National Breast Cancer Awareness Month, the nation's largest collaborative public education programme in cancer which focuses on the importance of early detection.

In Sweden, the company supports a programme developed in collaboration with the local healthcare community which offers specialised training for nurses and doctors wishing to set up dedicated Asthma Treatment Units. These units offer patients with asthma the opportunity to learn more about their illness and how to control it.

AstraZeneca's products are all the result of successful science and the company is committed to promoting the value of science within the community. It supports a range of science-based schools' programmes which aim to foster understanding and encourage young people's interest.

In the UK, the AstraZeneca Science Teaching Trust, an independent charity with a total trust fund of $32 million, supports a programme of projects designed to help build the knowledge, skills and understanding required to lead and teach science effectively and confidently in primary schools.

In 1999, AstraZeneca donated $20 million to charity, including a donation of $16 million to the AstraZeneca Science Teaching Trust. Where possible, the company also responds to crisis appeals and last year made contributions to disaster funds for Colombia, Kosovo and Turkey.



0045-0485

Safety, Health and Environment

Astra and Zeneca were two companies with a strong commitment to high standards in safety, health and environmental (SHE) performance. The merger presented the opportunity to combine the best practices from both companies to formulate an AstraZeneca SHE management system.

A new AstraZeneca SHE policy, eight operational standards and a management system have now been approved by the Board and Senior Executive Team (SET). The policy is a statement of the company's fundamental SHE values and requirements and is a public document against which AstraZeneca's overall commitment and actual performance can be judged.

AstraZeneca's SHE management standards set out in general terms the basic systems and arrangements to comply with the AstraZeneca policy. Both the policy and the standards apply to all employees and activities and are mandatory across the company.

AstraZeneca's SHE management system provides a clear framework of management processes applicable at all AstraZeneca sites and locations. The system is consistent with international SHE management standards, such as ISO 14001, and is capable of external verification. Additionally, it will allow the SET and the Board to review the group's performance on an annual basis. Implicit in this review is the discussion of strategic issues and future objectives.

Performance data for AstraZeneca is reported in detail in the company's Safety Health and Environment Report, available separately to this Annual Review.

AstraZeneca's Safety, Health and Environment Policy

AstraZeneca's mission is to be first for innovation and value in the provision of products and services to improve human health and quality of life. Safety, Health and Environmental (SHE) considerations are core to this and all our activities shall take account of social, environmental and economic factors so as to:

- Meet or exceed legal requirements, regulations and international agreements
- Create a culture where SHE considerations are integrated into all activities across the group
- Conduct business as a responsible corporate member of society committed to continual improvement in all aspects of our SHE performance
- Provide a safe and healthy work environment for all our employees
- Economise on the use of natural resources and work to minimise the impact on the environment
- Aim to eliminate all injuries and incidents
- Be among the industry leaders in SHE performance
- Provide information on our SHE performance and communicate openly with all interested parties

AstraZeneca SHE Management Standards

- Responsibilities and Commitment
- Management of SHE
- Communications and Consultation
- Risk Management
- Environmental Impact Reduction
- Contractors, Toll Manufacturers and Suppliers
- SHE Auditing and Monitoring
- Annual Review and Improvement Plans

AstraZeneca SHE Objectives 2000

- Group implementation of the SHE management system
- Group implementation of the SHE reporting system, including a Letter of Assurance
- Evaluation of the potential for improvements in energy efficiency and appropriate targets
- Commitment to continuous reduction of accidents, incidents and ill health cases

0045-0486

Building on best practice

Completion of the merger in 1999 provided an opportunity to reconsider and redesign a number of the Company's corporate governance structures while integrating the former Astra and former Zeneca businesses, building on the best practices of the two predecessor organisations.

Directors and Organisation

The Board is responsible for the Company's objectives, policies and stewardship of the Company's resources. It concentrates mainly on strategy, financial performance and critical business issues. The differing roles of Executive Directors and Non-Executive Directors are clearly delineated; both have fiduciary duties towards shareholders. However, Executive Directors have direct responsibility for business operations whereas the Non-Executive Directors have a responsibility to bring independent, objective judgement to bear on Board decisions. There is an established and transparent procedure for appointments of new directors to the Board. All of the Directors retire at each AGM and may offer themselves for re-election by shareholders.

The Chief Executive, Tom McKillop, has delegated authority from, and is responsible to, the Board for directing and promoting the profitable operation and development of the Company consistent with the primary aim of enhancing long term shareholder value. He is obliged to refer certain major matters (defined in the formal delegation of the Board's authority) back to the Board.

The Chief Executive has established and chairs the Senior Executive Team. While retaining full responsibility for the authority delegated to him by the Board, the Senior Executive Team is the vehicle through which he exercises that authority in respect of the Company's pharmaceuticals and healthcare businesses.

The Agrochemicals Executive Team is the vehicle through which the Chief Executive exercises the authority delegated to him by the Board in respect of Zeneca Agrochemicals.

Accountability and Audit

The Board has overall responsibility for the Company's system of internal control which aims to safeguard shareholders' investment and the Company's assets, ensure that proper accounting records are maintained and that the financial information used within the business and for publication is reliable. The system is also designed to provide reasonable assurance of effective operations and compliance with laws and regulations, but any system of internal control can only provide reasonable, not absolute, assurance against material misstatement or loss.

The Company has in place a range of procedures to monitor and control the risks associated with the achievement of its objectives. The Company's businesses are subject to annual strategy reviews, to an annual budget process including forecasts for the next three years together with a sensitivity and risk analysis, to quarterly updates of the forecast for the current year and to monthly reporting and explanation of actual performance and variances. During 2000, the performance measures will move away from being predominantly financial towards a broader range of measures that address the achievement of key business priorities.

The Company's Audit Committee has received and considered reports on the effectiveness of the Company's system of internal financial control. These include an annual assessment of internal financial control from the internal audit function, reports from the external auditors on matters identified in the course of their statutory audit work and management assurance of the maintenance of control.

Following publication in September 1999 by the Institute of Chartered Accountants in England and Wales of the Turnbull report, 'Internal Control: Guidance for Directors on the Combined Code', the Directors initiated a formal review of the effectiveness of the group's system of non-financial controls, including operational and compliance controls and risk management.

As a result of this review and the completion of the merger, work to develop and refine the Company's business risk management processes and internal controls is ongoing. Significant progress has already been made, building on the extensive range of internal control and risk management activities which both Astra and Zeneca undertook as embedded business processes prior to the merger.

The Directors are confident that an effective embedded system of internal control has been and will be maintained throughout this process, and that implementation of the Turnbull guidance will be completed during 2000.

The only items in the Combined Code published by the Hampel Committee on Corporate Governance with which the Company did not comply in full throughout the period are the appointment of a senior Non-Executive Director, membership of the Nomination Committee and service contracts' notice periods. The reasons for non-compliance are given in AstraZeneca's Annual Report and Form 20-F.

0045-0487

Board of Directors

Percy Barnevik‡ (59) – Non-Executive Chairman – *appointed as a Director 6* April 1999. Non-Executive Chairman of ABB Ltd, Investor AB and Sandvik AB. Non-Executive Director of General Motors Corporation.

Sir David Barnes‡ CBE (63) – Executive Deputy Chairman – *appointed as a Director 15 February* 1993. Non-Executive Director of Prudential Corporation Plc. Deputy Chairman of Business in the Community. Member of the Board of Trustees of the British Red Cross. Non-Executive Chairman of Imperial Cancer Research Technology Ltd.

Håkan Mogren‡ (56) – Executive Deputy Chairman – appointed as a Director 6 April 1999. Formerly CEO and a Director of Astra AB (appointed 18 May 1988). Chairman of the Research Institute of Industrial Economics (IUI). Non-Executive Director of Gambro AB, Investor AB, the Federation of Swedish Industries and the Marianne and Marcus Wallenberg Foundation. Member of the Royal Swedish Academy of Engineering Sciences.

Tom McKillop (56) – Chief Executive – appointed as a Director 1 January 1996. Non-Executive Director of Nycomed Amersham plc and Lloyds TSB Group Plc.

Sir Peter Bonfield* CBE, FREng (55) – Non-Executive Director – appointed as a Director 1 January 1995. Chief Executive of British Telecommunications plc. Non-Executive Director of ICL plc and Vice-President of The British Quality Foundation.

Erna Möller* (59) – Non-Executive Director – appointed as a Director 6 April 1999. Formerly a Director of Astra AB (appointed 15 May 1995). Professor of Clinical Immunology and Member of the Nobel Assembly, Karolinska Institute.

Dame Bridget Ogilvie# (61) – Non-Executive Director – *appointed as a* Director 1 January 1997. Non-Executive Director of Lloyds TSB Group Plc and the Manchester Technology Fund Limited. Chairman, Medicines for Malaria Venture, World Health Organisation and the Committee on the Public Understanding of Science (COPUS).

Michael Pragnell (53) – Executive Director and Chief Executive Officer of Zeneca Agrochemicals – appointed as a Director 1 January 1997. Has overall responsibility for Zeneca Agrochemicals. Non-Executive Director of David S Smith (Holdings) PLC.

Lars Ramqvist* (62) – Non-Executive Director and Chairman of the Remuneration Committee – appointed as a Director 6 April 1999. Formerly a Director of Astra AB (appointed 17 May 1994). Chairman of Telefonaktiebolaget LM Ericsson, Volvo AB and Skandia Insurance Company Ltd. Non-Executive Director of Svenska Cellulosaaktiebolaget (SCA).

Åke Stavling (55) – Executive Director, Business Development and Integration – appointed as a Director 6 April 1999. Also has responsibility for corporate strategy.

Jonathan Symonds (40) – Executive Director and Chief Financial Officer – appointed as a Director 1 October 1997. Also has overall responsibility for information services, insurance and investor relations.

Karl von der Heyden# (63) – Non-Executive Director and Chairman of the Audit Committee – appointed as a Director 1 October 1998. Executive Vice-Chairman of PepsiCo, Inc. Non-Executive Director of Federated Department Stores Inc., the Pepsi Bottling Group and the Whitman Corporation.

Marcus Wallenberg# (43) – Non-Executive Director – *appointed as a* Director 6 April 1999. Appointed as a Director of Astra AB 18 May 1989. President and Chief Executive Officer of Investor AB. Non-Executive Vice-Chairman of Saab AB and Telefonaktiebolaget LM Ericsson. Non-Executive Director of Scania AB, Skandinaviska Enskilda Banken, Stora Enso Oyj, the Knut and Alice Wallenberg Foundation and SAS Representatives.

Claes Wilhelmsson (60) – Executive Director, Research and Development – appointed as a Director 6 April 1999.

Sir Sydney Lipworth QC – Chairman – retired 6 April 1999.
Peter Doyle CBE – Executive Director – retired 6 April 1999.
Sir Richard Greenbury – Non-Executive Director and Chairman of the Remuneration and Nomination Committee – retired 6 April 1999.
Frank Meysman – Non-Executive Director – retired 6 April 1999.
Sir Jeremy Morse KCMG – Non-Executive Director and Chairman of the Audit Committee – retired 6 April 1999.
Alan Pink – Executive Director – retired 6 April 1999.

Other Officers of the Company at 31 December 1999 included:
Graeme Musker – Group Secretary and Solicitor – appointed as Company Secretary 6 June 1993.

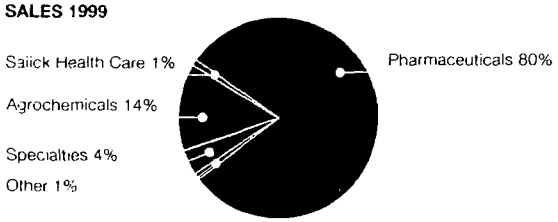
‡ Member of the Nomination Committee
* Member of the Remuneration Committee
\# Member of the Audit Committee

0045-0488

Summary Financial Review

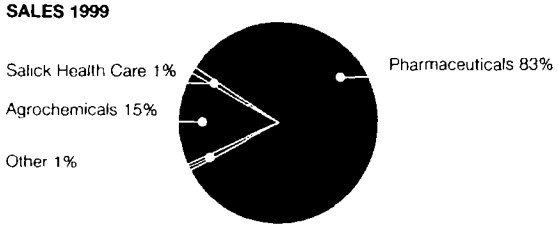
Group, Continuing and Ongoing Operations (before exceptional items)

GROUP SALES 1999



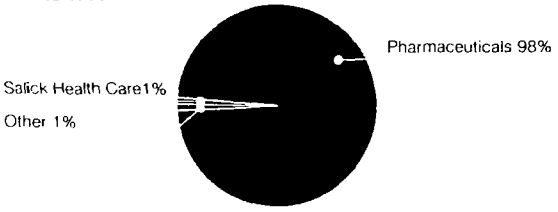
	1999 Actual $m	1998 Pro forma $m	Growth CER
Sales	18,445	17,117	**+9%**
Operating profit	3,908	3,507	**+12%**
Earnings per share	$1.54	$1.36	**+14%**

CONTINUING SALES 1999



	1999 Actual $m	1998 Pro forma $m	Growth CER
Sales	17,791	15,823	**+13%**
Operating profit	3,837	3,361	**+15%**
Earnings per share	$1.51	$1.30	**+17%**

ONGOING SALES 1999



	1999 Actual $m	1998 Pro forma $m	Growth CER
Sales	15,134	13,033	**+17%**
Operating profit	3,570	3,002	**+20%**
Earnings per share	$1.41	$1.17	**+22%**

All narrative in this section refers to pro forma growth rates at constant exchange rates. Pro forma sales have been adjusted to include the results of the Astra Merck joint venture for a full 12 months in 1998.

1999 has been a critical year for the group marked by a number of major achievements. Whilst the year has been dominated by the merger, the group has also taken the actions necessary to fundamentally reshape AstraZeneca into a pure healthcare business, focussed on pharmaceuticals. The sale of Specialties was completed on 30 June 1999 for $2 billion and agreement was reached in December to spin-off and merge Zeneca Agrochemicals with the agrochemicals and seeds business of Novartis to form Syngenta.

These changes will enable the group to concentrate on the most profitable and fastest growing business in its portfolio, pharmaceuticals. The results for 1999, summarised opposite, clearly demonstrate this with sales and operating profit for the group growing by 9% and 12% respectively while sales and operating profit for ongoing operations (healthcare only) grew by 17% and 20% respectively.

This first Annual Review as AstraZeneca is also the first to be presented in US dollars. Following completion of the merger the US dollar is now the primary currency in which the group conducts its business and to reflect this the share capital of the group has been redenominated from sterling into US dollars and these and all subsequent results will be presented in US dollars.

AstraZeneca's sales for the year ended 31 December 1999 were $18,445 million compared with reported sales for 1998 of $15,402 million. However, the comparison of the results with last year is distorted as 1998's results only included six months sales of Astra Merck, Astra's former joint venture with Merck in the US, following the restructuring of the US operations in June 1998. Including a full twelve months of the Astra Merck joint venture, and excluding the effects of exchange rate movements, AstraZeneca's 1999 sales increased by 9% on a pro forma basis.

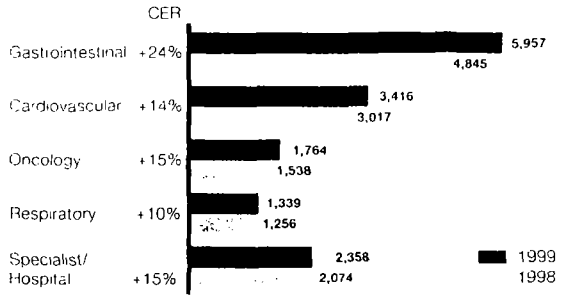
Operating profit before exceptionals was $3,908 million representing an increase of 12% on a pro forma basis and at constant currency. On the same basis earnings per share, before exceptional items, for the group grew by 14% to $1.54.

0045-0489

Healthcare

Total healthcare sales for 1999 were $15,042 million representing an increase over 1998 of 17%. Operating profits for 1999 before exceptional items were $3,595 million, up 19%.

SALES BY THERAPEUTIC AREA $m
Pro Forma Combined



Gastrointestinal

Sales grew by 24% to $5,957 million. Growth was driven by the *Losec/Prilosec* US prescription market share which increased to 32.6% in December 1999. Strong sales of *Losec* in France, up 51%, mainly due to co-prescribing with NSAIDs, more than offset the decline in Germany, down 27% due to generic competition.

Cardiovascular

Strong market share growth continued with sales increasing by 14% to $3,416 million. US prescription growth for *Zestril* remained strong with total prescription share standing at 24.6% at the end of December 1999. *Atacand* sales grew strongly in all markets (up 312% to $171 million) and *Seloken* US prescription growth continued to be strong.

Respiratory

Sales grew by 10% to $1,339 million. Prescription demand for *Pulmicort* in the US, the fastest growing market for the product, remained strong despite supply constraints which are now showing signs of easing.

Oncology

Sales grew by 15% to $1,764 million led by strong demand for *Casodex* in all markets. *Casodex* sales increased 41% to $340 million. *Zoladex* continues to grow well (1999 sales $686 million) despite a highly competitive pricing environment. *Arimidex* sales grew by 19% to $140 million maintaining its number one position.

Specialist/Hospital

Sales saw an increase of 15% driven by strong growth in *Seroquel* and *Zomig*. *Seroquel* continues to gain market share in the US as a result of increasing acceptance of the benefits of the product. Worldwide sales of *Seroquel* increased by 254% to $232 million.

Salick Health Care

Turnover remained static in the year and the business made a loss of $8 million before exceptional items.

Exceptional Items

Exceptional items charged in 1999 for the healthcare business totalled $2,050 million, analysed as follows:

	1999 $m
Synergy and integration costs	(864)
Astra Pharmaceuticals LP restructuring costs	(28)
Salick Health Care impairment and rationalisation costs	(145)
Exceptional items included in operating profits	(1,037)
R&D related payment to Merck	(809)
Other merger costs	(204)
Total exceptional items before taxation	(2,050)

Synergy and Integration Programme

Following completion of the merger, integration task forces were established and a complete set of synergy and integration plans including financial targets were agreed.

	1999 $m	3 year programme $m
Costs	864	1,300
Annual benefits	130	1,100

The synergy plans include initiatives to remove duplicate activities throughout the organisation and to rationalise the number of facilities around the world. The benefits expected to be delivered from the programme total $1.1 billion of which $130 million was achieved in 1999 and the business remains on track to deliver $500 million benefits in 2000.

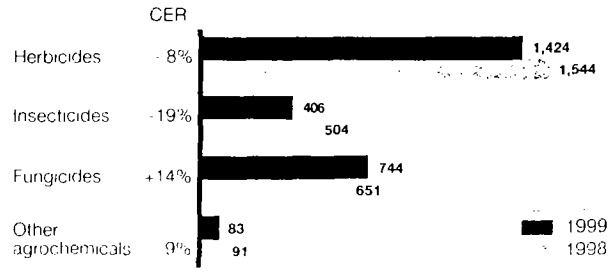
Salick Health Care

An exceptional charge of $145 million was made following the decision to refocus the business on a smaller base of profitable cancer centres and to recognise the impairment of certain asset carrying values.

Agrochemicals

Sales decreased by 5%; operating profit decreased by 21%, and excluding the ISK integration costs charged in 1998, by 29%. Continuing adverse trading conditions in the Americas have depressed results although this was partly offset by growth in Europe and Asia Pacific.

SALES BY PRODUCT TYPE $m



0045-0490

Touchdown sustained volume growth of over 20% for the full year; selective herbicide sales were affected by further penetration of genetically modified crops in addition to generally adverse conditions. The impact in the Americas of low farm incomes and low insect infestation in many crops depressed insecticide sales. *Amistar*, with 1999 sales of $415 million three years following launch, is now the world's leading branded fungicide and sales grew by over 40% in 1999.

Exceptional items

During 1999 Zeneca Agrochemicals undertook a number of restructuring projects designed to improve profitability. These measures resulted in a charge of $125 million and are expected to yield annual savings of approximately $50 million.

Syngenta

On 2 December 1999, the spin-off and merger was announced of the Agrochemicals business with the agrochemicals and seeds activities of Novartis to form Syngenta AG which will be the world's first global dedicated agribusiness with a combined ranking of number 1 in crop protection (number 3 in seeds).

For the financial year ended 31 December 1998 the combined total sales of Syngenta were $7.9 billion and combined EBITDA (earnings before interest, tax, depreciation and amortisation) were $1.6 billion. Combined research and development investment in the same period was approximately $700 million.

Syngenta, in which AstraZeneca shareholders will hold 39% of the shares, will be listed on four major stock exchanges. Syngenta's capital structure will target total long term debt of approximately $3.5 to $4.0 billion to enable a repurchase of shares and repayment of parental debt.

Work on the formation of Syngenta is proceeding to plan and completion of the transaction is expected before the end of 2000.

Specialties Disposal

The exceptional gain on the disposal of Specialties was $237 million before tax and generated net cash of $1.6 billion after related separation costs.

Foreign Exchange

In 1999 the US dollar appreciated against most major currencies, particularly the euro, but depreciated against the Japanese yen. It is estimated that the effects of these currency movements was to reduce sales by approximately $160 million and operating profit by some $50 million (net of hedging benefits).

Taxation

The effective tax rate for 1999 for ongoing operations before exceptional items was 29.5%. Tax relief on exceptional items was limited to an effective rate of 20% due to the element of asset write-offs and disallowable costs within the provisions.

Cash Flows

Group operating cash flows before exceptional items were $4.7 billion. The cash flow performance has been complicated in 1999 by the proceeds from the disposal of Specialties (net $1.6 billion inflow), exceptional items and Merck payments ($2.2 billion outflow) and cash flows of discontinued activities.

Underlying cash flow, for ongoing operations, can be summarised as follows:

	$bn
Trading cash flow	4.3
Capital expenditure	(1.5)
Interest	–
Tax paid	(0.8)
Net cash flow before distributions	2.0
Dividends	(1.2)
Share repurchase	(0.2)
Net cash flow	0.6

Share Buy Backs and Dividend Policy

During 1999 the group revised its dividend policy. Following changes in tax treatment of dividends and the removal of tax costs on companies repurchasing their own shares, the new distribution policy contains both a regular dividend cash flow and a share repurchase component, giving the company more flexibility in managing its capital structure over time. Dividends will be paid twice a year, with a greater proportion paid as a second interim, and will be re-based over time so that earnings will cover dividends by between two and three times. The dividend (in the absence of unforeseen circumstances) will be maintained at $0.70 per share until such time as it falls comfortably within this range.

During the second half of the year the group began the share buy-back programme and re-purchased 4 million shares for an aggregate sum of $183 million. The programme will continue in 2000 with further re-purchases planned.

AstraZeneca paid a first interim dividend for 1999 on 25 October 1999 of $0.23 per $0.25 Ordinary Share. A second interim dividend for 1999 of $0.47 per $0.25 Ordinary Share has been declared which, together with the first interim dividend, makes a total dividend of $0.70 for the year in line with the new dividend policy.

Year 2000

AstraZeneca's operations were largely unaffected by date-related problems at the Millennium rollover and normal business resumed, as planned, in January 2000 with only a small number of instances where contingency plans were invoked to resolve problems. Total spend on Year 2000 was $170 million spread over more than three years and this expenditure ensured that material issues were avoided and business continuity was maintained.

0045-0491

Summary Financial Statement

This summary financial statement is a summary of information in the group's annual financial statements and Directors' Report and does not contain sufficient information to allow for as full an understanding of the results and state of affairs of the group as would be provided by the full annual financial statements and Directors' Report. Shareholders requiring more detailed information have the right to obtain, free of charge, a copy of the group's last full Annual Report and Form 20-F, available from the Secretary at the registered office of the Company.

The summary financial statement on pages 32 to 37 was approved by the Board of Directors on 23 February 2000 and was signed on its behalf by:

Tom McKillop
Director

Jonathan Symonds
Director

Auditors' Statement

Auditors' Statement to the members of AstraZeneca PLC, pursuant to section 251 of the Companies Act 1985

We have examined the summary financial statement set out on pages 32 to 37.

Respective responsibilities of Directors and Auditors
The Directors are responsible for preparing the Annual Review 1999. Our responsibility is to report to you our opinion on the consistency of the summary financial statement within the Annual Review 1999 with the full Annual Report and Form 20-F, and its compliance with the relevant requirements of Section 251 of the Companies Act 1985 and the regulations made thereunder. We also read the other information contained in the Annual Review 1999 and consider the implications for our report if we become aware of any apparent misstatements or material inconsistencies with the summary financial statement.

Basis of opinion
We conducted our work in accordance with Bulletin 1999/6 'The auditor's statement on the summary financial statement' issued by the Auditing Practices Board. Our report on the group's full annual financial statements describes the basis of our audit opinion on those financial statements.

Opinion
In our opinion the summary financial statement is consistent with the full annual financial statements and Directors' Report of AstraZeneca PLC for the year ended 31 December 1999, and complies with the applicable requirements of Section 251 of the Companies Act 1985, and the regulations made thereunder.

23 February 2000

KPMG Audit Plc
Chartered Accountants
Registered Auditor
8 Salisbury Square
London EC4Y 8BB

Deloitte & Touche
Chartered Accountants
Registered Auditor
1 Little New Street
London EC4A 4TR

0045-0492

Group Profit and Loss Account

For the year ended 31 December

	Continuing operations				1999
	Ongoing operations	Operations to be discontinued	Exceptional items	Discontinued operations	Total
	$m	$m	$m	$m	$m
Turnover: Group and share of joint ventures'	15,334	2,657	–	662	**18,653**
Less: Share of joint ventures' turnover	(200)	–	–	(8)	**(208)**
Group turnover	15,134	2,657	–	654	**18,445**
Operating costs	(11,704)	(2,436)	(1,162)	(586)	**(15,888)**
Other operating income	140	46	–	3	**189**
Group operating profit	3,570	267	(1,162)	71	**2,746**
Share of operating (loss)/profit of joint ventures and associates	(10)	2	–	1	**(7)**
Profits less losses on sale and closure of operations	–	–	–	237	**237**
Merger costs	–	–	(1,013)	–	**(1,013)**
Profits on sale of fixed assets	–	–	–	–	**–**
Profit on ordinary activities before interest	3,560	269	(2,175)	309	**1,963**
Net interest	(4)	–	–	–	**(4)**
Profit on ordinary activities before taxation	3,556	269	(2,175)	309	**1,959**
Taxation	(1,048)	(93)	448	(122)	**(815)**
Profit on ordinary activities after taxation	2,508	176	(1,727)	187	**1,144**
Attributable to minorities	–	(1)	–	–	**(1)**
Net profit for the financial year	2,508	175	(1,727)	187	**1,143**
Dividends to Shareholders					**(1,242)**
Profit/(loss) retained for the financial year					**(99)**
Earnings per $0.25 Ordinary Share before exceptional items	$1.41	$0.10	–	$0.03	**$1.54**
Earnings per $0.25 Ordinary Share (basic)	$1.41	$0.10	($0.97)	$0.10	**$0.64**
Earnings per $0.25 Ordinary Share (diluted)	$1.41	$0.10	($0.97)	$0.10	**$0.64**
Weighted average number of Ordinary Shares in issue (millions)					**1,776**

Group Statement of Total Recognised Gains and Losses

For the year ended 31 December

	1999
	$m
Net profit for the financial year	**1,143**
Movement in unrealised holding gains and losses on short-term investments	**–**
Exchange adjustments on net assets	**(740)**
Translation differences on foreign currency borrowings	**132**
Tax on translation differences on foreign currency borrowings	**(22)**
Total recognised gains and losses relating to the financial year	**513**

$m means millions of US dollars

0045-0493

1998					1997				
Continuing operations					Continuing operations				
Ongoing operations $m	Operations to be discontinued $m	Exceptional items $m	Discontinued operations $m	Total $m	Ongoing operations $m	Operations to be discontinued $m	Exceptional items $m	Discontinued operations $m	Total $m
12,383	2,790	–	1,309	16,482	10,600	2,605	–	1,369	14,574
(1,065)	–	–	(15)	(1,080)	(1,398)	–	–	(10)	(1,408)
11,318	2,790	–	1,294	15,402	9,202	2,605	–	1,359	13,166
(8,891)	(2,492)	(72)	(1,158)	(12,613)	(6,912)	(2,301)	–	(1,222)	(10,435)
119	61	163	10	353	60	61	–	5	126
2,546	359	91	146	3,142	2,350	365	–	142	2,857
534	1	–	4	539	717	2	–	3	722
–	–	–	(46)	(46)	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–
–	–	17	–	17	–	–	–	–	–
3,080	360	108	104	3,652	3,067	367	–	145	3,579
47	–	–	–	47	81	–	–	–	81
3,127	360	108	104	3,699	3,148	367	–	145	3,660
(903)	(126)	(16)	(41)	(1,086)	(899)	(131)	–	(51)	(1,081)
2,224	234	92	63	2,613	2,249	236	–	94	2,579
(3)	1	–	–	(2)	(8)	(1)	–	–	(9)
2,221	235	92	63	2,611	2,241	235	–	94	2,570
				(1,061)					(986)
				1,550					1,584
$1.25	$0.13	–	$0.06	$1.44	$1.27	$0.13	–	$0.05	$1.45
$1.25	$0.13	$0.05	$0.04	$1.47	$1.27	$0.13	–	$0.05	$1.45
$1.24	$0.13	$0.05	$0.04	$1.46	$1.26	$0.13	–	$0.05	$1.44
				1,779					1,777

1998 $m	1997 $m
2,611	2,570
2	1
(178)	(766)
(7)	(5)
2	2
2,430	1,802

Group Balance Sheet

At 31 December

	1999 $m	1998 $m
Fixed assets		
Tangible fixed assets	**5,981**	6,281
Goodwill and intangible assets	**3,736**	2,440
Fixed asset investments		
Investments in joint ventures	**108**	157
Investments in associates	**6**	5
Other investments	**71**	191
	9,902	9,074
Current assets		
Stocks	**2,156**	2,029
Debtors	**4,470**	3,963
Short-term investments	**2,859**	2,702
Cash	**429**	710
	9,914	9,404
Total assets	**19,816**	18,478
Creditors due within one year		
Short-term borrowings	**(344)**	(347)
Current instalments of loans	**(34)**	(30)
Finance leases	**(1)**	(5)
Other creditors	**(6,640)**	(5,268)
	(7,019)	(5,650)
Net current assets	**2,895**	3,754
Total assets less current liabilities	**12,797**	12,828
Creditors due after more than one year		
Loans	**(739)**	(761)
Finance leases	**(1)**	(15)
Other creditors	**(462)**	(25)
	(1,202)	(801)
Provisions for liabilities and charges	**(1,253)**	(1,045)
Net assets	**10,342**	10,982
Capital and reserves		
Called-up share capital	**444**	600
Share premium account	**202**	54
Capital redemption reserve	**1**	–
Merger reserve	**441**	583
Other reserves	**676**	44
Profit and loss account	**8,538**	9,648
Shareholders' funds – equity interests	**10,302**	10,929
Minority equity interests	**40**	53
Shareholders' funds and minority interests	**10,342**	10,982

0045-0495

Statement of Group Cash Flow

For the year ended 31 December

	1999 $m	1998 $m	1997 $m
Cash flow from operating activities			
Net cash inflow from trading operations	**4,699**	3,817	3,463
(Outflow)/inflow related to exceptional items	**(1,586)**	15	(108)
Net cash inflow from operating activities	**3,113**	3,832	3,355
Dividends received from joint ventures and associates			
Joint ventures	**3**	262	369
Returns on investments and servicing of finance			
Interest received	**132**	229	188
Interest paid	**(97)**	(124)	(145)
Dividends paid by subsidiaries to minority interests	**(6)**	(2)	(74)
	29	103	(31)
Tax paid	**(1,020)**	(775)	(750)
Capital expenditure and financial investment			
Cash expenditure on tangible fixed assets	**(1,490)**	(1,392)	(1,233)
Cash expenditure on intangible assets	**(1,263)**	(114)	(100)
New fixed asset investments	**(6)**	(18)	(11)
Disposals of fixed assets	**28**	155	52
	(2,731)	(1,369)	(1,292)
Acquisitions and disposals			
Acquisitions and purchases of minority interest	**(23)**	(2,013)	(321)
Investments in joint ventures and associates	**–**	–	(5)
Disposals of business operations	**1,981**	–	3
Disposals of investments in associates	**20**	–	2
	1,978	(2,013)	(321)
Equity dividends paid to Shareholders	**(1,216)**	(995)	(882)
Net cash inflow/(outflow) before management of liquid resources and financing	**156**	(955)	448
Management of liquid resources			
Movement in short-term investments and fixed deposits (net)	**(254)**	974	(252)
Financing	**(182)**	(205)	(4)
(Decrease)/increase in cash in the year	**(280)**	(186)	192

0045-0496

Dividends

	1999 Per Share	1998 Per Share	1997 Per Share	1999 $m	1998 $m	1997 $m
Zeneca Group PLC						
Interim	–	£0.14	£0.135	–	220	210
Final	–	£0.28	£0.250	–	448	388
	–	£0.42	£0.385	–	668	598
Astra AB						
Dividend	–	SEK1.90	SEK1.80	–	393*	388
AstraZeneca PLC						
Interim, paid on 25 October 1999	**$0.23**	–	–	**408**	–	–
Second interim, to be confirmed as final, payable 17 April 2000	**$0.47**	–	–	**834**	–	–
	$0.70	–	–	**1,242**	–	–
				1,242	1,061	986

* The record date for the payment of Zeneca's final dividend and Astra's dividend for the 1998 fiscal year was 9 April 1999. Former Astra stockholders who accepted the merger offer prior to the record date received a dividend corresponding to 28 pence per AstraZeneca share (total payment $359m). Astra stockholders who did not accept the merger offer prior to the record date received Astra's proposed dividend of SEK1.90 per share.

Earnings per $0.25 Ordinary Share

	1999	1998	1997
Net profit for the financial year before exceptional items ($m)	**2,730**	2,553	2,570
Exceptional items after tax ($m)	**(1,587)**	58	–
Net profit for the financial year ($m)	**1,143**	2,611	2,570
Earnings per Ordinary Share before exceptional items ($)	**$1.54**	$1.44	$1.45
(Loss)/gain per Ordinary Share on exceptional items ($)	**($0.90)**	$0.03	–
Earnings per Ordinary Share ($)	**$0.64**	$1.47	$1.45
Diluted earnings per Ordinary Share before exceptional items ($)	**$1.54**	$1.43	$1.44
Diluted (loss)/gain per Ordinary Share on exceptional items ($)	**($0.90)**	$0.03	–
Diluted earnings per Ordinary Share ($)	**$0.64**	$1.46	$1.44
Weighted average number of Ordinary Shares in issue for basic earnings (millions)	**1,776**	1,779	1,777
Dilutive impact of share options outstanding (millions)	**3**	4	3
Diluted average number of Ordinary Shares in issue (millions)	**1,779**	1,783	1,780

There are no options, warrants or rights outstanding in respect of unissued shares except for employee share option schemes. The earnings figures used in the calculations above are unchanged for diluted earnings per Ordinary Share.

Earnings per Ordinary Share before exceptional items has been calculated to eliminate the impact of exceptional items on the results of the business.

0045-0497

Emoluments of Directors

The aggregate remuneration, excluding pension contributions, paid to or accrued for all Directors and officers of the Company for services in all capacities during the year ended 31 December 1999 was $14m (including $300,000 to the Chairman). Remuneration of individual Directors was as follows:

		Salary and fees	Bonuses*	Taxable benefits	Other	**Total 1999**	Total 1998	Total 1997
		$'000	$'000	$'000	$'000	**$'000**	$'000	$'000
Percy Barnevik	(from 6 April 1999)	300	–	–	–	**300**	–	–
Sir David Barnes		823	373	21	–	**1,217**	1,426	1,057
Håkan Mogren	(from 6 April 1999)	839	635	26	–	**1,500**	–	–
Tom McKillop		1,154	566	21	–	**1,741**	848	705
Michael Pragnell		654	79	34	104†	**871**	637	508
Åke Stavling	(from 6 April 1999)	471	329	42	–	**842**	–	–
Jonathan Symonds		667	338	28	116†	**1,149**	734	148
Claes Wilhelmsson	(from 6 April 1999)	514	359	12	–	**885**	–	–
Sir Peter Bonfield		57	–	–	–	**57**	45	44
Karl von der Heyden		61	–	–	–	**61**	12	–
Erna Möller	(from 6 April 1999)	46	–	–	–	**46**	–	–
Dame Bridget Ogilvie		57	–	–	–	**57**	45	44
Lars Ramqvist	(from 6 April 1999)	49	–	–	–	**49**	–	–
Marcus Wallenberg	(from 6 April 1999)	46	–	–	–	**46**	–	–
Former Directors								
Sir Sydney Lipworth		67	–	9	–	**76**	281	272
Peter Doyle		158	223	5	602#	**988**	740	593
Alan Pink		175	73	5	–	**253**	853	646
Sir Richard Greenbury		20	–	–	–	**20**	53	52
Frank Meysman		17	–	–	–	**17**	45	44
Sir Jeremy Morse		20	–	–	–	**20**	50	44
Others							22	813
		6,195	2,975	203	822	**10,195**	5,791	4,970

* The figures stated above include the cost to the company of providing the matching contribution of shares in respect of that part of the bonus which is to be taken in shares by each Director.

† Payments for pension related tax liabilities.

\# Compensation for loss of office

Emoluments shown are for the Directors' services as a Director of AstraZeneca PLC, formerly Zeneca Group PLC. Therefore the emoluments of former Astra Directors and employees, who are now Directors of AstraZeneca, (i.e. Håkan Mogren, Åke Stavling, Claes Wilhelmsson, Erna Möller, Lars Ramqvist and Marcus Wallenberg) are for the period from their appointment as Directors of AstraZeneca PLC (6 April 1999) to 31 December 1999.

0045-0498

Group Financial Record

For the years ended 31 December	1995	1996	1997	1998	**1999**
	$m	$m	$m	$m	**$m**
Turnover and profits					
Group turnover	12,074	13,188	13,166	15,402	**18,445**
Cost of sales	(4,085)	(4,307)	(4,063)	(4,961)	**(6,037)**
Distribution costs	(374)	(385)	(364)	(367)	**(343)**
Research and development	(1,671)	(1,961)	(2,170)	(2,473)	**(2,923)**
Selling, general and administrative expenses	(3,566)	(3,751)	(3,838)	(4,812)	**(6,585)**
Other income	189	193	126	353	**189**
Group operating profit	2,567	2,977	2,857	3,142	**2,746**
Group operating profit before exceptional items	*2,670*	*2,977*	*2,857*	*3,051*	***3,908***
Exceptional items charged to operating profit	*(103)*	–	–	*91*	***(1,162)***
Share of operating profit of joint ventures and associates	354	504	722	539	**(7)**
Exceptional items	(306)	(56)	–	(29)	**(776)**
Net interest	75	118	81	47	**(4)**
Profit on ordinary activities before taxation	2,690	3,543	3,660	3,699	**1,959**
Taxation	(808)	(1,040)	(1,081)	(1,086)	**(815)**
Profit on ordinary activities after taxation	1,882	2,503	2,579	2,613	**1,144**
Attributable to minorities	(25)	(19)	(9)	(2)	**(1)**
Net profit for the financial year	1,857	2,484	2,570	2,611	**1,143**
Return on sales					
Group operating profit before exceptional items as a percentage of sales	22.1%	22.6%	21.7%	19.8%	**21.2%**

0045-0499

Group Financial Record (continued)

At 31 December	1995	1996	1997	1998	**1999**
	$m	$m	$m	$m	**$m**
Balance sheets					
Fixed assets (tangible and intangible) and goodwill	5,251	5,661	5,894	8,721	**9,717**
Fixed asset investments	834	1,005	1,027	353	**185**
Current assets	8,044	9,118	9,095	9,404	**9,914**
Total assets	14,129	15,784	16,016	18,478	**19,816**
Creditors due within one year	(4,540)	(4,599)	(4,459)	(5,650)	**(7,019)**
Total assets less current liabilities	9,589	11,185	11,557	12,828	**12,797**
Creditors due after more than one year	917	912	902	801	**1,202**
Provisions for liabilities and charges	1,031	1,073	1,049	1,045	**1,253**
Minority equity interests	163	178	54	53	**40**
Shareholders' equity	7,478	9,022	9,552	10,929	**10,302**
Total liabilities and Shareholders' equity	9,589	11,185	11,557	12,828	**12,797**

For the years ended 31 December	1995	1996	1997	1998	**1999**
	$m	$m	$m	$m	**$m**
Cash flow					
Net cash inflow from operating activities	3,005	3,198	3,355	3,832	**3,113**
Dividends received from joint ventures and associates	243	328	369	262	**3**
Returns on investments and servicing of finance	65	98	(31)	103	**29**
Tax paid	(788)	(719)	(750)	(775)	**(1,020)**
Capital expenditure and financial investment	(918)	(1,182)	(1,292)	(1,369)	**(2,731)**
Acquisitions and disposals	(531)	227	(321)	(2,013)	**1,978**
Equity dividends paid to Shareholders	(628)	(750)	(882)	(995)	**(1,216)**
Net cash flow before management of liquid resources and financing	448	1,200	448	(955)	**156**

0045-0500

Share Information

Zeneca	1995	1996	1997	1998	*1999
Ordinary Shares in issue – millions					
At period end	947	947	949	950	**953**
Weighted average for period	946	947	948	950	**951**
Stock Market price – per Ordinary Share					
Highest (pence)	1334	1759	2265	2759	**3037**
Lowest (pence)	842	1227	1594	1860	**2406**
At period end (pence)	1246	1648	2141	2617	**3037**
Earnings per Ordinary Share before exceptional items	$0.98	$1.10	$1.26	$1.27	
Earnings per Ordinary Share (basic)	$0.56	$1.05	$1.26	$1.25	
Earnings per Ordinary Share (diluted)	$0.56	$1.05	$1.26	$1.24	
Dividends	$0.49	$0.54	$0.63	$0.70	

* For the period from 1 January 1999 to 6 April 1999

Astra	1995	1996	1997	1998	*1999
Ordinary Shares in issue – millions					
At period end	616	616	1,643	1,643	**1,643**
Weighted average for period	616	616	1,130	1,643	**1,643**
Stock Market price – per Astra A Share					
Highest (SEK)	100	129	157	173	**190**
Lowest (SEK)	64	92	112	117	**154**
At period end (SEK)	99	126	138	166	**190**
Stock Market price – per Astra B Share					
Highest (SEK)	100	126	148	169	**190**
Lowest (SEK)	63	91	109	112	**154**
At period end (SEK)	98	123	134	165	**190**
Earnings per Share (SEK)	5.33	5.75	6.21	7.18	
Dividends (SEK)	1.13	1.50	1.80	1.90	

* For the period from 1 January 1999 to 6 April 1999

AstraZeneca	*1999
Ordinary Shares in issue – millions	
At year end	**1,775**
Weighted average for year	**1,776**
Stock Market price – per $0.25 Ordinary Share	
Highest (pence)	**2946**
Lowest (pence)	**2208**
At year end (pence)	**2568**
Earnings per $0.25 Ordinary Share before exceptional items	**$1.54**
Earnings per $0.25 Ordinary Share (basic)	**$0.64**
Earnings per $0.25 Ordinary Share (diluted)	**$0.64**
Dividends	**$0.70**

* For the period from 1 January 1999 to 31 December 1999 (except for Stock Market prices which are for the period from 6 April 1999 to 31 December 1999)

0045-0501

Shareholders: Percentage analysis at 31 December 1999 of issued share capital

By size of account No. of shares	1999
1 – 250	0.6
251 – 500	1.0
501 – 1,000	1.5
1,001 – 5,000	2.2
5,001 – 10,000	0.3
10,001 – 50,000	1.6
50,001 – 1,000,000	11.9
over 1,000,000†	80.9
Issued share capital	100.0

† includes VPC and ADR holdings

At 31 December 1999, AstraZeneca PLC had 204,764 registered holders of 1,775,067,825 Ordinary Shares of $0.25 each. In addition there were approximately 40,000 holders of American Depositary Receipts representing 4.8% of the issued share capital and 196,000 holders of shares held under the VPC Services Agreement representing 29.8% of the issued share capital. The ADRs, each of which is equivalent to one Ordinary Share, are issued by Morgan Guaranty Trust Company of New York.

Substantial shareholdings

On 14 March 2000 (not more than one month prior to the date of the Notice of Annual General Meeting) the following had disclosed an interest in the issued Ordinary Share capital of the Company in accordance with the requirements of Sections 198-208 of the Companies Act 1985:

Shareholder	Number of shares	Percentage of issued share capital
The Capital Group Companies, Inc.	138,837,853	7.8%
Investor AB	91,545,308	5.2%

No other person held a notifiable interest in shares, comprising 3% or more of the issued Ordinary Share capital of the Company, appearing in the register of interests in shares maintained under the provisions of Section 211 of the Companies Act 1985.

Dividend payments

The record date for the second interim dividend payable on 17 April 2000 (in the UK, US and Sweden) was 10 March 2000. Shares have traded ex-dividend on the London Stock Exchange from 6 March 2000 and on the Stockholm Stock Exchange from 8 March 2000. ADRs have traded ex-dividend on the New York Stock Exchange from 8 March 2000. Future dividends will normally be paid as follows:

First interim:	Announced end of July/beginning of August and paid in October
Second interim:	Announced in February and paid in April

Registrar and Transfer Office
The AstraZeneca Registrar
Lloyds TSB Registrars
The Causeway
Worthing
West Sussex BN99 6DA
Telephone (01903) 502541

Depositary for ADRs
Morgan Guaranty Trust Company of New York
ADR Service Center
P O Box 842006
Boston MA 02284-2006
Telephone (781) 575 4328

Swedish Securities Registrar Centre
VPC AB
Box 7822
S-103 97 Stockholm
Telephone (8) 402 9000

0045-0502

AstraZeneca

AstraZeneca PLC

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Tel: +44 (0)20 7304 5000
www.astrazeneca.com

Registered number: 2723534

0045-0503

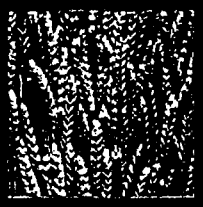
ZENECA

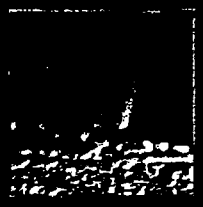
Annual Review

Bringing ideas to life

1998

0045-0504





Zeneca Pharmaceuticals

Provides ethical medicines for serious health conditions. **Salick Health Care, Inc.** is a leading US provider of cancer diagnostic and treatment services.

Zeneca Agrochemicals

Provides crop protection products designed to improve crop yields and food quality worldwide.

Zeneca Specialties

Provides a broad range of products for customer industries including healthcare, agrochemicals, paints, leather and imaging applications.

Zeneca's businesses are research and technology intensive and have extensive international development and marketing skills, and a strong common science base.

Zeneca's purpose is to be continuously successful, by providing specialised products and services which improve human health, nutrition and quality of life. In achieving this, we will maintain the following values:

Customer focus
We will remain alert to our customers' needs, and respond quickly and positively to them.

Innovation
We will be continuously innovative, responding to changes in the global business environment, turning new ideas into practical and profitable products.

Personal development
We will encourage everyone in Zeneca continuously to test assumptions, to develop their capabilities and to learn from each other's experience.

Ethical standards
We will maintain high professional and ethical standards; we will be open and honest, positive and constructive, and worthy of trust and respect in all our activities.

Social responsibilities
We will be welcomed as responsible partners in all the communities in which we operate.

Wealth creation
We will seek to create wealth in both the short and long term, so as to improve the value of our shareholders' investment, and to pass on a vibrant and successful company to future generations.

Trade marks of Zeneca Group companies appear throughout this document in italics.

Contents

Chairman's Introduction	1
Key Achievements in 1998	2
Chief Executive's Review	3
Pharmaceuticals	4
Agrochemicals	10
Specialties	14
Summary Financial Review	18
Safety, Health and Environment	20
People and Community	22
Corporate Governance	23
Board of Directors	24
Summary Financial Statement	25
Group Profit and Loss Account	26
Group Balance Sheet	27
Statement of Group Cash Flow	28
Notes to the Summary Financial Statement	29
Group Financial Record	31
Shareholder Information	IBC

The contents of this Zeneca Annual Review are derived wholly and exclusively from the Zeneca Annual Report and Form 20-F for the financial year ended 31 December 1998, to which the reader is referred for additional analytical information.

0045-0505

Chairman's Introduction

This is Zeneca's first Annual Review. Over 90% of shareholders opted to receive information on our progress in this format and I hope you find it useful and informative.

As you know, the boards of Zeneca and Astra of Sweden have agreed to a merger of the two companies, subject to shareholder and regulatory approval. Progress is being made with the proposed merger and an update is being provided in a separate leaflet accompanying this Annual Review.

Looking back to the year under review, Zeneca continued its strong performance in 1998. Profit before tax and exceptional items of £1.1 billion was achieved on sales of £5.5 billion, compared with £1.1 billion and £5.2 billion in 1997. Whilst the adverse effect of the strength of sterling has been reducing, it nevertheless continued to impact our reported results. Expressed in constant currency, Zeneca's profit before tax and exceptional items grew by 10% from sales which increased by 10%.

The Board intends to pay a second interim dividend of 28p on 26 April 1999, bringing the dividend for the full year to 42p, an increase of 9% over 1997.

Full details of the proposed AstraZeneca Board are given in the accompanying leaflet. Four of Zeneca's Executive Directors will be on the AstraZeneca Board: Tom McKillop (Chief Executive), Jonathan Symonds (Chief Financial Officer), Michael Pragnell (Executive Director) and Sir David Barnes, who will be one of two Deputy Chairmen of the new company. Dame Bridget Ogilvie, Sir Peter Bonfield and Karl von der Heyden will be non-Executive Directors. I wish them all every success in their new roles.

Peter Doyle and Alan Pink, currently Executive Directors of Zeneca, will be stepping down. They have given outstanding service to Zeneca and its predecessor over many years, and we are most grateful to them for their unswerving dedication and commitment and the very valuable contribution they have made. Sir Jeremy Morse, Sir Richard Greenbury and Frank Meysman will also be retiring from the Board on completion of the merger. They have been invaluable to the Group, and I should like to thank them warmly, on behalf of us all, for their strong support and wise counsel over the years.

Chief architect of Zeneca's success has been Sir David Barnes who has led the Executive Team with distinction, skill and determination. Shareholders will, I know, join me in expressing our warm thanks to David for his outstanding leadership as Zeneca's Chief Executive. I am delighted that his talents and his broad experience of Zeneca and industry generally will continue to be available to AstraZeneca as one of its Executive Deputy Chairmen.

Zeneca's impressive progress could not have been achieved without the exceptional effort of our employees. I have often commented on the high quality and standards of all who work in Zeneca worldwide, and we are most grateful to them for their valuable contribution both individually and collectively.

I should also like to express my own warm thanks to all my colleagues on the Board and the Executive Team for the key contribution they have made and for their support to me personally. This is much appreciated.

It has been a privilege and my good fortune to have been Zeneca's Chairman over the past four years. They have been eventful and successful years, during which the Company has grown strongly. As we go into the merger, Zeneca is well placed for further growth and for its role in the merged group. I have no doubt that AstraZeneca will be a powerful and successful force in world markets and I wish all who will be involved in the venture every ongoing success.

Sir Sydney Lipworth
Chairman

Key Achievements in 1998

- Group sales up 6%; at constant currency up 10%
- Group profit before exceptional items and taxation down 2%; at constant currency up 10%
- EPS before exceptional items down 1%; at constant currency up 11%
- New pharmaceutical products launched since 1995 collectively contributed 28% of total sales in 1998
- Significantly increased sales for the new fungicide *Amistar*, coupled with the successful integration of the acquired *Bravo* fungicide business, earnings neutral in 1998 and contributing to Agrochemicals' growth strategy
- Specialties' rationalisation and growth programme continued to deliver benefits: 16% increase in operating profit at constant currency
- Group research and development further strengthened through four new external collaborations (two pharmaceuticals, two agrochemicals)
- November announcement of intention to consider possible divestment of the Specialties business to potential buyers who would offer Specialties additional growth opportunities
- Proposed merger with Astra, announced in December, will strengthen the Pharmaceuticals business in key areas of research and development, global marketing reach and greater financial flexibility

Group Financial Highlights

	1998 £m	1997 £m	% change
Sales	5,510	5,194	+6%
Operating profit	[illegible]	[illegible]	+1%
Profit before exceptional items and taxation	[illegible]	[illegible]	–2%
Profit before taxation	[illegible]	[illegible]	–3%
Net profit for the financial year	[illegible]	[illegible]	–2%
Earnings per Ordinary Share	75.2p	[illegible]	–2%
Earnings per Ordinary Share before exceptional items	[illegible]	[illegible]	–1%
Dividend per Ordinary Share	42.0p	[illegible]	+9%

Chief Executive's Review

1998 was a significant year for Zeneca. The Group delivered sales of £5.5 billion and profit before tax and exceptional items of £1.1 billion, with high quality performances from all three businesses. At constant currency, Pharmaceuticals grew operating profit by 14%, Agrochemicals by 16% and Specialties by 16%, confirming the benefits of our continued strategy to develop new products for global markets by concentrating our skills and resources on an actively managed business portfolio.

During the year, we initiated major developments to further improve shareholder value. The proposed merger with Astra, further details of which are given separately, will strengthen our pharmaceuticals business in the key areas of research and development, global marketing reach and greater financial flexibility. The organic growth strategies which have been a hallmark of Zeneca since its formation, are shared by Astra and will be continued by AstraZeneca.

Opportunities to improve the quality of our Agrochemicals and Specialties businesses have also been taken. The integration of the worldwide chlorothalonil crop protection fungicide business, acquired in February 1998 from Ishihara Sangyo Kaisha Ltd of Japan, has progressed most satisfactorily. It was earnings neutral in its first year and is making a contribution to Agrochemicals' growth strategy. The announcement in November 1998 that Zeneca intended to consider the possible divestment of its Specialties business (with the exception of Marlow Foods) was made to enable us to explore opportunities with potential buyers who would offer Specialties additional growth opportunities.

Clearly, 1998 has been a busy and successful year. Our achievements would not have been possible without the continued commitment of our employees, which was particularly appreciated when the possible divestment of Specialties and the proposed Astra merger were announced. I know that employees recognise the business benefits and opportunities that these two moves will bring, but I also understand that there will be mixed feelings about the changes that will arise. Zeneca's commitment to employees is clear. We will honour our existing employment principles and values in all negotiations aimed at improving the quality of our business performance and an ongoing programme of communication and consultation will keep employees fully informed.

Safety, health and environment continues to be a priority area. Last year, I reported that some aspects of our 1997 performance were disappointing and that these areas were to be particular targets for improvement. I am pleased now to report that improvements have been made, notably a reduced accident rate. However, there is still some way to go to meet our declared aim of eliminating all accidents and incidents.

At the 1998 AGM, Sir Sydney Lipworth announced that he would be stepping down as Chairman at the 1999 AGM. Sir Sydney has always been willing to give support to Zeneca in all of its activities worldwide. I have valued his ready approachability, advice and experience and I am sure that shareholders and employees alike will join me in paying tribute to the contribution he has made to Zeneca's success.

It has been a great privilege for me to have been Zeneca's Chief Executive. As I am due to relinquish this role at the 1999 AGM, I would like to take this opportunity to record my personal thanks to shareholders for their continued support for Zeneca, and to my Board and management team colleagues and all employees worldwide for their commitment, creativity and hard work in realising Zeneca's potential. I am delighted that Tom McKillop, with his deep knowledge of the pharmaceuticals business, his energy and determination, will succeed me as Chief Executive. Both he and I are excited by the challenges and opportunities that the merger with Astra presents. Separately Astra and Zeneca are excellent companies; together we aim to grow from strength to strength, building on each other's experience, capabilities and potential in a spirit of co-operation and mutual reinforcement.

Sir David Barnes
Chief Executive

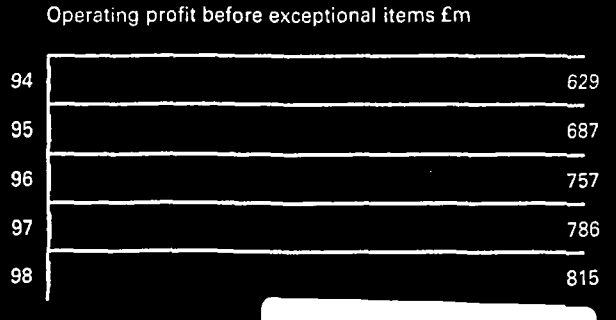
Pharmaceuticals

Highlights of the year

- New products launched since 1995 collectively contributed 28% of total sales in 1998
- Anti-cancer therapies *Casodex* and *Arimidex*, launched in 1995, maintain leading positions in their respective classes
- *Accolate* asthma therapy, launched in 1996, now approved in 33 countries
- *Zomig* migraine treatment, launched in 1997, now approved in over 50 countries
- *Nolvadex* approved in the US as the first and only drug for the reduction of incidence of breast cancer in women at high risk of developing the disease
- Development pipeline further strengthened by the addition of four new chemical entities (NCEs) through in-licensing agreements
- Continued strengthening of global presence through new or expanded operations in Australia, Taiwan, Colombia and Turkey

Providing innovative medicines for serious health problems

Zeneca Pharmaceuticals



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Zeneca Pharmaceuticals: Sales of Key Products

	1998 Sales £m	Growth % over 1997 Constant currency
Oncology		
Zoladex	**377**	+14%
Nolvadex	**316**	+6%
Casodex	**147**	+24%
Arimidex	**73**	+47%
Others	**13**	+63%
Primary Care		
Zestril	**677**	+10%
Tenormin	**302**	–6%
Accolate	**92**	+78%
Zomig	**61**	+408%
Others	**86**	+8%
Specialist/Hospital Care		
Diprivan	**393**	+17%
Merrem	**77**	+40%
Seroquel	**39**	+29%
Others	**158**	–5%
Total	**2,811**	**+14%**

Zeneca Pharmaceuticals is a large, innovative ethical pharmaceuticals business with an established record of new product invention and commercialisation. Its products are focused on three medical market areas: Oncology (anti-cancer), Primary Care and Specialist/ Hospital Care.

Oncology

Cancer is a devastating disease which caused some 6.2 million deaths globally in 1997. Zeneca is one of the world's leading suppliers of anti-cancer medicines, led by its products *Zoladex* and *Nolvadex*.

Zoladex, an LHRH analogue, is used to treat prostate cancer as an alternative to surgical castration or other medical treatment. Launched in the UK in 1987, *Zoladex* is now the second largest selling LHRH analogue worldwide and, in 1998, Zeneca continued to increase the product's market share.

In keeping with Zeneca's lifecycle management policy for all its products, new formulations and additional indications have been introduced and are still being developed for

Zeneca is one of the world's leading suppliers of anti-cancer medicines

Zoladex. A long-acting, three month depot formulation, the first LHRH analogue for prostate cancer available in this form, was introduced in 1995 and, in recent years, Zeneca has gained marketing approval for use of *Zoladex* in the treatment of advanced pre- and peri-menopausal breast cancer, endometriosis, uterine fibroids, endometrial thinning and in assisted reproduction. A further indication in combination treatment of early stage prostate cancer was gained in 1998.

Picture 1 One in ten women will be affected by breast cancer during their lifetime. Zeneca markets a leading range of treatments for this devastating disease.

Picture 2 *Nolvadex* is now approved in the US for use in the reduction of the incidence of breast cancer in women at high risk of developing the disease – the first and only drug to be approved for this purpose.

Nolvadex is the world's largest selling breast cancer medicine. More than 10 million patient years of its use to treat breast cancer have demonstrated that this medication significantly prolongs overall patient survival.

In October 1998, Zeneca gained US Food and Drug Administration (FDA) approval for an important additional use of *Nolvadex*: the reduction in the incidence of breast cancer in women at high risk of developing the disease. *Nolvadex* is the first and only drug to be approved for this purpose. In addition, Zeneca announced an agreement with Roche Laboratories, Inc. to co-promote *Nolvadex* in the US. This new development for *Nolvadex*, combined with Zeneca's focused marketing in markets where its patent has expired, and vigorous defence of its US patent (which does not expire until 2002), aims to ensure that this product continues to make a significant contribution to Pharmaceuticals' profitability.

Casodex is an orally administered anti-androgen for the treatment of advanced prostate cancer in combination with surgical or medical castration. Since its launch in 1995, the product's efficacy and patient benefits have established it as the leading brand of anti-androgen in several countries with good growth in 1998 (20%).

First launched in 1995, *Arimidex* is now the world's largest selling aromatase inhibitor used in the treatment of advanced breast cancer. It is the first aromatase inhibitor which is taken orally, is selective and does not interfere with adrenal steroid biosynthesis. It is available in the US, Europe and various minor markets. Studies are being conducted to determine if *Arimidex* can also be used to treat early disease.

Primary Care

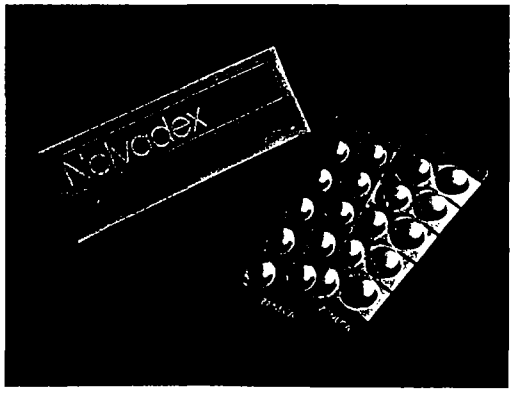
Zeneca has a firmly established position in Primary Care and continues to build and develop its global Primary Care customer base, focusing on three large, rapidly growing disease areas where there remain substantial levels of unmet need: cardiovascular, the central nervous system and respiratory.

Cardiovascular

Heart disease remains the greatest cause of death in the Western world, and its incidence is increasing in developing countries. Zeneca has a broad range of products targeted at this substantial area of need.

Introduced initially in 1988 to treat hypertension and congestive heart failure, Zeneca's successful lifecycle management of ACE-inhibitor *Zestril* has increased its indications to include acute myocardial infarction and,

1



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during 1998, renal and retinal complications of diabetes. Zeneca continues to sustain good growth for *Zestril* and to increase its market share, despite the entry of several competitors. With sales of £677 million for 1998, *Zestril* is the world's second largest ACE-inhibitor (in revenue terms) and the most widely prescribed ACE-inhibitor in the US.

A further positive development for *Zestril* in 1998 was the announcement of the results of the ATLAS study which compared the effects of high and low doses of *Zestril* in some 3,164 patients with heart failure over five years. Results showed that high doses have significant benefits in reducing the risk of hospitalisation and death, and Zeneca will now seek regulatory approval for appropriate labelling amendments.

Introduced in 1976, *Tenormin* is a leading beta-blocker used mainly in the treatment of hypertension, ischaemic heart disease and abnormal heart rhythms. Patents for *Tenormin* have expired in all major markets and the product is now subject to competition from generic atenolol. However, the rate of erosion of *Tenormin* sales has stabilised and it continues to be a leading beta-blocker worldwide.

Central nervous system

Estimates suggest that at some point in their lives, some 10% of the world's population suffer from the pain and quality of life impairment of migraine. Zeneca's novel anti-migraine compound, *Zomig*, is now approved in over 50 countries for the treatment of acute migraine with or without aura. During 1998, Zeneca launched *Zomig* in tablet form in three more major markets: the US, France and Spain. New formulations of *Zomig* (intranasal and a fast-melt), and its use in additional indications in migraine sub-types such as adolescent/paediatric migraines, are being developed.

Respiratory

Asthma is a serious and complex disorder estimated to affect up to 5% of adults and 10% of children in most major markets. The unpredictability of attacks can make life even more difficult for the sufferer. Designed by Zeneca to prevent attacks and available in tablet form, *Accolate* was the first leukotriene receptor antagonist (LTRA) to be marketed in the US and is now approved in 33 countries. Progress for *Accolate* during 1998 included launch in six additional major markets: UK, Italy, Spain, Australia, Brazil and China.

Zeneca Pharmaceuticals' research and development collaborations

Partner	Area of collaboration	Partner	Area of collaboration
Sugen, Inc.	*signal transduction*	Xenova Limited	*natural compounds library*
Cambridge University	*combinatorial chemistry*	University of California, Irvine	*immunosuppressive drugs*
Wellcome Trust and Oxford University	*human genome research*	The University of Oxford	*genetic research into heart disease*
Boston Life Sciences, Inc.	*autoimmune diseases*	SEQ Ltd	*DNA sequencing technology*
Celltech plc	*cancer and arthritis*	University of Dundee Consortium	*signal transduction*
Incyte Pharmaceuticals, Inc.	*genomic database*	Sangamo BioSciences Inc.	*novel gene targets*
Pharmacopeia, Inc.	*combinatorial chemistry*	Isis Pharmaceuticals	*antisense based cancer drugs*
Molecular Dynamics Inc. and Nycomed Amersham plc	*technology access agreement*	Amersham Pharmacia Biotech AB	*proteomics*

Specialist/Hospital Care

Diprivan, Zeneca's world leading anaesthetic, has been administered to more than 190 million people worldwide since its launch in 1986. It is particularly suited to meeting the increasing demand for outpatient surgery as well as early transfer from the recovery room to the ward. US patent protection for *Diprivan* (propofol) expired in November 1996. However, in March 1997 the FDA granted Zeneca exclusivity for a modified formulation of *Diprivan*, containing the antimicrobial sodium edetate, until June 1999 and in February 1998 this formulation was granted a US patent until 2015. On 4 January 1999, Zeneca learned that the FDA granted trial approval to GensiaSicor Pharmaceuticals Inc.'s Abbreviated New Drug Application for a propofol product containing a different antimicrobial. Zeneca does not agree with this decision and has filed suit against the FDA.

Schizophrenia is the most common form of mental illness, affecting one in every 100 people, usually between the ages of 15 and 45. *Seroquel*, for the treatment of schizophrenia and other psychotic disorders, is an atypical anti-psychotic, effective against both positive and negative symptoms of schizophrenia with comparable efficacy to competitor drugs and an improved side-effect profile compared to traditional anti-psychotics. Launched in the UK and the US in 1997, further approvals were gained worldwide in 1998. *Seroquel* is also in development for the treatment of psychoses in Alzheimer's Disease and Parkinson's Disease.

Sales and marketing

During 1998, Zeneca Pharmaceuticals strengthened its sales and marketing operations in four countries by purchasing the pharmaceuticals business of Orica Ltd (formerly ICI Australia) in Australia; establishing new subsidiaries in Taiwan and Colombia; and increasing its holding in its subsidiary in Turkey from 70% to 100%.

Research and development

Zeneca Pharmaceuticals has an established record of successful research and development aimed at generating a flow of new prescription medicines and preserving or enhancing the competitive advantages and market position of existing products.

To supplement its own research expertise, the business works closely with academic institutions and pharmaceutical companies. In recent years, Pharmaceuticals has established a portfolio of complementary collaborations in genomics, cell biology and bioinformatics which, when integrated with in-house research capabilities in gene discovery, human genetics and enabling technologies such as high throughput screening and robotics, forms the basis of its drug discovery programme. Zeneca's pharmaceutical research collaborations are shown on page 7.

Product pipeline

Zeneca continuously reviews its development portfolio and in 1998, the business added four NCEs to its pipeline through in-licensing agreements:

- Chirocaine, a long-acting local anaesthetic from Chiroscience Group PLC, for which regulatory approval has been received in Sweden and is being sought in the US and other countries
- ZD4522, a HMGCoA reductase inhibitor, a lipid-lowering agent (a group of products also known as 'statins'), from Shionogi & Co. Ltd., currently in Phase II
- ZD0473, a platinum compound with anti-cancer properties, from AnorMED, Inc., now in Phase II
- ZD6126, a vascular targeting agent from Angiogene Pharmaceuticals Limited which impedes further growth of tumours and metastases, in pre-clinical development.

Development of *Faslodex*, a selective anti-oestrogen currently in Phase III for the treatment of advanced breast cancer, is continuing and it is expected that it will be submitted for regulatory approval in 2000.

Arimidex	oral aromatase inhibitor for breast cancer
Casodex	oral anti-androgen for prostate cancer
Nolvadex	oral anti-oestrogen for breast cancer
Tomudex	injectable cytotoxic agent for colorectal cancer
Zoladex	LHRH analogue administered as a subcutaneous depot for prostate cancer, breast cancer, certain benign gynaecological disorders and assisted reproduction
Primary Care	
Accolate	oral leukotriene receptor antagonist for the treatment of asthma
Inderal	oral beta-blocker for hypertension, angina, anxiety, migraine and other disorders
Sular†	oral calcium antagonist for hypertension and ischaemic heart disease (licensed from Bayer AG for sale in a number of world markets)
Tenormin	oral cardio-selective beta-blocker for hypertension, angina and other cardiovascular uses
Tenoretic	oral combination beta-blocker/diuretic for hypertension
Zestril	oral ACE (Angiotensin Converting Enzyme) inhibitor for hypertension, acute myocardial infarction and renal and retinal complications of diabetes (under licence from Merck & Co Inc)
Zestoretic	oral combination (ACE-inhibitor and diuretic) for hypertension (under licence from Merck & Co Inc)
Zomig	oral, acute treatment for migraine
Specialist/Hospital Care	
Apatef/Cefotan*	injectable antibiotic for prophylaxis and treatment of bacterial infections (licensed from Yamanouchi Pharmaceutical Co., Ltd)
Diprivan	intravenous anaesthetic
Hibitane	hospital skin antiseptic
Merrem/Meronem	ultra broad-spectrum injectable antibiotic (licensed from Sumitomo Pharmaceuticals Co. Limited)
Seroquel	atypical anti-psychotic for schizophrenia and other psychotic disorders

† Sular is a trade mark owned by Bayer AG

* Apatef/Cefotan are trade marks owned by Yamanouchi Pharmaceutical Co., Ltd.

0045-0514

Agrochemicals

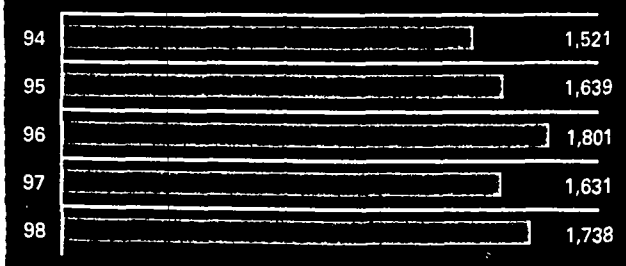
Highlights of the year

- Further launches and significantly increased sales for its innovative broad-spectrum fungicide, *Amistar*
- Successful integration of the worldwide *Bravo* business, acquired from ISK, earnings neutral in its first year
- Approval from Chinese government to construct a major new *Gramoxone* herbicide plant in Nantong
- Expanded biotechnology programme including a £50 million ten-year research collaboration with the John Innes Centre and Sainsbury Laboratory, and a major agrigenomics collaboration with Incyte Pharmaceuticals, Inc.

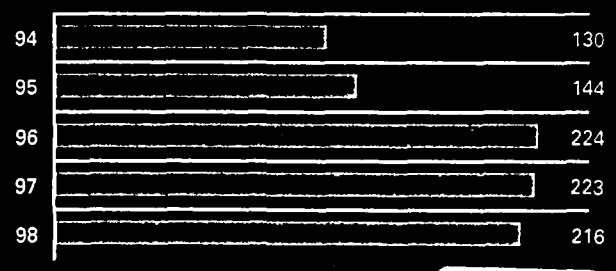
Helping to protect key crops worldwide

Zeneca Agrochemicals

Sales £m



Operating profit before exceptional items £m



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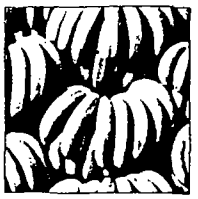


Zeneca Agrochemicals: Sales by Product Sector

	1998 Sales £m	1997 Sales £m
Herbicides	**974**	1,025
Insecticides	**314**	329
Fungicides	**395**	204
Others	**55**	73
Total	**1,738**	1,631

Zeneca is a world leading supplier of agrochemicals which are designed to improve crop yields and food quality. The business has global marketing reach, and a broad product range which controls principal weeds, pests and diseases in all major crops.

Herbicides

Herbicides control weeds which would otherwise diminish crop yields and quality. They replace or reduce manual and mechanical weeding and, by reducing the need for cultivation, can help reduce soil erosion and water loss.

Gramoxone, a non-selective contact herbicide, is the world's second largest selling agricultural chemical and Zeneca Agrochemicals' largest selling product. It has been a leading product in the development of minimum tillage cropping systems, the adoption of which continues to increase because of the resultant benefits such as the reduction of soil erosion. The advantages of *Gramoxone* are speed of action, crop safety, rainfastness and compatibility with other products. It is not absorbed by roots and, because it is rapidly rendered biologically inactive in soil, does not lead to soil or ground-water contamination. *Gramoxone* is registered

Zeneca is a world leading supplier of agrochemicals

in 120 countries around the world. In April 1998, Zeneca gained approval from the Chinese authorities for the construction of a new £42 million plant in Nantong for the manufacture of *Gramoxone* to support future product growth. *Touchdown*, a non-selective systemic herbicide complementary to *Gramoxone*, is now registered in over 80 countries.

Zeneca also has a strong portfolio of selective herbicides, including *Fusilade* and *Flex*, used on soybeans and other crops, *Surpass*, primarily for corn, and *Achieve* for wheat and barley.

Picture 1 Launched in its principal market, the US, in 1994, *Surpass* is now established as a major grass herbicide for use in corn.

Picture 2 *Zeneca is focusing its work in biotechnology on crops* where it has established strengths, such as wheat and tomatoes.

Insecticides

Insecticides are used to control chewing pests such as caterpillars and rootworms which would otherwise damage crops, and sucking pests such as aphids which transmit yield-threatening viral diseases and cause quality problems following harvest.

Karate, the world's leading agricultural pyrethroid, is Zeneca's largest selling insecticide. Zeneca has sustained sales of *Karate* through a combination of significant additional label extensions, successful positioning alongside insect-resistant cotton, by expanding public health uses and through product development. In the US, the launch of a novel micro-encapsulated *Karate* product, which offers customer benefits, helped sales to grow in 1998 and will reinforce the product's leading position.

Fungicides

Fungicides prevent and cure the many plant diseases, such as rice blast, cereal rust and grapevine downy mildew, thus enhancing crop yields and quality.

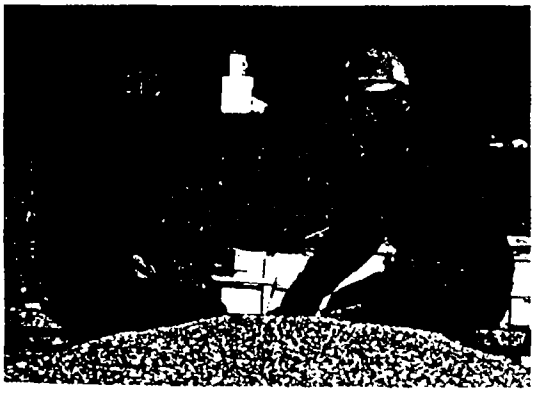
Following Zeneca's widespread and successful launch in 1997 of its innovative, broad-spectrum fungicide *Amistar,* further gains were made in 1998 through new launches and increases in market share. Sales almost tripled and *Amistar* is now one of the leading fungicides on the market with registrations in 46 countries (including all major markets) for use on 43 crops. The 1998 launch in Japan, the world's largest fungicide market, was a notable milestone.

Zeneca made a significant addition to its fungicide portfolio in February 1998 with the acquisition and successful integration of the worldwide chlorothalonil business from Ishihara Sangyo Kaisha, Ltd. of Japan. Chlorothalonil, which is manufactured in the US and sold internationally as *Bravo,* is one of the world's largest selling fungicides. With its multi-site mode of action it is a good partner for *Amistar.* The acquisition strengthens Zeneca's presence in the key fungicide markets of Europe and the Americas.

Research and development

Zeneca has a long and successful track record of inventing and developing novel crop protection chemicals, and a strong portfolio of new products. Research and development has been directed towards providing innovative and differentiated products which meet the requirement for environmentally benign, safer and more effective products.

1



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Zeneca has been investing significantly in enabling technologies to ensure that its innovative capability and capacity remains at the forefront of the industry. It is a leader in the application of high throughput screening (HTPS) to identify crop protection chemicals, screening well over 100,000 compounds in 1998.

Plant biotechnology

Biotechnology has opened up large new areas of potential opportunity through its ability to improve crop traits to benefit the grower and end-user. Zeneca estimates that this market will grow substantially and has significantly increased the resources it devotes to building a strong biotechnology platform. In-house capabilities are complemented by an extensive external network of relationships, including a recent £50 million 10-year collaboration with the John Innes Centre and Sainsbury Laboratory, and a major agrigenomics collaboration with Incyte Pharmaceuticals, Inc.

Zeneca was the first company to introduce a genetically modified (GM) product in Europe, in the form of a genetically modified tomato, sold as a tomato purée which was launched in the UK in 1996. The product, which is clearly labelled as containing GM tomatoes, was developed and launched in collaboration with two major retailers. In many of the stores where it is sold, it outsells conventional tomato purée; further European launches are planned.

Product pipeline

In herbicides, Agrochemicals' main development compound is a pre- and post-emergence herbicide effective against key broad-leaved weeds in corn. First registration submissions were made in early 1998.

In the area of insecticides Zeneca has in development a novel mode of action nematicide for controlling pests in soil. Genetic approaches to nematode control are also being pursued. Zeneca is also applying its high throughput screening techniques to finding new insect proteins which, when incorporated in plants, will give them resistance to insects.

To sustain the momentum created by recent fungicide launches and acquisitions, Zeneca is developing new chemical and gene-based fungal control solutions for commercialisation post-2000. Early field development of a second product from the area of chemistry which generated *Amistar* is underway.

Zeneca Agrochemicals: Major products

Crop treated	Horticulture	Oilseeds	Corn	Wheat and Barley	Rice	Cotton	Others
Herbicides	Gramoxone	Gramoxone	Gramoxone	Touchdown	Gramoxone	Gramoxone	Gramoxone
	Touchdown	Touchdown	Touchdown	Achieve	Ordram	Fusilade	Touchdown
	Fusilade	Fusilade	Surpass	Boxer			Fusilade
	Regione	Regione	Mikado				Regione
		Flex	Eradicane				
		Racer	Milagro				
Insecticides	Karate	Karate	Karate	Karate	Karate	Karate	Karate
	Pirimor		Force				Ambush
							Cymbush
Fungicides	Amistar			Amistar	Amistar		Amistar
	Bravo			Bravo	Anvil		Bravo
	Anvil			Anvil			Anvil
	Impact			Impact			
	Shirlan						

Note: the darker shaded areas represent major segments of the world agrochemicals market

0045-0518

Specialties

Highlights of the year

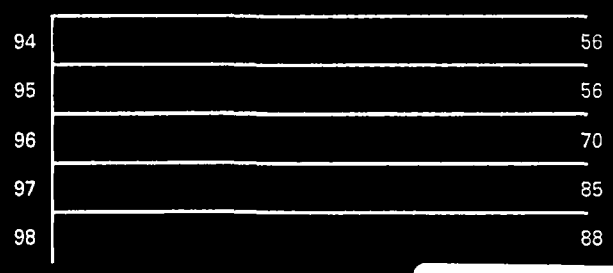
- Strategic rationalisation and growth programme continued to deliver benefits: 16% increase in operating profit in 1998, at constant currency
- US$33 million investment in LifeScience Molecules announced, including the establishment of first DNA medicines manufacturing facility outside the US
- Queen's Award for Export Achievement

Providing specialised products for a range of customer industries

Zeneca Specialties

Sales £m

Operating profit before exceptional items £m



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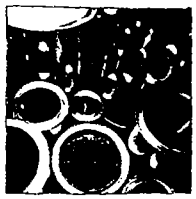


Zeneca Specialties: Sales by Business Area

	1998 Sales £m	1997 Sales £m
Industrial Colours	**122**	130
Biocides	**92**	93
LifeScience Molecules	**73**	55
Performance & Intermediate Chemicals	**71**	80
Stahl	**168**	188
Resins	**165**	171
Marlow Foods	**55**	48
Toll Manufacturing & Other	**94**	120
Total	**840**	885

In November 1998, Zeneca announced its intention to consider the possible divestment of its Specialties business (other than Marlow Foods). Specialties is a group of high quality specialty chemical businesses focused on delivering technological and service differentiation to customers across a broad range of global industries. These businesses are linked by core competencies in organic chemistry, polymer science, coatings technology and process development.

The strategic rationalisation and re-organisation of the Specialties businesses, started in 1996, continued to deliver benefits in 1998. The re-organised portfolio consists of good quality business areas which Specialties aims to grow organically and through selective acquisition.

Industrial Colours

Industrial Colours consists of two discrete businesses: Specialist Colours, which encompasses high purity dyes and inks for the ink jet printing market and materials for use in electrophotographic imaging; and Other Industrial Colours, which includes high performance pigments and additives for the paints, plastics and ink industries and paper dyes.

Zeneca holds leading positions in many of its Specialties' market sectors

Specialist Colours manufactures and markets high purity dyes and liquid ink formulations predominantly for home and office ink jet printers. Capacity expansion at its US plant in Wilmington, Delaware in 1996, and a phased move into new facilities at Zeneca's Grangemouth, Scotland, site in 1998 has provided the business with sufficient capacity to meet

Picture 1 Specialties R&D is focused on the development of more environmentally acceptable products such as water-based resins used, for example, in graphic inks

Picture 2 During the year, Pigments & Additives' new product development programme brought forward a number of new additives for use in the paints and ink industries.

projected customer demand in the ink jet printing market and a growing number of new applications such as photo-realistic imaging and wide format printing.

Biocides

Biocides produces a range of formulated anti-microbials used to control bio-deterioration problems caused by micro-organisms (bacteria, fungi and algae). In 1997/1998, the business launched an important new product for plastics and polymers under the brand name *Vanquish*, initially for sale in Europe.

The business also markets a range of chlorine-free sanitisers for residential swimming pools and spas which are sold mainly in the US through dealers. In 1997, Zeneca achieved registration to sell its key brands *Baquacil* and *BaquaSpa* in California, US – an important market with over one million private pools and spas. Dealer arrangements were revised in 1997 and the business is now actively marketing these products in California.

LifeScience Molecules (LSM)

LifeScience Molecules develops and manufactures complex chemical intermediates and active ingredients for customers in the lifescience industries. In 1998, LSM announced a US$33 million package of investments to further enhance its process technology and manufacturing capabilities to meet customer requirements in this high growth sector. The investment programme includes a new DNA medicines manufacturing suite at Grangemouth, Scotland, which is due on stream in early 1999; new pharmaceutical intermediate manufacturing facilities at Grangemouth and Huddersfield, UK, and a new biopharmaceutical process development plant which will officially open at Billingham, UK in March 1999.

In 1998, LSM received a UK Queen's Award for Export Achievement, recognising export growth by the business since its formation in January 1996.

Performance & Intermediate Chemicals (PICs)

PICs supplies mining chemicals, fine organics, special drug mixtures and other chemical intermediates. In 1998, PICs invested US$4 million to expand phosphine intermediate production facilities at Specialties' Mount Pleasant Site, Tennessee, US. The expansion is expected to be completed in March 1999. The Metal Extraction Products business maintained its leadership position in 1998, gaining three major new contracts.

1

2

Stahl

Stahl is one of the world's leading companies in leather finishes. The automotive industry is a key market for its products and it is estimated that three million cars produced each year contain leather upholstery finish from Stahl.

In 1998, Stahl received approval from the Indian government to construct a new US$5 million plant near Chennai, Madras which will manufacture approximately 5,000 tonnes annually of leather processing products, dyes and finishes to meet demand from the country's growing leather market.

Resins

Zeneca Resins manufactures and markets specialty resins used primarily in the manufacture of coatings, inks and adhesives. Increased demand for its water-based coatings has resulted in further capacity investment for acrylic emulsions and polyurethane dispersions at sites in the US and Holland. The capacity expansion at Waalwijk, Holland, was completed in late 1998.

Research and development

Specialties' research and development combines product development, closely driven by customer requirements, with medium and longer term strategic research organised in areas of technological competence. In the organic chemical businesses, R&D is focused on identifying and patenting new molecules and on the development of more environmentally acceptable products. Coatings' R&D is focused on the use of water-dispersible polymers to replace solvent-based products.

Marlow Foods

In 1998, the *Quorn* range continued its strong growth, increasing market share and reinforcing its position as the leading meat alternative brand in the UK. The business has trebled in size over the last three years with sales in 1998 increasing to well over 100 million *Quorn* meals sold in the UK and across continental Europe. Increasing demand led to the development of many new *Quorn* products during 1998.

Zeneca Specialties: Major products

Business area	Industrial Colours	Biocides	LifeScience Molecules	Performance & Intermediate Chemicals	Stahl	Resins	Marlow Foods
Applications	Specialist colours (high purity inks and chemicals) for ink jet printing markets and materials for use in electrophotographic imaging; high performance pigments for paint and plastics applications; additives for paints, plastics and inks; paper dyes	Industrial Biocides eg *Proxel* and *Promexal* preservatives, *Densil* and *Vanquish* fungicides, *Vantocil* disinfectants and *Cosmocil* preservative for personal care. Swimming pool and spa products eg *Baquacil*	Complex intermediates and active ingredients to support the development and manufacture of new medicinal, nutritional and agrochemical products based on the application of innovative biotechnology and organic chemistry	Mining chemicals, fine organics, special drug mixtures, polymer and monomer stabilisers and other chemical intermediates	Leather chemicals, shoe finishes and coatings for fabrics	Binders and additives for architectural and industrial coatings and adhesives/ printing inks	*Quorn* myco-protein food

0045-0522

Summary Financial Review

Zeneca's sales for the year ended 31 December 1998 were £5,510 million compared with £5,194 million during the same period in 1997, an increase of 6%. Excluding the effects of exchange rate movements, sales were up by 10%. Zeneca's operating profit before exceptional items was £1,097 million for the year compared to £1,083 million in 1997, an increase of 1%. The impact of exchange rates in the period has been to reduce operating profit by £131 million. Excluding the effects of exchange rate movements, profit on ordinary activities before taxation and exceptional items grew by 10%.

Zeneca Group Sales and Operating Profit (Years ended 31 December)

	1998 £m	1997 £m	1996 £m
Sales			
Pharmaceuticals	**2,811**	2,565	2,435
Salick Health Care	**126**	121	110
Agrochemicals	**1,738**	1,631	1,801
Specialties	**840**	885	1,025
Inter-business eliminations	**(5)**	(8)	(8)
	5,510	**5,194**	**5,363**
Operating profit			
Pharmaceuticals	**815**	786	757
Salick Health Care	**(9)**	3	6
Agrochemicals	**216**	223	224
Specialties	**88**	85	70
Miscellaneous*	**(13)**	(14)	(14)
	1,097	**1,083**	**1,043**

* Miscellaneous includes the result of insurance operations, corporate costs not allocated to businesses, and inter-business eliminations.

The following business sector comments exclude effects arising from exchange rate movements, acquisitions, disposals and Year 2000 costs.

Pharmaceuticals' sales have grown by 14%, driven by growth in new products and successful lifecycle management of more mature products. Sales in the US grew by 21%. Operating profit grew by 15%.

On 4 September 1998, the Zeneca Group acquired the pharmaceuticals business of Orica Ltd (formerly ICI Australia Ltd) for £122 million. The acquisition provides Zeneca with direct access to the Australian and New Zealand pharmaceutical markets.

In Agrochemicals, the outstanding feature of the year has been the success achieved in the fungicides sector. *Amistar* is now approved for sale in 46 countries on 43 crops and sales have grown rapidly. The absorption of the US-based fungicide business of ISK, acquired in early February 1998 for £240 million, has proceeded successfully and quickly with an important contribution to sales from the leading brand, *Bravo*. These two products have driven total fungicide sales to £395 million.

In Specialties, the operating profit growth of 21% includes the benefits of the restructuring and reshaping activities of the past several years, aimed at producing a much better quality business. Consistent with that strategy, Zeneca decided to close the Organophosphate Intermediates business and cease manufacture with effect from the end of June 1998, with a resultant exceptional item of £28 million being charged against profit. The core businesses within Specialties continue to grow steadily, with the newer businesses – such as LifeScience Molecules – producing particularly encouraging results.

Joint ventures and associates consists largely of results from Zeneca's 50% share in Advanta B.V., the Seeds joint venture with Cooperatie Cosun U.A. Advanta's 1998 profit was £5 million lower than 1997 due mainly to a deterioration in the European grasses business and associated rationalisation costs.

The net interest expense for the year was £36 million, £26 million higher than for 1997 reflecting the reduction in cash balances following the acquisition of the US-based fungicide business of ISK and the pharmaceuticals business of Orica Ltd in 1998.

Net cash inflow from operating activities amounted to £1,217 million compared with £1,169 million in 1997. Net cash outflow before management of liquid resources and financing was £277 million compared with £187 million in 1997 due to increased expenditure on acquisitions and tangible fixed assets.

Zeneca had net debt of £257 million at 31 December 1998 and gearing of 10.2% (31 December 1997 £nil). Shareholders' funds increased by a net £354 million to £2,514 million at year end.

Year 2000

Zeneca's Group-wide Year 2000 Project is addressing the issue of computer programmes and embedded computer chips being unable to recognise correctly the change of year and other date related faults associated with Year 2000. Some of these systems are critical to Zeneca's operations and business processes and might fail or function incorrectly if not repaired or replaced with Year 2000 ready products.

Preparations began in 1996 to address the Year 2000 issue. The general phases of the Year 2000 Project are: (1) identifying and investigating the total number of systems and equipment that are "date" sensitive; (2) repairing or replacing items; (3) testing the remediation or replacement of non-compliant items; and (4) designing and developing contingency and business continuity plans.

A comprehensive inventory of "date" sensitive systems and equipment has been completed. At 31 December 1998, remediation and testing phases of the Project have been completed for a substantial majority of non-compliant items, and the Zeneca Directors believe that approximately 90% of Zeneca's computer systems are Year 2000 compliant. Non-compliant items are scheduled to be remediated and tested by Spring 1999. Remediation and testing phases of the Project for all business critical systems are scheduled for completion in the first part of 1999.

Zeneca has risk assessed its key suppliers, customers and business partners and is engaged in an ongoing dialogue with them about their plans and progress in addressing the Year 2000 problem. These evaluations are complemented by the development of contingency plans where appropriate, which are scheduled to be in place by 30 June 1999.

Zeneca currently estimates that the total cost of the Year 2000 Project will be approximately £70 million. Costs totalling £44 million have been charged against business operating profits in 1998, this brings the cumulative expenditure to £57 million.

The Year 2000 Project is expected to reduce significantly Zeneca's level of uncertainty about the Year 2000 problem and, in particular, about the Year 2000 compliance and readiness of its business-critical third parties. Zeneca believes that with the completion of the Year 2000 Project as scheduled, the possibility of significant interruptions or normal operations should be reduced but will still be highly dependent on key services outside of Zeneca's control.

Safety, Health and Environment

Zeneca's Safety, Health and Environment Policy

In pursuit of its business objectives, it is Zeneca's policy to manage its activities to give benefit to society, ensuring that:

- They meet all relevant laws, regulations and international agreements
- They are conducted safely, protecting the health of all employees and all persons who may be affected
- They are acceptable to the community at large
- Their environmental impact is reduced to a practicable minimum at an acceptable cost to Zeneca and society

An ongoing commitment to improvement

Zeneca aims continuously to improve SHE performance through good management and the commitment of its staff. During the year, the Zeneca Executive Council adopted the following vision for Zeneca's SHE performance: "Our aim is the elimination of all accidents and incidents."

Zeneca's global business encompasses many different activities. With such diversity, it is important that all employees share a common understanding of the requirements of good SHE performance and the Group's commitment to it. To this end, Zeneca operates a global SHE management system, based on its policy and a common set of standards. Zeneca also provides managers with guidelines as to good practice in the control of SHE risks at work and carries out audits to ensure that standards are met.

The Group's overall objectives are: to demonstrate compliance with Zeneca SHE policy and standards and all relevant laws; to identify and manage major SHE risks, and to eliminate accidents and incidents. The priorities associated with these objectives are reviewed annually and plans put in place by each business to address any areas identified for improvement. Performance is monitored throughout the year and the cycle completed with an annual review of progress by the Zeneca Executive Council.

1998 SHE performance

Regulatory compliance

Discharges to the environment from Zeneca's plants are licensed according to national regulations. Zeneca has 69 plants subject to numerical limits, of which 59 achieved better than 95% compliance and the remaining 10 achieved better than 70% compliance. Required environmental performance standards continue to rise and where improvements have been needed, or breaches of regulations have occurred, these have been actively progressed in consultation with the authorities. In most cases, the non-compliances related to minor infringements of discharge consents. However, the Company was fined following prosecutions for infringements arising from five incidents which occurred prior to 1998. Continuing emphasis is being placed overall on local and specialist audits to promote further improvement.

Safety and health

Significant effort is put into managing safety and health in all Zeneca's work environments and incidents are recorded and investigated so that any necessary action can be taken to prevent recurrence. Zeneca's performance is good by industry standards and following the deterioration in the injury accident record reported last year, the 1998 statistics show a welcome improvement (Fig 1). However, further improvement is required to achieve the aspirational target of zero incidents.

Tragically, a sales representative was killed in a multi-vehicle road accident in the US in 1998. As Zeneca has continued to expand, the amount of driving has steadily increased with an estimated 130 million miles driven annually on Company business. This large mileage, together with the hazards of the road, present a high risk environment for drivers.

Good safety, health and environment (SHE) management is essential to Zeneca's continued success and the Group gives careful consideration to all the SHE aspects of its worldwide business activities.

Considerable effort is put into safe driving programmes and all employees driving on Company business are required to undergo accident avoidance training. There was an overall reduction in accidents during the year of 6%.

Continued attention is given to improving the reporting of occupational illnesses and to supporting managers in the introduction of preventative measures. The incidence of work-related ill health cases reported during the year reduced (Fig 2). Zeneca's employee health programmes focus on conditions which occur most frequently including skin conditions, work-related stress and musculo-skeletal disorders. Work-related stress cases have remained relatively level for a number of years now with managers increasingly playing their role in recognising the issue and making the appropriate management response.

Product safety

The safety, health and environmental impact of Zeneca's products is carefully considered at all stages of development, manufacture, use and disposal. As part of this stewardship, Zeneca aims to ensure safe distribution of its products and also provides customers with information and training necessary to help them use products correctly and safely.

Environmental protection

After several years of decline, total waste increased this year (Fig 3). However, an important measure of environmental improvement is the amount of hazardous waste produced and this has continued to show a downward trend (Fig 4). The quantity of hazardous waste produced in 1998 now stands at 60% of the 1992 levels and a clearer measure of progress can be seen in Fig 5, which relates hazardous waste production to sales turnover (adjusted for inflation).

Zeneca is not a major industrial user of energy but recognises that energy conservation is important in reducing greenhouse gases and the impact on the environment, and also in making operational cost savings. Fig 6 shows the carbon dioxide emissions associated with the Group's energy consumption (excluding transport) as an index related to total sales. Although sites continue to monitor energy consumption, it is expected that the amount of energy will rise, albeit at a low rate, as production increases.

Figure 1
Classified accident rates

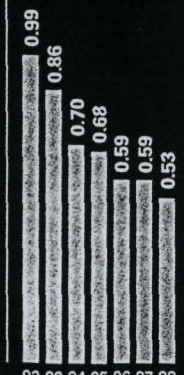


Figure 2
Occupational illness

Number of cases reported

	96	97	98
Skin disorder	52	46	28
Dust disease of the lungs	0	0	5
Respiratory conditions	17	8	3
Poisoning-toxic effects	0	0	1
Physical agents	0	5	2
Repeated trauma	38	35	40
Others (incl. work-related stress & travel)	73	80	66

Figure 3
Total waste

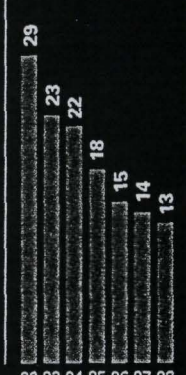
Figure 4
Hazardous wastes

Emissions (tonnes)

	To Land	To Air	To Water	Total
92	112,000	4,600	140	117,000
93	99,000	4,800	90	104,000
94	94,000	3,800	100	98,000
95	84,000	3,700	180	88,000*
96	77,000	2,800	140	80,000
97	70,000	2,100	94	72,000
98	68,000	1,500	162	70,000

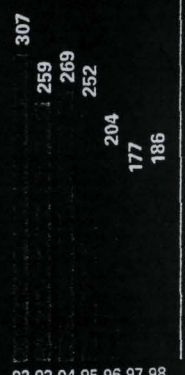
*Hazardous waste tonnages were revised after 1995, due to the reclassification of some effluents.

Figure 5
Hazardous wastes



†Turnover figures have been adjusted for inflation and currency changes relative to 1993.

Figure 6
Carbon dioxide index



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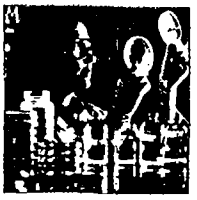
People and Community



Developing skills

Zeneca continues to develop a culture in which employees understand and share a commitment to the Company's core values and business objectives, and are given the opportunities to develop their personal contribution. Training is tailored to individual needs, at all levels, and encompasses a range of requirements. Building leadership abilities and improving personal computer skills have been priorities during 1998.

Communication and consultation

Zeneca is committed to a full and open dialogue with employees. Zeneca's announcement in December 1998 of its intention to merge with the Swedish pharmaceuticals Company, Astra, was followed by a comprehensive internal communications programme to ensure that employees worldwide were fully informed. This continuing programme of communication has made use of the Intranet and printed materials as well as individual management briefings.

Similarly, in November 1998 when the Company decided to explore the possibility of selling its Specialties business, Specialties' employees worldwide were informed of the decision followed by an ongoing programme of local, national and international consultation including a series of meetings with employee representatives and the Zeneca European Works Council.

Continuing community support

Zeneca plays an active role in the community, supporting charitable, educational and other initiatives which benefit society and which are consistent with its business aim of helping to improve health, nutrition and quality of life.

As part of its ongoing commitment to the British Red Cross, Zeneca sponsors the charity's 'Care in Crisis' Awards in the UK which recognise acts of care by members of the general public that may otherwise go unnoticed. In 1998, a special Zeneca Community Award was given to the people of Omagh in recognition of their strength, selflessness and compassion in tragic circumstances.

In the US, Zeneca is the founding sponsor of National Breast Cancer Awareness Month, the nation's largest collaborative public education programme in cancer.

In Wilmington, Delaware, where Zeneca's US headquarters are based, community activities include the 'REACH for Healthier Kids' programme which provides local families with information to promote children's health and nutrition. During the year, Zeneca in the US received the 1998 Delaware Tomorrow Award from The Family & Workplace Connection for outstanding contributions to the well-being of children in Delaware.

In addition to its established community programmes, Zeneca also helps respond to unforeseen disasters as they occur worldwide. For example, the Company recently provided antiseptics, antibiotics, anti-malarial and rat-control products worth £340,000 to the relief effort in Central America.

Promoting scientific excellence

As a major science based Company, Zeneca is committed to fostering the understanding of science and promoting scientific excellence within the community. In 1997, the Company announced the formation of the Zeneca Science Teaching Trust, a registered charity which provides funding and training to help improve the teaching of science in the UK, with particular reference initially to primary schools. July 1998 saw the formal launch of the Trust in the presence of John Battle MP, at the completion of the first year of the Trust pilot projects. The number of pilot projects has increased since then and the Trust is beginning to provide real benefits within the field of education. The results of the current pilot projects will be available in Spring 2000 when the Trust will be further expanding its approach.

Corporate Governance

The Company has applied all of the principles contained in Section 1 of the Combined Code on Corporate Governance published by the Hampel Committee in the organisational structure it has adopted to conduct its business, the means by which directors are remunerated for their services, the manner of contact with institutional shareholders and the procedures adhered to in its financial reporting, internal control and the audit process.

Other than in relation to formal directors' training, appointment of a senior Non-Executive Director, service contracts notice period and in some circumstances re-election of directors (although the Company complies fully with the spirit of the Code), the Company has also complied throughout the accounting period with the Code provisions set out in Section 1 of the Combined Code.

Directors and organisation

The Board is responsible for the Group's objectives, policies and stewardship of the Group's resources. It meets at least nine times a year and concentrates mainly on strategy and financial performance. Board members have specific remits and areas of responsibility. The Zeneca Executive Council is responsible for the management of the business and its members comprise the Executive Directors of the Board and the Business Chief Executive Officers. It meets twice a month for prompt review of all business issues and decisions other than those considered to be of a size or importance to require the attention of, and which are therefore reserved to, the full Board.

There is an established and transparent procedure for appointments of new directors to the Board. This is operated by the Remuneration and Nomination Committee which is comprised of Non Executive Directors. At the AGM every year, one third (or number nearest to one third) of the Directors retire from office.

Details of the Directors' remuneration are given on page 30.

Relations with shareholders

The Company has frequent discussions with institutional shareholders on a range of issues affecting the Company's performance. All shareholders, including private investors, have an opportunity to participate in discussions with the Board on matters relating to the Company's operation and performance at the Annual General Meeting.

Accountability and audit

The Board has overall responsibility for Zeneca's system of internal control which aims to safeguard shareholders' investment and the Group's assets, ensure that proper accounting records are maintained and that the financial information used within the business and for publication is reliable. The Group has in place a range of procedures to monitor and control the risks associated with the achievement of its objectives.

The Group Audit Committee has received and considered reports on the effectiveness of the Group's system of internal financial control.

Board of Directors 1998

Sir Sydney Lipworth QC (67) – *Chairman*
Deputy Chairman and Director of National Westminster Bank Plc, Director of Carlton Communications Plc and Chairman of the Financial Reporting Council Limited (all Non-Executive), and Member of the Senior Salaries Review Body.

Sir David Barnes CBE (62) – *Chief Executive and Chairman of the Zeneca Executive Council*
Non-Executive Director of Prudential Corporation Plc. Deputy Chairman of Business in the Community. Member of the Board of Trustees of the British Red Cross.

Alan Pink (61) – *Executive Director*
Has overall responsibility for strategic planning, human resources, public affairs and the Americas. Non-Executive Director of Smiths Industries PLC and the European Process Industries Competitiveness Centre Limited.

Peter Doyle CBE (60) – *Executive Director*
Has overall responsibility for R&D, manufacturing, SHE and Europe. Non-Executive Director of Oxford Molecular Group PLC. Chairman of the Biotechnology Science Research Council and Member of the Round Table for Sustainable Development.

Tom McKillop (55) – *Executive Director, Chief Executive elect and Chief Executive Officer of Zeneca Pharmaceuticals*
Has overall responsibility for the Pharmaceuticals business. Non-Executive Director of Nycomed Amersham Plc and of the Lloyds TSB Group Plc.

Michael Pragnell (52) – *Executive Director and Chief Executive Officer of Zeneca Agrochemicals*
Has overall responsibility for the Agrochemicals business and Asia Pacific. Non-Executive Director of David S Smith (Holdings) PLC.

Jon Symonds (39) – *Executive Director*
Has overall responsibility for finance, insurance, information technology and investor relations.

Sir Jeremy Morse*† KCMG (70) – *Independent Non-Executive Director and Chairman of the Audit Committee*

Sir Richard Greenbury* (62) – *Independent Non-Executive Director and Chairman of the Remuneration and Nomination Committee*
Non-Executive Chairman of Marks and Spencer p.l.c. Member of the Supervisory Board of Philips Electronics N.V.

Dame Bridget Ogilvie*† (60) – *Independent Non-Executive Director*
Non-Executive Director of the Lloyds TSB Group Plc.

Sir Peter Bonfield*† CBE, FENG (54) – *Independent Non-Executive Director*
Chief Executive of British Telecommunications plc, Non-Executive Deputy Chairman of ICL plc and Vice President of The British Quality Foundation.

Frank Meysman*† (46) – *Independent Non-Executive Director*
Chairman of the Board of Management of Sara Lee/DE N.V. and Director and Executive Vice President of Sara Lee Corporation, Member of the Supervisory Board VNU B.V. (Publishing) and Member of the Board of Management of GIMV.

Karl von der Heyden*† (62) – *Independent Non-Executive Director*
Appointed 1 October 1998. Vice Chairman, PepsiCo Inc. Non-Executive Director of Federated Department Stores Inc.

Tom Wyman*†, Retired at 1998 AGM, (69) – *Independent Non-Executive Director and Chairman of the Audit Committee*
Retired Chairman, SG Warburg & Co. Former Chairman and Chief Executive Officer, CBS Incorporated. Non-Executive Director of AT&T, General Motors Corporation and Hughes Electronics Corporation.

* *Member of the Remuneration and Nomination Committee*
† *Member of the Audit Committee*

Summary Financial Statement

This summary financial statement is a summary of information in the Group's annual financial statements and Directors' Report and does not contain sufficient information to allow for as full an understanding of the results and state of affairs of the Group as would be provided by the full annual financial statements and Directors' Report. Shareholders requiring more detailed information have the right to obtain, free of charge, a copy of the Group's last full Annual Report and Form 20-F, available from the Secretary at the registered office of the Company.

The summary financial statement on pages 26 to 30 was approved by the Board of Directors on 16 February 1999 and was signed on its behalf by:

Sir David Barnes
Director

J.R. Symonds
Director

Auditor's Statement to the Shareholders of Zeneca Group PLC
pursuant to section 251 of the Companies Act 1985

We have audited the summary financial statement set out on pages 26 to 30.

Respective responsibilities of Directors and Auditor
The summary financial statement is the responsibility of the Directors. Our responsibility is to report to you on its preparation and consistency with the full financial statements and Directors' Report.

Basis of opinion
We conducted our examination in accordance with the Auditing Guideline "The auditor's statement on the summary financial statement" adopted by the Auditing Practices Board. Our report on the Group's full annual financial statements describes the basis of our audit opinion on those financial statements.

Opinion
In our opinion the summary financial statement is consistent with the full financial statements and Directors' Report of Zeneca Group PLC for the year ended 31 December 1998 and complies with the requirements of section 251 of the Companies Act 1985 and the regulations made thereunder.

KPMG Audit Plc
Chartered Accountants
Registered Auditor
8 Salisbury Square
London EC4Y 8BB

16 February 1999

Group Profit and Loss Account

For the year ended 31 December	1998 £m	1997 £m	1996 £m
Group turnover	**5,510**	5,194	5,363
Operating costs	**(4,528)**	(4,190)	(4,421)
Other operating income	**115**	79	101
Group operating profit	**1,097**	1,083	1,043
Share of operating profit/(loss) of joint ventures and associates	**2**	8	(19)
Profits less losses on sale or closure of operations	**(28)**	–	(36)
Profits on sale of fixed assets	**10**	–	–
Profit on ordinary activities before interest	**1,081**	1,091	988
Net interest payable	**(36)**	(10)	(13)
Profit on ordinary activities before taxation	**1,045**	1,081	975
Profit before exceptional items	**1,063**	1,081	1,011
Exceptional items	**(18)**	–	(36)
Taxation	**(330)**	(345)	(320)
Profit on ordinary activities after taxation	**715**	736	655
Attributable to minorities	**(1)**	(6)	(12)
Net profit for the financial year	**714**	730	643
Dividends to Shareholders	**(399)**	(365)	(332)
Profit retained for the year	**315**	365	311
Earnings per 25p Ordinary Share before exceptional items (pence)	**76.3p**	77.0p	70.6p
Earnings per 25p Ordinary Share (pence)	**75.2p**	77.0p	67.8p
Diluted earnings per 25p Ordinary Share before exceptional items (pence)	**76.0p**	76.8p	70.5p
Diluted earnings per 25p Ordinary Share (pence)	**74.9p**	76.8p	67.7p
Weighted average number of Ordinary Shares in issue (millions)	**950**	948	947

Information regarding Directors' emoluments is set out on page 30.

Statement of Total Recognised Gains and Losses

For the year ended 31 December	1998 £m	1997 £m	1996 £m
Net profit for the financial year	**714**	730	643
Movement in unrealised holding gains and losses on short-term investments	**1**	1	1
Exchange adjustments on net assets	**36**	(63)	(128)
Translation differences on foreign currency borrowings	**(4)**	(3)	46
Tax on translation differences on foreign currency borrowings	**1**	1	(15)
Total recognised gains and losses relating to the year	**748**	666	547

£m means millions of pounds sterling

Group Balance Sheet

At 31 December	1998 £m	1997 £m
Fixed assets		
Tangible fixed assets	**2,191**	1,951
Goodwill and intangible assets	**384**	81
Fixed asset investments		
Investments in joint ventures	**95**	82
Share of gross assets	**154**	147
Share of gross liabilities	**(59)**	(65)
Investments in associates	**3**	3
Other investments	**48**	37
	2,721	2,154
Current assets		
Stocks	**798**	728
Debtors	**1,520**	1,399
Short-term investments	**165**	426
Cash	**206**	303
	2,689	2,856
Total assets	**5,410**	5,010
Creditors due within one year		
Short-term borrowings	**(147)**	(166)
Current instalments of loans	**(18)**	(17)
Finance leases	**(3)**	(4)
Other creditors	**(1,835)**	(1,676)
	(2,003)	(1,863)
Net current assets	**686**	993
Total assets less current liabilities	**3,407**	3,147
Creditors due after more than one year		
Loans	**(451)**	(510)
Finance leases	**(9)**	(12)
Other creditors	**(12)**	(13)
	(472)	(535)
Provisions for liabilities and charges	**(389)**	(420)
Net assets	**2,546**	2,192
Capital and reserves		
Called-up share capital	**238**	237
Share premium account	**32**	24
Merger reserve	**285**	285
Other reserves	**110**	132
Profit and loss account	**1,849**	1,482
Shareholders' funds – equity interests	**2,514**	2,160
Minority equity interests	**32**	32
Shareholders' funds and minority interests	**2,546**	2,192

Statement of Group Cash Flow

For the year ended 31 December	1998 £m	1997 £m	1996 £m
Cash flow from operating activities			
Net cash inflow from trading operations	**1,263**	1,235	1,155
Outflow related to exceptional items	**(46)**	(66)	(76)
Net cash inflow from operating activities	**1,217**	1,169	1,079
Dividends received from joint ventures and associates			
Joint ventures	**2**	2	1
Associates	**–**	–	1
	2	2	2
Returns on investments and servicing of finance			
Interest received	**24**	53	52
Interest paid	**(60)**	(66)	(69)
Dividends paid by subsidiaries to minority interests	**(1)**	(45)	(9)
	(37)	(58)	(26)
Tax paid	**(282)**	(320)	(290)
Capital expenditure and financial investment			
Cash expenditure on tangible fixed assets	**(449)**	(397)	(359)
Cash expenditure on intangible assets	**(60)**	(60)	(14)
New fixed asset investments	**(11)**	(7)	(8)
Disposals of fixed assets	**72**	21	9
	(448)	(443)	(372)
Acquisitions and disposals			
Acquisitions and purchases of minority interest	**(359)**	(196)	(1)
Investments in joint ventures and associates	**–**	(3)	(19)
Disposals of business operations	**–**	2	162
Disposals of investments in associates	**–**	1	4
	(359)	(196)	146
Equity dividends paid to Shareholders	**(370)**	(341)	(305)
Net cash (outflow)/inflow before management of liquid resources and financing	**(277)**	(187)	234
Management of liquid resources			
Movement in short-term investments and fixed deposits (net)	**261**	292	(94)
Financing	**(96)**	(32)	(39)
(Decrease)/increase in cash in the period	**(112)**	73	101

Notes to the Summary Financial Statement

Dividends

	1998 Pence per 25p Share	1997 Pence per 25p Share	1996 Pence per 25p Share	1998 £m	1997 £m	1996 £m
Interim, paid 2 November 1998	**14.0p**	13.5p	12.5p	**133**	128	118
Second interim, to be confirmed as final, payable 26 April 1999	**28.0p**	25.0p	22.5p	**266**	237	214
	42.0p	38.5p	35.0p	**399**	365	332

Earnings per 25p Ordinary Share

	1998	1997	1996
Net profit for the financial year before exceptional items (£m)	**725**	730	669
Exceptional items after tax (£m)	**(11)**	–	(26)
Net profit for the financial year (£m)	**714**	730	643
Earnings per Ordinary Share before exceptional items (pence)	**76.3p**	77.0p	70.6p
Loss per Ordinary Share on exceptional items (pence)	**(1.1)p**	–	(2.8)p
Earnings per Ordinary Share (pence)	**75.2p**	77.0p	67.8p
Diluted earnings per Ordinary Share before exceptional items (pence)	**76.0p**	76.8p	70.5p
Diluted loss per Ordinary Share on exceptional items (pence)	**(1.1)p**	–	(2.8)p
Diluted earnings per Ordinary Share (pence)	**74.9p**	76.8p	67.7p
Average number of Ordinary Shares in issue for basic earnings (millions)	**950**	948	947
Dilutive impact of share options outstanding (millions)	**4**	3	3
Diluted average number of Ordinary Shares in issue (millions)	**954**	951	950

There are no options, warrants or rights outstanding in respect of unissued shares except for employee share option schemes. The earnings figures used in the calculations above are unchanged for diluted earnings per Ordinary Share.

Earnings per Ordinary Share before exceptional items has been calculated to eliminate the impact of exceptional items on the results of the business.

Notes to the Summary Financial Statement

Emoluments of Directors

Remuneration of individual directors was as follows:

	Salary and fees £'000	Bonuses Cash £'000	Bonuses Shares* £'000	Taxable benefits £'000	Other† £'000	**Total 1998 £'000**	Total 1997 £'000*	Total 1996 £'000
Sir Sydney Lipworth	165			4		**169**	166	151
Sir David Barnes	675		169	15		**859**	645	852
P. Doyle	365	23	46	12		**446**	362	468
T. F. W. McKillop	410		90	11		**511**	430	487
A. I. H. Pink	400		100	14		**514**	394	508
M. P. Pragnell	330		41	13		**384**	310	–
J. R. Symonds	315		79	14	34	**442**	90	–
Sir Peter Bonfield	27					**27**	27	24
Sir Richard Greenbury	32					**32**	32	28
F. L. V. Meysman	27					**27**	27	5
Sir Jeremy Morse	30					**30**	27	24
Dame Bridget Ogilvie	27					**27**	27	–
T. H. Wyman	13					**13**	32	43
K. von der Heyden	7					**7**	–	–
Former Directors							464	585
	2,823	23	525	83	34	**3,488**	3,033	3,175

* The figures stated above include the cost to the Company of providing the matching contribution of shares in respect of that part of the bonus which is to be taken in shares by each Director.

† Payments for pension related tax liabilities.

The aggregate amount of gains made by Directors on the exercise of share options during the year amounted to £nil (1997 £7m, 1996 £nil).

Subsequent events

Pursuant to the announcement on 9 December 1998 of the Group's intention to merge with Astra, merger documents have been distributed to shareholders and various submissions made to regulatory authorities. Furthermore, subject to completion of the merger, the Group has announced its intention to redenominate its share capital and change its reporting currency to US dollars.

Group Financial Record

For the years ended 31 December	1993 £m	1994 £m	1995 £m	1996 £m	1997 £m	**1998 £m**
Turnover and profits						
Group turnover	4,440	4,480	4,898	5,363	5,194	**5,510**
Cost of sales	(1,885)	(1,977)	(2,102)	(2,250)	(1,977)	**(2,152)**
Distribution costs	(160)	(171)	(180)	(181)*	(163)	**(158)**
Research and development	(519)	(518)	(549)	(602)	(653)	**(708)**
Selling, general and administrative expenses	(1,276)	(1,262)	(1,344)	(1,388)	(1,397)	**(1,510)**
Other income	104	107	106	101	79	**115**
Group operating profit	704	659	829	1,043	1,083	**1,097**
Group operating profit before exceptional items	704	797	894	1,043	1,083	**1,097**
Exceptional items charged to operating profit	–	(138)	(65)	–	–	**–**
Profit on ordinary activities before interest and exceptional items	721	697	638	988	1,091	**1,081**
Net interest payable	(88)	(38)	(19)	(13)	(10)	**(36)**
Profit on ordinary activities before taxation	633	659	619	975	1,081	**1,045**
Profit before exceptional items	618	763	878	1,011	1,081	**1,063**
Exceptional items	15	(104)	(259)	(36)	–	**(18)**
Net profit for the financial year	431	443	336	643	730	**714**
Dividends to Shareholders	(260)	(270)	(293)	(332)	(365)	**(399)**
Return on sales						
Group operating profit before exceptional items as a percentage of sales	15.9%	17.8%	18.3%	19.4%	20.9%	**19.9%**

At 31 December	1993 £m	1994 £m	1995 £m	1996 £m	1997 £m	**1998 £m**
Balance sheets						
Fixed assets (tangible and intangible) and goodwill	1,684	1,733	1,905	1,847	2,032	**2,575**
Fixed asset investments	26	39	40	118	122	**146**
Current assets	3,309	2,909	3,148	3,035	2,856	**2,689**
Total assets	5,019	4,681	5,093	5,000	5,010	**5,410**
Creditors due within one year	(2,360)	(1,896)	(2,024)	(1,870)	(1,863)	**(2,003)**
Total assets less current liabilities	2,659	2,785	3,069	3,130	3,147	**3,407**
Creditors due after more than one year	587	552	567	516	535	**472**
Provisions for liabilities and charges	501	490	537	476	420	**389**
Minority equity interests	72	58	104	104	32	**32**
Shareholders' equity	1,499	1,685	1,861	2,034	2,160	**2,514**
Total liabilities and Shareholders' equity	2,659	2,785	3,069	3,130	3,147	**3,407**
Capital gearing						
Net debt as a percentage of Shareholders' funds	13.1%*	0.8%*	1.6%*	–*	–	**10.2%**

* Net debt has been restated to include finance lease obligations.

Group Financial Record (continued)

For the years ended 31 December	1993 £m	1994 £m	1995 £m	1996 £m	1997 £m	**1998 £m**
Cash flow						
Net cash inflow from operating activities	833	872	956	1,079	1,169	**1,217**
Dividends received from joint ventures and associates	16	7	2	2	2	**2**
Returns on investments and servicing of finance	(157)	(53)	(27)	(26)	(58)	**(37)**
Tax paid	(116)	(163)	(278)	(290)	(320)	**(282)**
Capital expenditure and financial investment	(296)	(301)	(280)	(372)	(443)	**(448)**
Acquisitions and disposals	40	89	(125)	146	(196)	**(359)**
Equity dividends paid to Shareholders	(99)	(263)	(274)	(305)	(341)	**(370)**
Net cash flow before management of liquid resources and financing	221	188	(26)	234	(187)	**(277)**
Management of liquid resources and financing	447+	(233)	33	(133)	260	**165**
Increase/(decrease) in cash	668+	(45)	7	101	73	**(112)**

FRS 1 (Revised 1996) has been adopted from 1996.
+ Reflects movement in cash and cash equivalents as the relevant information to calculate the increase in cash as defined in the new Standard is not available.

Zeneca share information

	1993	1994	1995	1996	1997	**1998**
Ordinary Shares in issue – millions						
At year end	945	946	947	947	949	**950**
Weighted average for year	850	946	946	947	948	**950**
Stock Market price – per 25p Ordinary Share	**Pence**	**Pence**	**Pence**	**Pence**	**Pence**	**Pence**
Highest	841.5	898.5	1334.0	1758.5	2265.0	**2759.0**
Lowest	594.5	674.5	841.5	1227.0	1594.0	**1860.0**
At year end	840.5	878.5	1246.0	1647.5	2141.0	**2617.0**
Earnings per 25p Ordinary Share and ADS before exceptional items	48.9	55.2	62.0	70.6	77.0	**76.3**
Earnings per 25p Ordinary Share and ADS	50.7	46.8	35.6	67.8	77.0	**75.2**
Diluted earnings per 25p Ordinary Share and ADS before exceptional items	48.9	55.2	61.8	70.5	76.8	**76.0**
Diluted earnings per 25p Ordinary Share and ADS	50.7	46.8	35.4	67.7	76.8	**74.9**
Dividends (net of tax credit)	27.5	28.5	31.0	35.0	38.5	**42.0**

Shareholder Information

Shareholders: Percentage analysis at 31 December of issued share capital

By size of account Number of shares	1998	1997
1 – 250	**1.2**	1.2
251 – 500	**2.0**	2.1
501 – 1,000	**2.9**	3.1
1,001 – 5,000	**4.4**	4.8
5,001 – 10,000	**0.6**	0.7
10,001 – 50,000	**2.4**	2.6
50,001 – 1,000,000	**21.2**	24.2
over 1,000,000	**65.3**	61.3
Issued share capital	**100.0**	100.0

At 31 December 1998, Zeneca Group PLC had 211,185 registered holders of 949,880,416 Ordinary Shares of 25p each. In addition there were approximately 22,200 holders of American Depositary Receipts representing 3.9 per cent of the issued share capital. The ADRs, each of which is equivalent to one Ordinary Share, are issued by Morgan Guaranty Trust Company of New York.

Substantial shareholdings

On 16 March 1999 (less than one month prior to the anticipated date of the Notice of Annual General Meeting) the following had disclosed an interest in the issued Ordinary Share capital of the Company in accordance with the requirements of sections 198-208 of the Companies Act 1985:

Shareholder	Number of shares	Percentage of issued share capital
The Capital Group Companies, Inc.,	52,750,048	5.53%
Prudential Corporation	28,828,462	3.03%

No other person held a notifiable interest in shares, comprising 3% or more of the issued Ordinary Share capital of the Company, appearing in the register of interests in shares maintained under the provisions of Section 211 of the Companies Act 1985.

Dividend payments

The record date for the second interim dividend payable on 26 April 1999 (in the UK) and 6 May 1999 (in the US) is 9 April 1999. Shares will trade ex-dividend on The London Stock Exchange from 29 March 1999. ADRs will trade ex-dividend on the New York Stock Exchange from 7 April 1999. Future dividends will normally be paid as follows:

First interim: Announced in early August and paid in November

Second interim: Announced in February and paid in May

Capital gains tax base cost of shares at demerger

Shares in Zeneca Group PLC acquired on demerger from ICI will be treated as having a base cost for capital gains tax purposes ascertained by reference to the values of Zeneca and ICI Shares on 1 June 1993 calculated in accordance with the provisions of Section 272 of the Taxation of Chargeable Gains Act 1992. The base cost of any holding of ICI Shares on that date will be adjusted on the same basis. The relevant prices on The London Stock Exchange on 1 June 1993 were: Zeneca – 625.75p and ICI – 631.75p. The base cost of the pre-demerger ICI Shares will therefore be split between the post-demerger Zeneca and ICI Shares in the proportion: Zeneca – 0.49761 and ICI – 0.50239.

Registrar and Transfer Office
The Zeneca Registrar
Lloyds TSB Registrars
The Causeway
Worthing
West Sussex BN99 6DA
Telephone (01903) 502541

Depositary for ADRs
Morgan Guaranty Trust Company of New York
60 Wall Street
New York
New York 10260

Telephone (212) 648 3208

0045-0538

ZENECA GROUP PLC

Registered Office
15 Stanhope Gate
London W1Y 6LN
Telephone (0171) 304 5000
Internet Address: http://www.zeneca.com

IMPERIAL CHEMICAL INDUSTRIES PLC

ANNUAL REPORT 1985

0045-0540

ICI is one of the world's largest chemical groups with a particularly broad and varied range of products. Its activities are reported under four industry segments: Consumer and Speciality Products, Industrial Products, Agriculture and Oil and Gas, corresponding to the markets served worldwide.

The parent company is British and the Group has manufacturing subsidiaries, sales organizations and related companies throughout the world, as illustrated by the map on pages 4 and 5. This geographical diversity, which is the widest of the world's major chemical groups, is one of ICI's strengths.

The headquarters and main technological base are in the UK where ICI's operations make it one of Britain's largest manufacturing and exporting companies. Outside the UK, operations are conducted by locally managed subsidiary and related companies staffed almost entirely by nationals of the country concerned, who account for more than half of the employees of the Group.

The extent of the Group's activities outside the UK is indicated by the high proportion (75 per cent) of its sales of chemicals made to non-UK customers, of which a large part is supplied from local manufacture.

BOARD OF DIRECTORS

Sir John Harvey-Jones, MBE *Chairman*

A. W. Clements
R. C. Hampel
D. H. Henderson
T. O. Hutchison
Sir Robin Ibbs
Sir Alex Jarratt, CB*
W. G. L. L. Kiep*
Sir Patrick Meaney*
Sir Jeremy Morse, KCMG*
C. H. Reece
S. Saba*
The Rt. Hon. Lord Thomson of Monifieth, KT*
F. Whiteley

**Non Executive Directors.*
Further information about the Directors is given on pages 26 and 27 and a list of Senior Executives appears on page 29.

CONTENTS

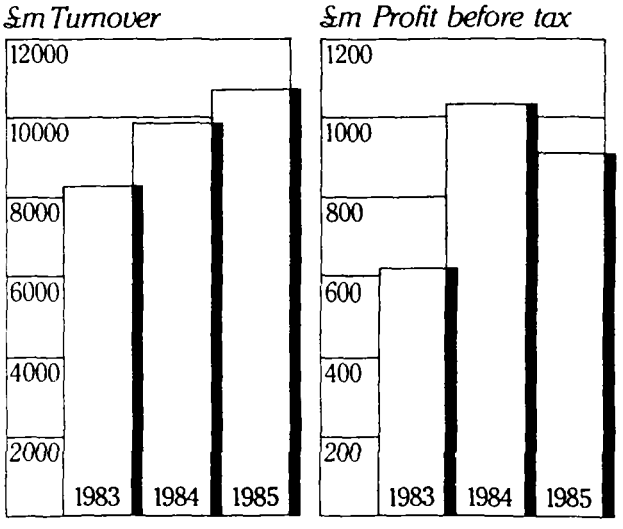
Group financial highlights	1	Accounts	30
Chairman's statement	2	Accounting policies	33
Report of the Directors 1985	4	Segment information	34
Review of trading operations	4	Auditors' report	51
Financial performance	20	Group financial record	52
Business developments and investment	22	Sources and disposal of value added	54
Research and technology	23	Notice of Meeting	55
People	24	Financial Calendar	56

0045-0541

ICI GROUP FINANCIAL HIGHLIGHTS

Group means ICI and its subsidiaries. £m means millions of pounds sterling

	1985 £m
TURNOVER *(Sales to customers outside the Group)*	
CHEMICALS – UK	2,433
OVERSEAS	7,426
OIL	866
TOTAL TURNOVER	10,725
TRADING PROFIT	978
PROFIT BEFORE TAXATION	912
NET PROFIT ATTRIBUTABLE TO PARENT COMPANY, BEFORE EXTRAORDINARY ITEMS	552
EARNINGS *(before extraordinary items)* per £1 Ordinary Stock	86·4p
DIVIDEND per £1 Ordinary Stock *(see page 20)*	33p



IMPERIAL CHEMICAL INDUSTRIES PLC

CHAIRMAN'S STATEMENT

THE QUEEN'S AWARD FOR EXPORT ACHIEVEMENT 1985 TO PLANT PROTECTION DIVISION

The shape of ICI's business has changed very considerably over the past four years and continues to change. I hope the new way in which we are presenting our results this year will enable shareholders to see more clearly how the balance of our business and the markets we serve now stands.

Although the 1985 results show a reduction in pre-tax profits compared with the record 1984 results, they are nevertheless evidence of strong and continuing underlying progress. Despite an international economic climate less favourable than in 1984, the business as a whole continued to grow and total turnover reached a record £10.7 billion, 8 per cent up on 1984, with chemicals turnover 12 per cent ahead of 1984. Pre-tax profits at £912m, 12 per cent down on 1984, were still 47 per cent higher than in 1983. More fundamentally, the results underline the importance and correctness of the actions we have taken and continue to take to change the balance of our business portfolio. Against this background, the Board have decided to increase the dividend for the year from 30p to 33p per share.

Looked at in its essentials, the 1985 performance demonstrates increasing robustness. The shift in sales and profits towards higher added-value products continues. The Consumer and Speciality Products segment now accounts for 28 per cent of sales and 42 per cent of profits – and this does not include high added-value products in other segments. Further growth in pharmaceuticals and an encouraging first contribution by the businesses acquired from Beatrice Companies Inc were the highlights of 1985. Our base for future growth in specialities is well established.

On the commodity side, the European heavy chemicals businesses increased sales but were unable to sustain their 1984 profit performance because of pressures on margins. Nevertheless, the ability of these businesses to cope with adverse currency and trading conditions and to make a solid contribution to ICI profits has been strengthened. Their position will be further strengthened as investments in efficiency improvements come through and further rationalization takes place; the effect on Group profitability of fluctuations in the fortunes of these businesses has been reduced.

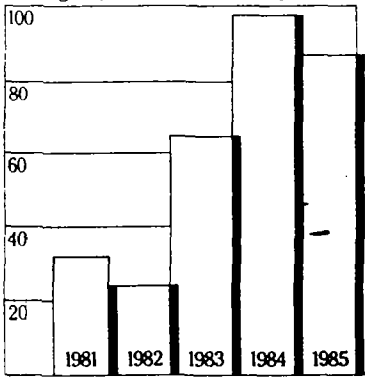
Three factors impacting unfavourably on the 1985 results were oil, agriculture and exchange rates. A much reduced profit from oil was inevitable as a result of the previously reported changes in the incidence of petroleum revenue tax and declining Ninian production. The world agricultural market was beset by major economic problems, especially in the USA and Europe, and there was the added problem of a poor summer in the UK which affected our fertilizer business. Nevertheless, our strong agrochemicals business continued to do well and again increased sales substantially. And, of course, 1985 was yet another year of unpredictable and volatile exchange rates which, when compared with 1984, were against us for most of the year.

During the last four years we have made sixty-two acquisitions and fifteen divestments in pursuit of our aim of reshaping the Group. The most noteworthy of these was the acquisition in 1985 of the chemical businesses of Beatrice Companies Inc which contributes not only to our strategic objective of shifting the balance of ICI's business towards higher added-value products, but also substantially helps a second strategic objective by increasing our presence in the USA. I am pleased to report that all the nine businesses now integrated within the ICI Group are already pursuing and achieving benefits from the relationship with ICI. We have been impressed by the management teams we acquired and by the positive commitment of all concerned to making the marriage work.

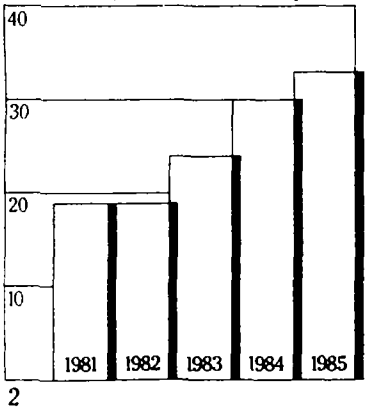
In the Industrial Products segment, we continue to take steps to improve the structure of the business. Agreement has been reached with EniChem SpA on the form of a joint venture to restructure the VCM and PVC businesses of the two companies. This is a major initiative to improve the prospects of these commodity businesses. During 1985 we also completed our withdrawal from the polyethylene business in Western Europe by divesting the business based on production at Rozenburg in the Netherlands, and by negotiating the sale of the remaining plant at Fos in southern France to take full effect in 1986.

The reshaping and future development of the Group's business does not, however, depend solely on acquisition and divestment, though they have an important part to play. We are fundamentally a research based organization and expect substantial organic growth to be generated by our Research and Development activities. In 1985 the ICI research team totalled over 9,000 people and expenditure was increased by 17 per cent to £349m. Research effort is worldwide with 70 per cent in the UK, 10 per cent in the USA and substantial activity in all our major subsidiaries. Considerable effort is also being put into building up scientific and high technology resources in Japan. Major areas for our scientific effort are the biosciences, polymer science, the science of surfaces, and materials and pro-

Earnings in pence per £1 Ordinary Stock



Dividends in pence per £1 Ordinary Stock



0045-0543

Sir John Harvey-Jones talking to a group of UK science teachers at the annual meeting of the Association for Science Education.

cess technology. Most of this work is focussed on the creation of new products and we are confident that developments we now have in the pipeline, particularly in pharmaceuticals and agrochemicals, will produce new ICI products which will find a secure place in the market, as have our two heart drugs, 'Inderal' and 'Tenormin', which are among the world's top ten drugs.

A further and important part of our business reshaping is to optimise the efficiency and competitiveness of our Industrial Products segment. Our experience in the European market in 1985, when margins were squeezed by cost increases and currency fluctuations, shows how important it is to continue to pursue improvements in productivity and cost effectiveness. Therefore, a large part of our £634m expenditure on fixed assets in 1985 was devoted to fast payback projects to further this objective. Similarly, our commitment to Agriculture and our command of technology were underlined by the authorization of £60m to build two new ammonia plants at Severnside in the UK which will employ unique advanced technology developed by ICI to give an unrivalled combination of high efficiency and low capital cost.

Looking forward, we are confident we can maintain the momentum of our strategic objectives, by operating our more mature businesses at maximum efficiency and ensuring strong market positions; by sustaining our growth businesses through innovation and territorial expansion; and by building new businesses. I have no doubt that, within the context of safe and environmentally acceptable operations, the foundation for profits in modern business has to be science and technology, innovation, international marketing, adaptability and excellent people. It is performance in these areas which will determine competitive strength. ICI has this foundation, a strong balance sheet and the highest quality people a business could ask for. Their efforts, skills and commitment deserve success and I and my colleagues thank them sincerely for their contribution. I believe, therefore, that we can be confident of sustaining and improving our position as one of the world's most innovative and successful chemical companies.

John Harvey-Jones

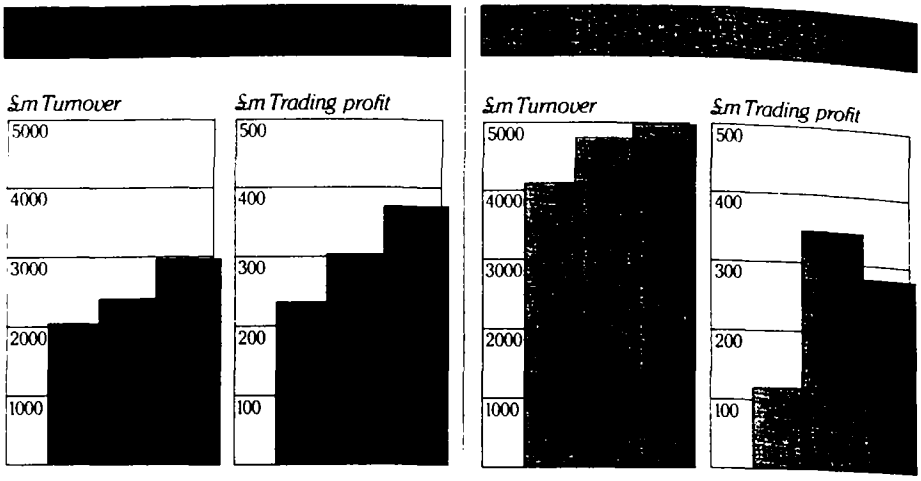
10 March 1986

0045-0544

REPORT OF THE DIRECTORS 1985

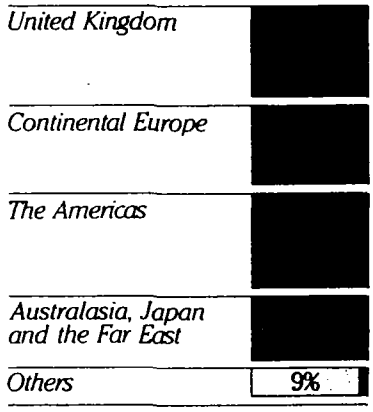
The Directors of Imperial Chemical Industries PLC present their fifty-ninth Annual Report, together with the Accounts of the Company for the year 1985. They will be laid before the stockholders at the fifty-ninth Annual General Meeting to be held on 28 April 1986.

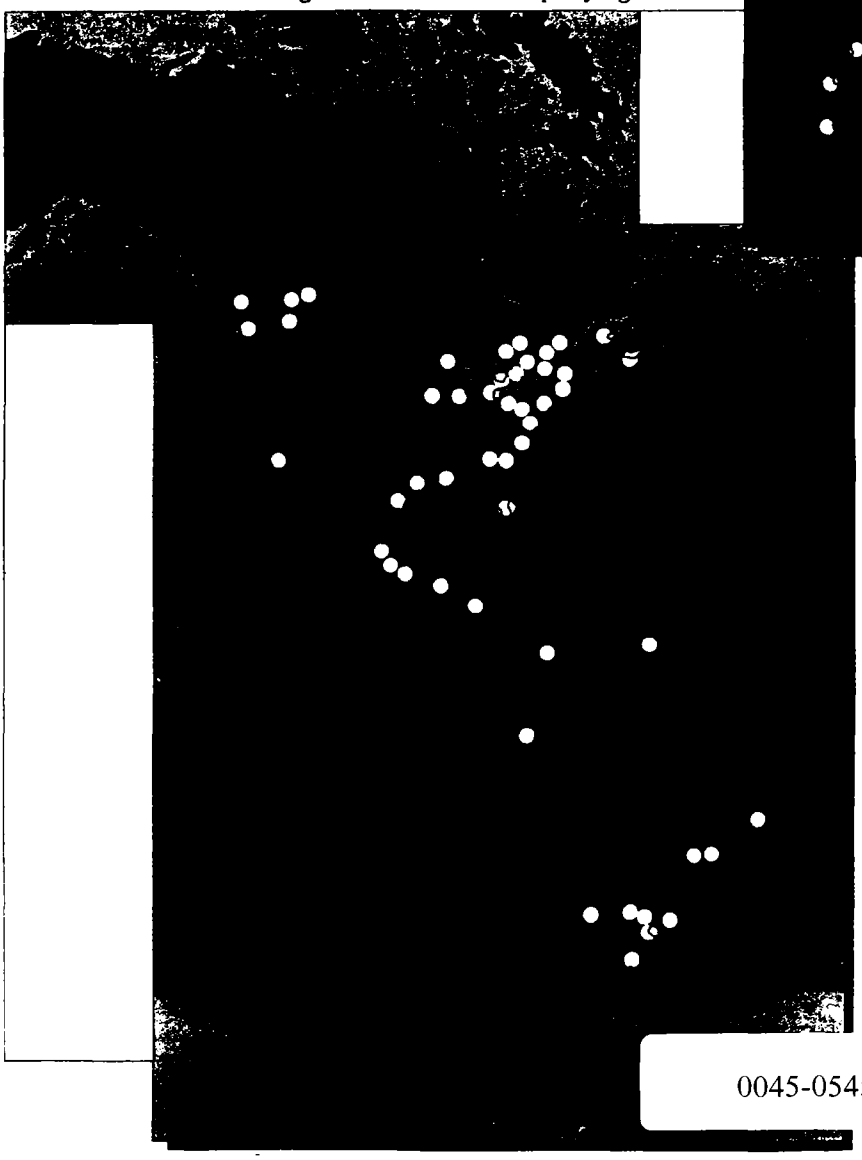
REVIEW OF TRADING OPERATIONS



Reporting of the Group's activities has been rearranged in 1985 under the four industry segment headings displayed above. The change from the former system of reporting under nine business sector headings has been made by bringing together those businesses which serve markets having similar characteristics. The purpose of the change is to place greater emphasis on the nature of the market served by the different businesses and thereby improve understanding of the Group's operations. The activities within each of the segments are reported on pages 6 to 15, with the relative sizes of the businesses in 1985 being shown on accompanying charts.

1985 CHEMICALS TURNOVER BY CUSTOMER LOCATION





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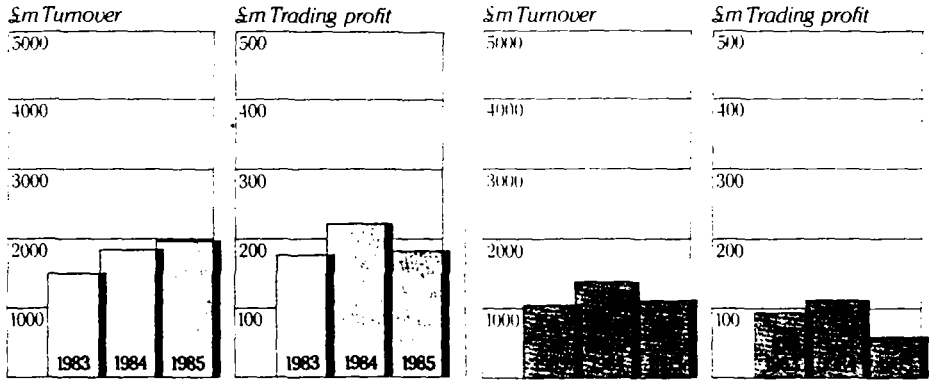
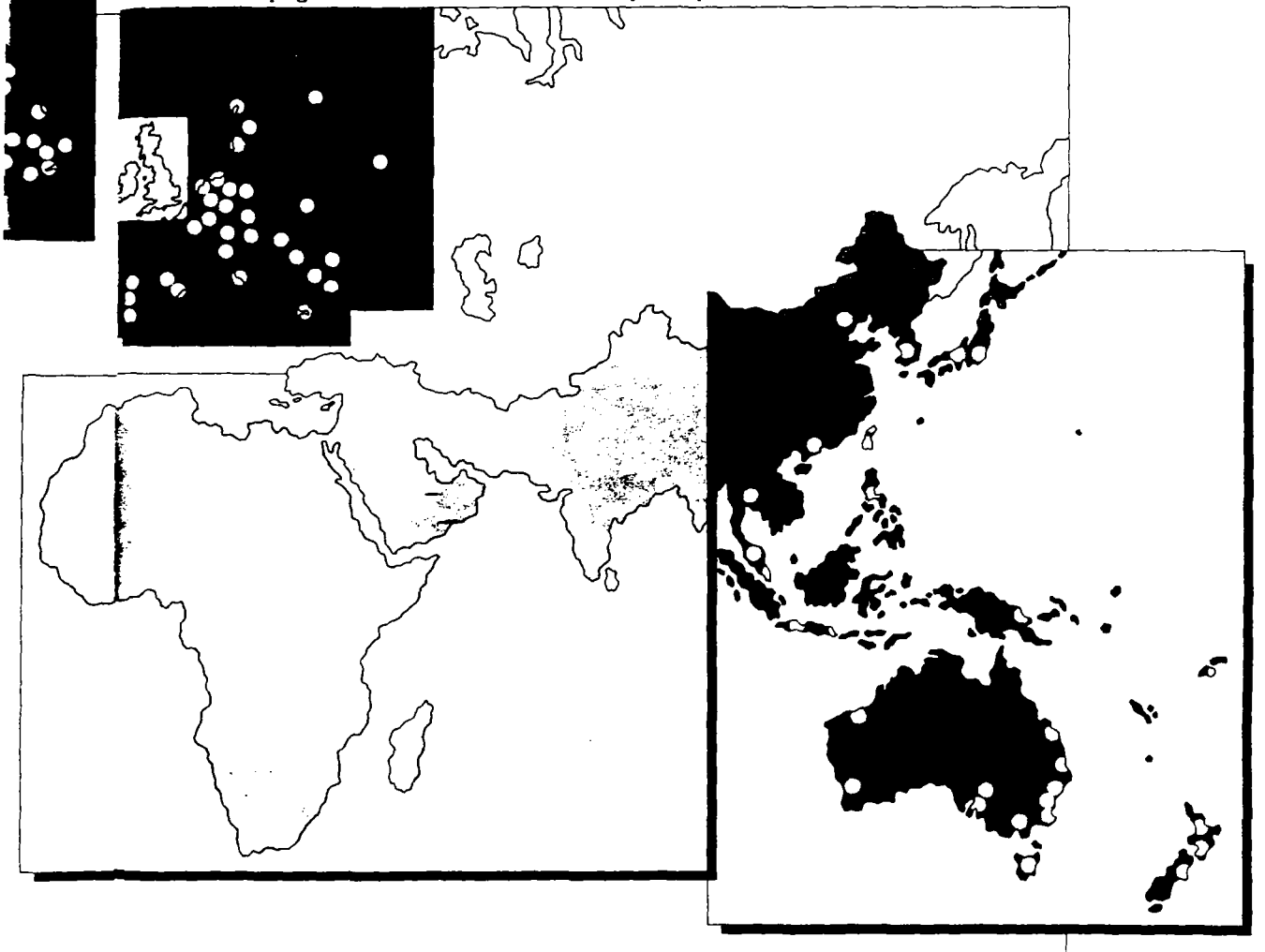
AGRICULTURE



The charts also show figures for turnover and trading profit for each of the businesses in 1984 and 1985. It should be noted that these figures include sales made within the segment but such sales are excluded from the segment totals.

The map below indicates centres of Group activity and displays the world-wide nature of the Group's operations. The colour-coded chart, alongside the map, shows the proportion of the Group's turnover, excluding that of oil, made to external customers located in the corresponding geographic area. The operations, according to geographic areas, are reported on pages 16 to 19 and the charts on those pages show the results achieved by companies located in each area.



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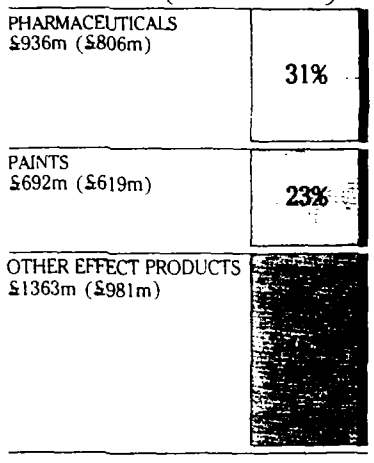
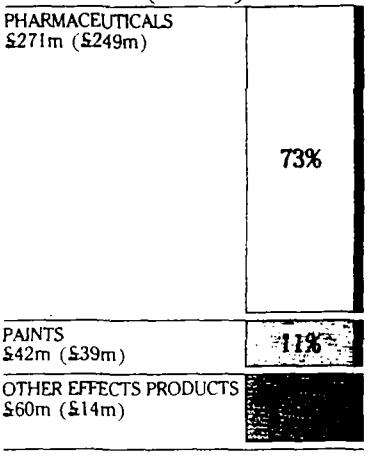
*Turnover**
1985 £2984m (1984 £2404m)

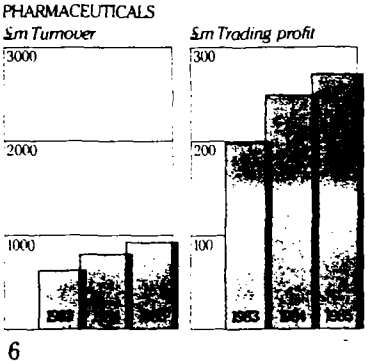


Trading profit
1985 £373m (£302m)



**Total excludes sales within Consumer and Speciality Products segment.*

PHARMACEUTICALS



The products of this segment are of high added-value, requiring for their support heavy investment in research and development rather than in manufacturing assets. They are sold for the effects they achieve in meeting market needs and are characterized by a high degree of customer and technical service orientation. The segment incorporates pharmaceuticals, paints, and other effect products including colour chemicals, polyurethanes, speciality chemicals and advanced materials.

Sales and profits of the segment as a whole made good progress in 1985, with further substantial growth in pharmaceuticals and polyurethanes and major expansion of speciality chemicals and advanced materials.

PHARMACEUTICALS

Overall sales of ICI's pharmaceutical products grew by 16 per cent in 1985, and trading profits improved by 9 per cent. Sales are made throughout the world with Europe accounting for 29 per cent in 1985 and the Americas 47 per cent. Sales and trading profits have both more than doubled in the last five years, helped by excellent progress in the world's largest pharmaceutical markets, the USA and Japan.

The major ICI pharmaceutical products again achieved substantial growth. 'Tenormin' joined 'Inderal' in the world's top ten pharmaceutical products, giving ICI the distinction of having invented two of these leading drugs. No other company matches this achievement. In additon to these two heart drugs, other products which made valuable contributions to the business were 'Nolvadex', a treatment for breast cancer, 'Mylanta', an antacid, and 'Hibitane' and 'Savlon' antiseptics.

Heavy investment continues in research and development, and £112m was spent in 1985. Considerable attention is also devoted to providing comprehensive technical, medical and marketing resources to support sales throughout the world.

A major review was completed in 1985 of therapeutic areas in which research would be concentrated. The outcome will be even more intensive focussing of research on strategically selected targets. The chosen targets are all major disease areas and include cardiovascular, pulmonary and central nervous system disorders as well as cancer, infection, arthritis and pain relief. These are areas where ICI already has considerable scientific, medical and marketing expertise and the policy is to aim for major therapeutic innovations. Existing development compounds in other areas will continue to receive full clinical and development support to bring them to their maximum potential.

Further progress was made with the main products currently under development. These are 'Diprivan', an injectable anaesthetic which will be launched in several countries in 1986, 'Zoladex', for prostate cancer, 'Corwin', for heart failure and 'Visacor', an anti-anginal heart drug, which are all undergoing clinical trials. 'Apatef', an injectable antibiotic licensed from Yamanouchi Pharmaceuticals Co Ltd of Japan, has successfully completed an international ICI programme of clinical trials. It was launched in West Germany and France in 1985 and, in 1986, will be introduced in other major territories, including the USA, where it will be known as 'Cefotan'. There will also be further launches of extensions to the 'Tenormin' family of heart drugs.

For the last forty years the pharmaceutical industry's contribution to world health has been immense; ten ICI products, of which six were invented in ICI laboratories, currently feature in the World Health Organization's list of essential drugs. These are the medicines which WHO consider to be those most needed for health care in developing countries. Nevertheless the industry's role is being increasingly challenged by some governments and there is constant criticism in high profile campaigns. The long-term nature and high cost of pharmaceutical research make a stable economic base for the industry essential if it is to be a viable subject for industrial investment. There is, therefore, a clear need to develop well thought-out policies which will ensure that all governments can offer improved health care to their peoples and, at the same time, allow the pharmaceutical industry to continue its unique role as the inventor of new medicines. ICI is participating both nationally and internationally in this debate.

PAINTS

ICI is one of the largest producers of paints in the world and has manufacturing operations, including those of related companies, in over 20 countries. Sales are made in the decorative, automotive, industrial and can coating sectors.

The European paints industry has surplus capacity and there is intense price competition. Nevertheless, ICI increased its sales and profits in 1985, with particular progress being made in the decorative sector where ICI is already the clear market leader in the UK. This was achieved by pursuing policies of innovation, strong branding and close customer support, helped by an active acquisition strategy.

ICI's presence in the European paints industry has been further enhanced by the purchase in 1985 of a controlling interest in the Irish paint company previously known as Harringtons and Goodlass Wall Ltd. Good progress continues to be made in rationalization and integration of the Valentine paints business in France. The can coating business operated in the UK and France by Arthur Holden & Sons PLC, had another successful year and was strengthened in 1985 by the acquisition, from Ault and Wiborg PLC, of complementary business in the can and metal decorating area.

Dulux Australia Ltd increased market share and profits in 1985. ICI Australia acquired full ownership of this company early in 1986. The business in India also achieved marked increases in sales and profits. The ICI paints businesses in other parts of the world in general continued to trade profitably.

Considerable interest is being shown worldwide in the waterborne basecoat system developed by ICI for use in automotive paints. The contribution which this process makes to

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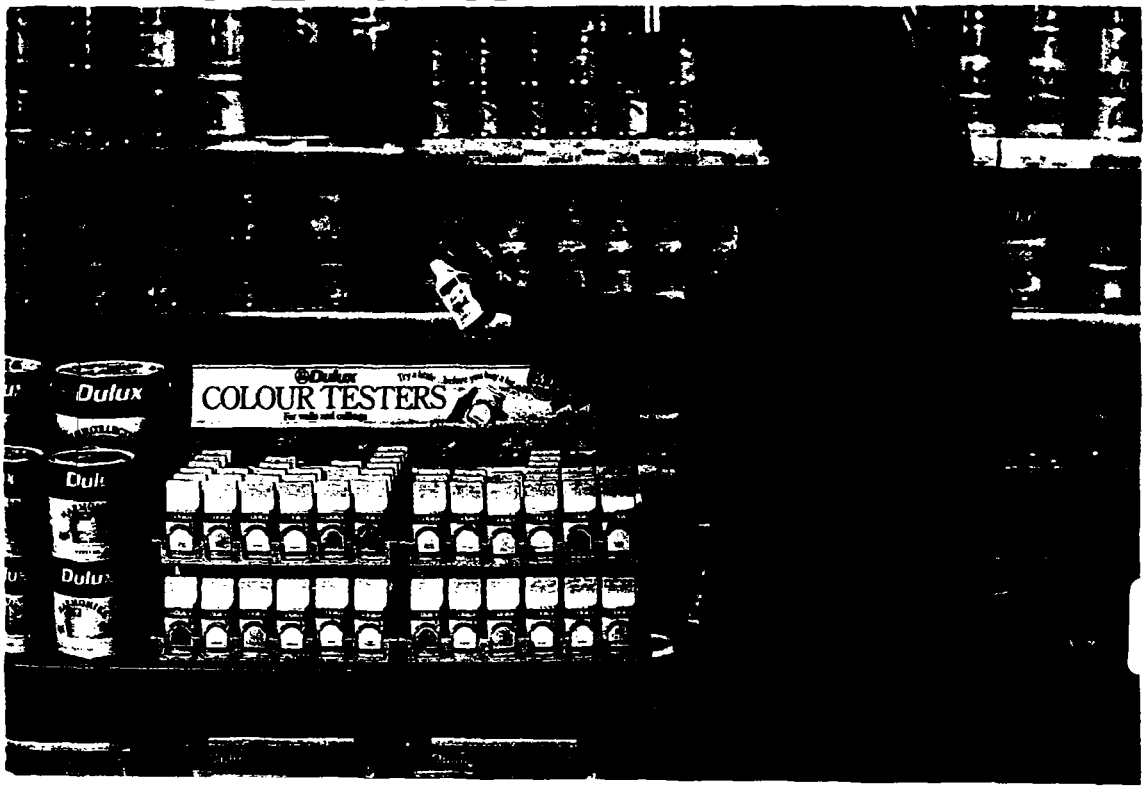
'Apatef', ICI's new injectable antibiotic developed particularly for use in general surgery and gynaecology, was launched in Europe in 1985.



'Dulux' colour testers were successfully launched in the UK – to enable the public to try the most popular emulsion paint colours before buying in quantity.

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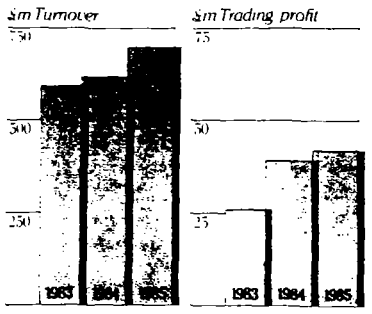
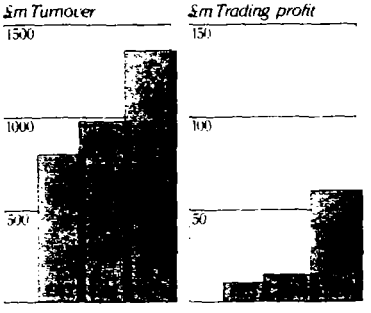
PAINTS



OTHER EFFECT PRODUCTS



improvement of the environment by elimination of solvents has been publicly recognized by the presentation of a Pollution Abatement Technology Award for 1985. The ICI-developed innovation of solid emulsion paint, which was successfully introduced in the UK in 1984, was launched in West Germany and France in 1985. Another example of commercial success, arising from ICI research in polymeric chemistry, is the 'Tempro'/'Belpro' range of speciality products used, for example, in place of wax coatings for cars and to mark the route for the 1985 London marathon. Research leads are being actively pursued to improve the durability of paints and to develop more cost effective methods of curing. New ways of creating and measuring colour are also under investigation. To maintain the momentum of innovation, a £2m investment is being made in the expansion of research facilities at Slough in the UK.

Colours and Fine Chemicals

ICI is one of the world's six major producers of colours, with worldwide sales and manufacturing sites in Europe, the Americas and India. After the disappointments of 1984, determined efforts to improve the business are beginning to show encouraging results. Good progress has been made in implementing the restructuring announced in mid-1985, which will rationalize manufacturing and administrative activities in the UK and France, concentrating resources on the parts of the business with greater profit potential. These measures continue the process of change started by the acquisition of Francolor in 1982 with the objective of restoring the business to a satisfactory level of profitability. A charge of £26m, after tax, has been taken as an extraordinary item in the 1985 accounts for the restructuring, which will be completed by 1988.

Although the drive for improved prices and the planned withdrawal of products with poor profit potential restricted overall sales volume in 1985, turnover and margins improved compared with 1984. Savings were made in working capital, and fixed costs were reduced. Sales of textile dyes recovered significantly during the second half of the year in response to fashion demands for darker shades, although prices remained under pressure. Chemical products, including aniline and its derivatives, again performed strongly.

The manufacture of fine chemicals for other businesses within ICI has been further strengthened by the introduction of new products and processes and improved efficiencies.

Polyurethanes

ICI is one of the leading international producers of polyurethane chemicals and systems, with sales in most countries of the world. This business is strategically led from Brussels. Major manufacturing activities are located in Western Europe, the USA, Canada, Australia, and (through joint venture) in Japan. Emphasis is placed on individually-formulated products for specific applications. These include thermal insulation, elastomeric shoe-soling and various uses in the automotive industry.

In 1985, performance improved in all major markets, particularly the USA where the high rate of construction activity led to sharp increases in demand for insulation. In Western Europe, ICI's 50 per cent holding in Pretechnik GmbH, which is one of the leading European systems houses, was increased to 100 per cent. Elsewhere in the world, sales continue to grow at rates which are generally above those of the world market and make a steadily increasing contribution to the international business.

Speciality Chemicals

The interests of the ICI Group in speciality chemicals were drawn together in mid-1983 to create a worldwide organization, offering a wide range of products and services which include surface-active agents, biocides, mining chemicals, speciality resins, modified sugars, silicones, and plastics additives. Extensive customer contact and technical service, backed by strong research and development, have fostered good growth.

The acquisition of the former Beatrice Chemical interests in February 1985 greatly enhanced the ICI portfolio of speciality chemicals. The acquired businesses market finishes for leather and fabrics, performance lubricants, inks for flexographic and rotogravure printing, and masonry and concrete coatings. The application of ICI's technological strength and worldwide presence to these businesses, many of which already enjoy leadership positions, will create significant opportunities and promote further expansion.

The speciality chemicals business achieved strong sales growth and record profits in 1985. The acquisitions described above and the purchase of two plastics additive businesses in the USA were significant contributors to the growth. There were also good gains in biocides, surface-active agents and mining chemicals. The operations in activated carbon were divested, thereby improving the overall quality of the business.

Advanced Materials

An advanced materials business group was formed in October 1984 by bringing together existing materials activities with a number of market-driven ICI research and development initiatives. The role of this group, which is coordinated and strategically led from the USA, is to serve the need for high technology materials in demanding growth industries such as aerospace and electronics in the USA, Western Europe, Japan and elsewhere across the world. Its opening portfolio of materials included those in the forefront of technology such as the 'Victrex' range of polyaromatic resins and APC reinforced thermoplastic resins as well as the established 'Fluon' fluoropolymers. The portfolio was widened by the addition of the composite materials businesses, – LNP, Fiberite Molding and Fiberite Composites – acquired from Beatrice Companies Inc. The established products and strong market presence of these operations, particularly in the USA, combined with ICI's strengths, provide a firm base from which to build a major advanced materials business.

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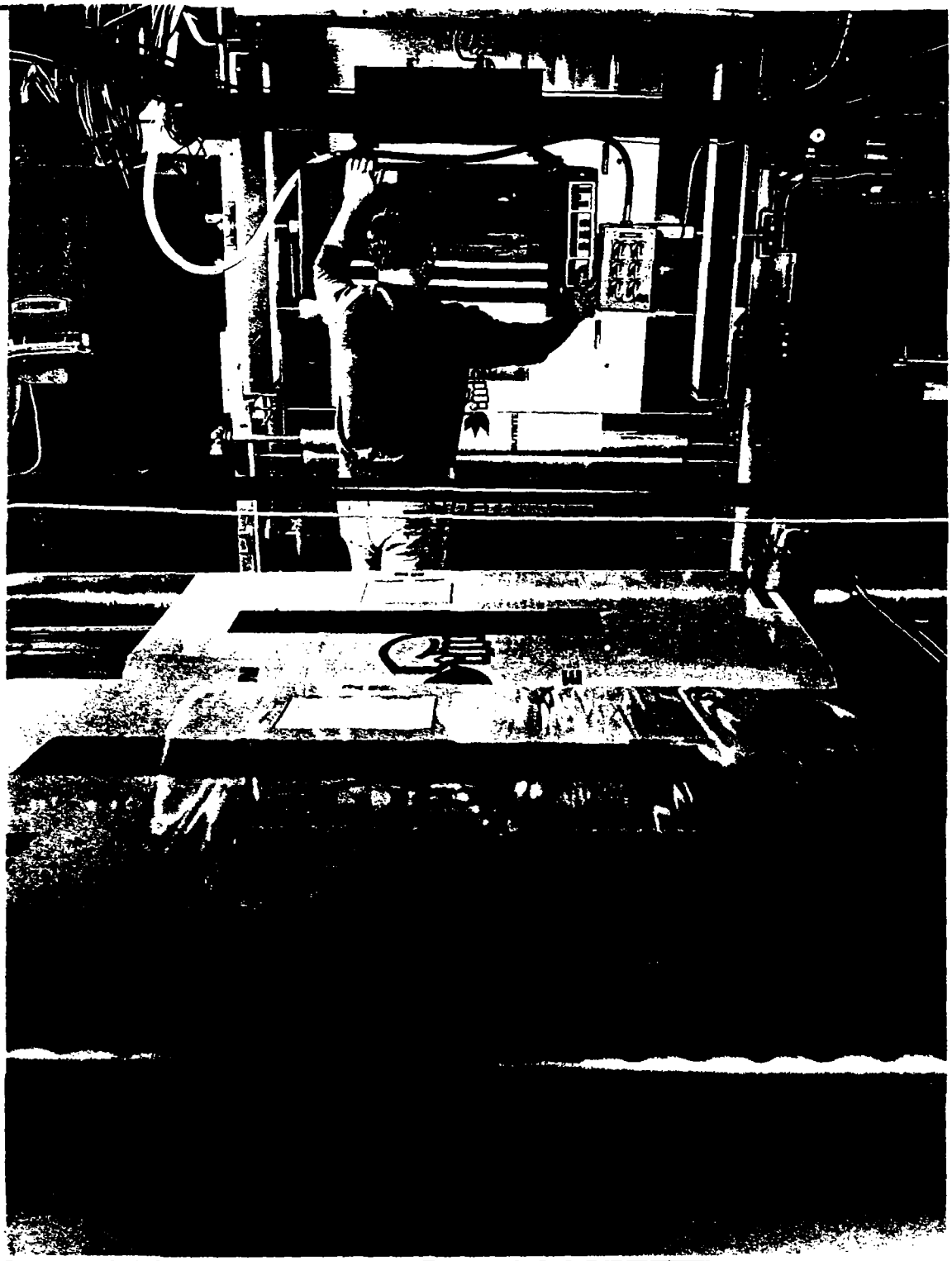
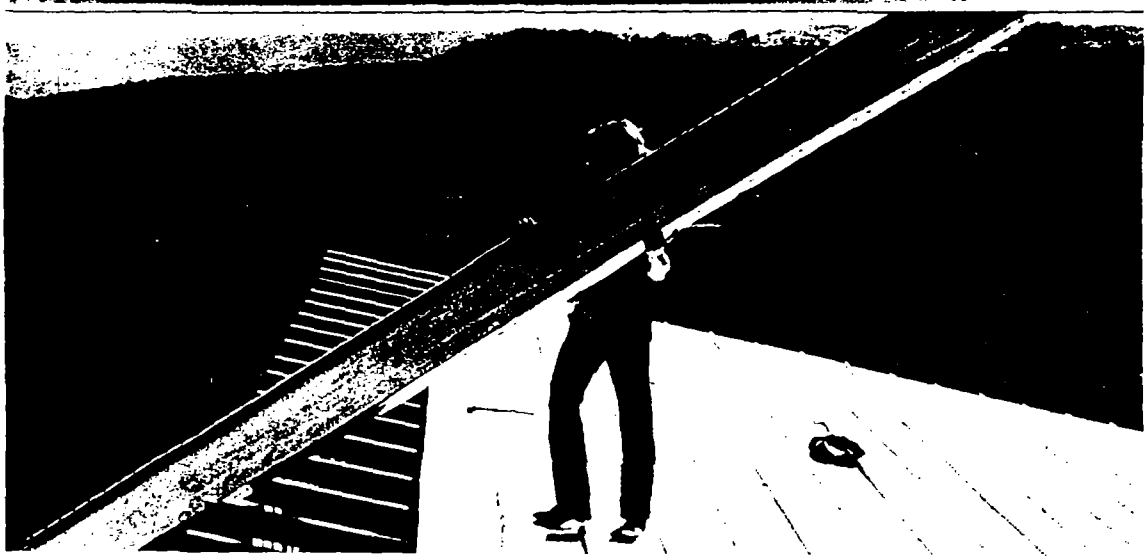


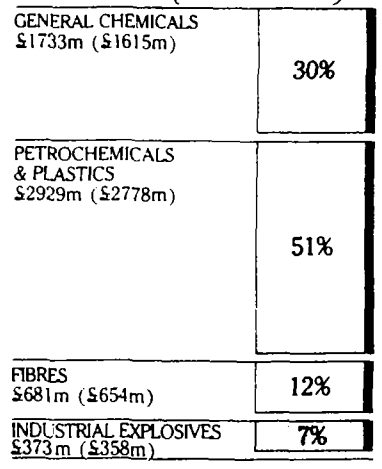
Converters Ink, one of the companies acquired from Beatrice Companies Inc in the USA, supplies inks used in flexographic printing of consumer packaging – as on this Canadian press.



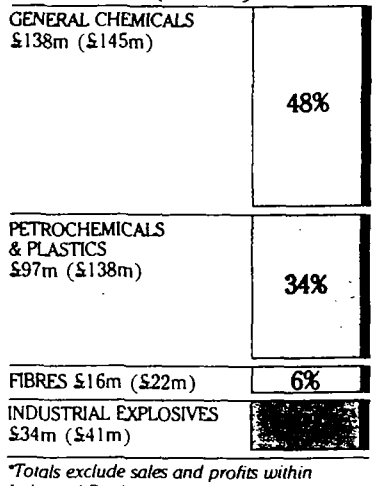
Polyurethane roofboard panels in use on new housing in France.

0045-0550

*Turnover**
1985 £4998m (1984 £4775m)

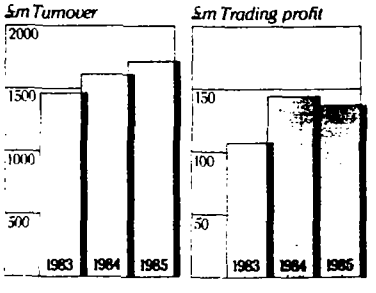


*Trading profit**
1985 £282m (£346m)

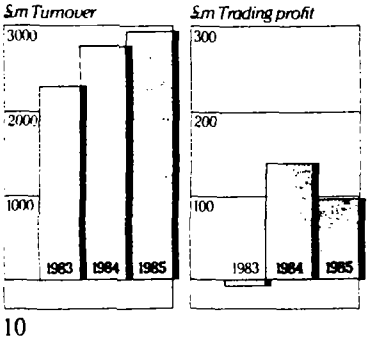


**Totals exclude sales and profits within Industrial Products segment.*

GENERAL CHEMICALS



PETROCHEMICALS AND PLASTICS



This segment comprises general chemicals, petrochemicals, plastics, synthetic fibres and industrial explosives. In the main, the products are sold in bulk to other industries but, because of technical links, the segment also includes some products of high added-value which are marketed on the basis of the special effects they achieve. Examples of these are 'Melinex' polyester film, 'Arcton' refrigerants and the products of the resins and surface coating intermediates business area including those of the Polyvinyl companies acquired in 1985 from Beatrice Companies Inc.

Although higher sales volumes for the segment as a whole were achieved than in 1984, cost increases outweighed price increases and profits were lower. A high proportion of the manufacturing assets of the segment are in the UK and the decline in the competitive position of the UK relative to other major European economies in 1985 was a handicap. ICI is improving its position by committing substantial capital expenditure to modernization and cost improvement projects. A notable example is the conversion, at a capital cost of £45m, of the power station at Wilton in the UK to give the option of using coal or oil.

GENERAL CHEMICALS

There are over 150 products in this business area including specialized chemicals as well as acids, alkalis, chlorine, vinyl chloride monomer (VCM) and other chlorine derivatives. The main centres of production are in the UK, West Germany, Canada and Australia. There are also plants in Kenya, Malaysia and Pakistan and, with inclusion of the Polyvinyl companies, in the USA and the Netherlands.

In Western Europe the changing structure and relative decline of UK manufacturing industry has had a major impact on ICI's general chemicals business. This is epitomised by the decline in UK glass manufacture and concurrent technical changes in the packaging industry which have resulted in a fall in demand for soda ash of nearly 40 per cent over the last six years. Despite vigorous action by ICI to restructure production and reduce costs, this area of ICI's business remains unsatisfactory. To offset the constraints on ICI's sales of large tonnage products to the UK market, sales of the more specialized products have been expanded, and penetration of markets on the Continent of Europe increased. This policy was continued in 1985 but, although further gains in sales volume and value were achieved, price increases did not match cost increases, and margins declined. This effect was particularly marked in the supply of VCM for PVC production where prices were lower than in 1984, and this was the principal cause of the reduction in profits for the general chemicals business area.

The continued improvement in the Australian economy in 1985 enabled sales and profits of general chemicals products in that territory to make good progress. In Canada, there was some improvement in the paper industry, which is the principal customer for chlor-alkali products, but international competition in commodities remained intense, restricting growth in general chemicals. The business in Malaysia suffered from competitive pressures, but in Pakistan there was further good progress.

PETROCHEMICALS AND PLASTICS

The ICI Group manufactures petrochemicals and plastics products in Western Europe, the Americas and Australia, with smaller interests elsewhere.

The main plants are located in Western Europe where demand remained buoyant throughout 1985, with trading conditions underpinned by the high level of US domestic demand and the strength of the US dollar which constrained exports by US producers. However, the surge in strength of the dollar in the early months of the year resulted in feedstock price rises in sterling terms which were not immediately recoverable through higher product prices at a time when the market was seeing naphtha prices falling in dollar terms. In consequence, margins were lower than in 1984, but recovered later in the year.

Further steps were taken in 1985 to improve the structure of the business. To complete the withdrawal by ICI from polyethylene in Western Europe, the business based on production at Rozenburg in the Netherlands was disposed of to ATOCHEM, and the sale to Shell Chimie of the business based at Fos in France was negotiated to take full effect in 1986. The ethylene oxide and derivatives business obtained from ATOCHEM has been integrated with ICI's existing business and has strengthened ICI's market presence. Following compehensive discussions during 1985 with the Italian petrochemicals producer, EniChem SpA, agreement has been reached on the structure of a joint venture for the VCM and PVC businesses of the two companies in Europe. The formation of this joint venture, which is subject to government and competition authority approval, will enable substantial capacity rationalization to be undertaken in a troubled industry and will create a strong market leader in Europe serving customers worldwide from the most modern combined assets of ICI and EniChem.

Trading conditions in the 'Melinex' polyester film business were less favourable than in recent years because of stock adjustments by customer industries and exports from new producing countries; imports attracted by the strong dollar were a particular problem for the US operations. However, ICI continues to benefit from its comprehensive product range and market outlets and the commissioning of a large new plant at Dumfries in Scotland further strengthened the Group's position in this successful business.

In Australia, the petrochemicals and plastics business experienced intense competition from imports which depressed margins and profits, but the pressures eased towards the end of the year. The plastics business in Canada performed well, making a good contribution to profits and further progress was made towards overcoming the difficulties of the ethylene oxide and derivatives operations in the USA.

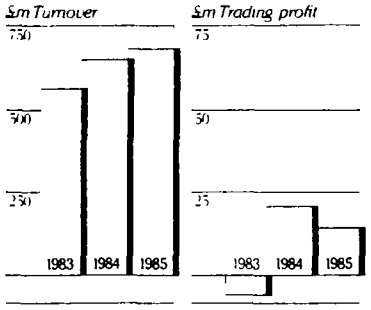
0045-0551

Work in progress on a new £16m anhydrous caustic soda plant at Runcorn in the UK. Due on stream in 1987, it will be the largest plant of its kind in Europe, and bring important cost savings.

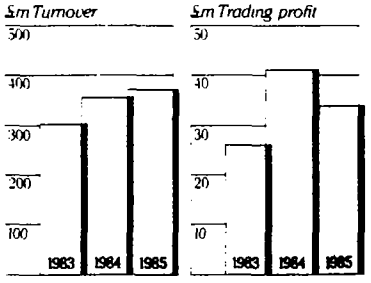
Work was completed on a £35m plant in Scotland to make 'Melinex' polyester film. ICI is the largest manufacturer of polyester film in Europe, has large plants in the USA and is building one in Brazil.

0045-0552

FIBRES



INDUSTRIAL EXPLOSIVES



FIBRES

ICI is the largest producer of polyamide (nylon) fibres in Europe and has substantial polyester fibre production in the UK and West Germany. The Group also has plants in India and Pakistan and there is production by related companies in Spain, Portugal and South Africa. The supply of fibre intermediates to these plants and to external customers contributes substantially to the profits of ICI's petrochemicals business.

World demand for fibres remained buoyant in 1985, with the high level of imports by the USA being a major factor. ICI's successful developments of 'Tactel' and 'Terinda' performance fibres for the rapidly growing sports and leisure wear markets helped take sales in Europe to record levels. 'Quintesse' nylon staple fibre for car upholstery and 'Timbrelle' premium carpet fibre products also enabled further increases in sales to be made to these sectors. Export sales of ICI fibres from Europe again increased, largely because of high demand for the Group's performance fibres in the USA. Despite the strong sales achievement, profits in Europe were disappointing, showing little change from 1984 because of feedstock cost and exchange rate effects, similar to those suffered by the petrochemicals business.

Polyester demand in India rose sharply following a substantial reduction in excise tax, enabling the business to more than double its profits. In Pakistan, there was another very good performance following the success of 1984. Comparison of the 1985 and 1984 profits for the business area is affected by the divestment late in 1984 of the Australian activities. The related companies in Spain and Portugal, Nurel SA and Finicisa Fibras Sinteticas SARL, again made record profits.

The business area also includes 'Melinar' polyester polymer for bottles and other containers. Sales in 1985 were affected by low demand for carbonated soft drinks in Northern Europe during a very poor spring and summer. However, the underlying growth trend is strong, and successful commissioning of a new plant at Wilton in the UK will maintain ICI's leading position and provide a firm base for the new applications which are under continuous development.

INDUSTRIAL EXPLOSIVES

The ICI Group manufactures industrial explosives in the UK, Australia, Canada and India, with smaller factories in other parts of the world. These operations, together with those of the related company AECI Ltd in South Africa, make ICI the leading supplier worldwide of industrial explosives and blasting accessories.

Trading was again affected by the generally low level of activity in the metalliferous mining industry, whilst falling oil prices reduced the level of seismic exploration. However, open pit coal extraction continued to expand and further growth is expected in the major producing countries. In the UK, the prolonged mining strike depressed sales by Nobel's Explosives Company Ltd to the coal industry until mid-year. However, the defence and aerospace group of this company again achieved a significant increase in business and is continuing to develop a range of specialized products to meet the exacting requirements of these industries.

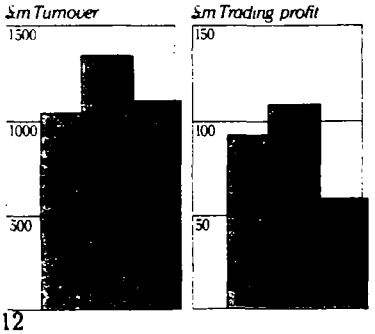
ICI continued a policy of rationalization of manufacturing capacity. There was further decentralization of production in Australia, Canada and the UK. Advantage was taken of new methods to move manufacture closer to the major centres of use, thereby improving the service available to customers and reducing costs of manufacture and distribution.

The major ICI Group explosives companies and AECI now manufacture 'Powergel' emulsion explosives. This technology is capable of producing a wide range of products with performance characteristics meeting different blasting requirements. The major objectives of ICI research and development in the explosives field are to develop explosives technology still further and to improve initiating systems so as to provide customers with even higher blasting performance.

Production from the Ninian North Sea oilfield continued to decline and at 223,000 barrels a day was 6 per cent lower than in 1984 and 27 per cent below the peak output of 1982. ICI Petroleum Ltd's share of 1985 production was about 15 million barrels, 12 per cent lower than its share in 1984 which included the balance of 1 million barrels owed to ICI Petroleum as a result of the 1983 redetermination of interests in the field.

As foreshadowed in last year's Report the effective rate of oil taxation in 1985, at 65 per cent, was significantly higher than in 1984 (60 per cent) and this, combined with the reduced availability of crude oil and increased exploration and appraisal charges, resulted in a fall in trading profits from £109m in 1984 to £59m in 1985. Trading conditions for refined products were reasonably good and a small profit was made on this relatively small part of the business.

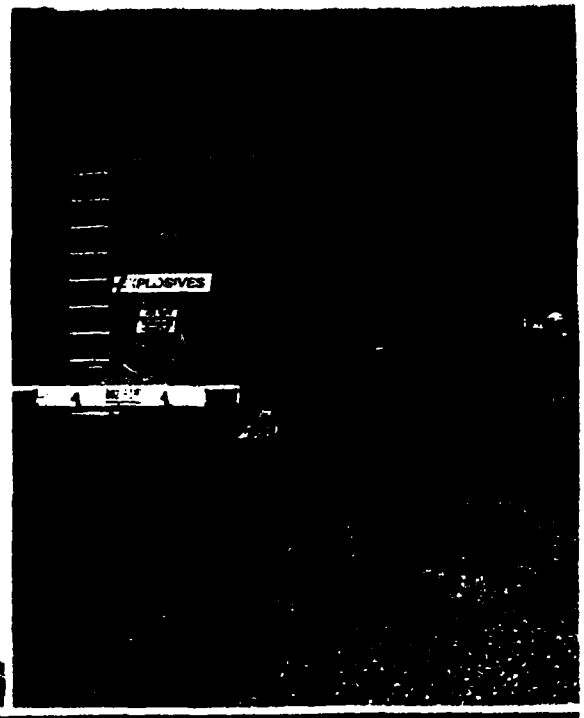
OIL & GAS



A final redetermination of ownership interests of the participants in the Ninian field has confirmed no change in the level of ICI Petroleum's 18.5 per cent interest as redetermined in 1983, and on this basis, ICI Petroleum's estimated share of remaining proved Ninian reserves at the end of 1985 was about 88 million barrels of crude oil and 4 million barrels of liquefied petroleum gases.

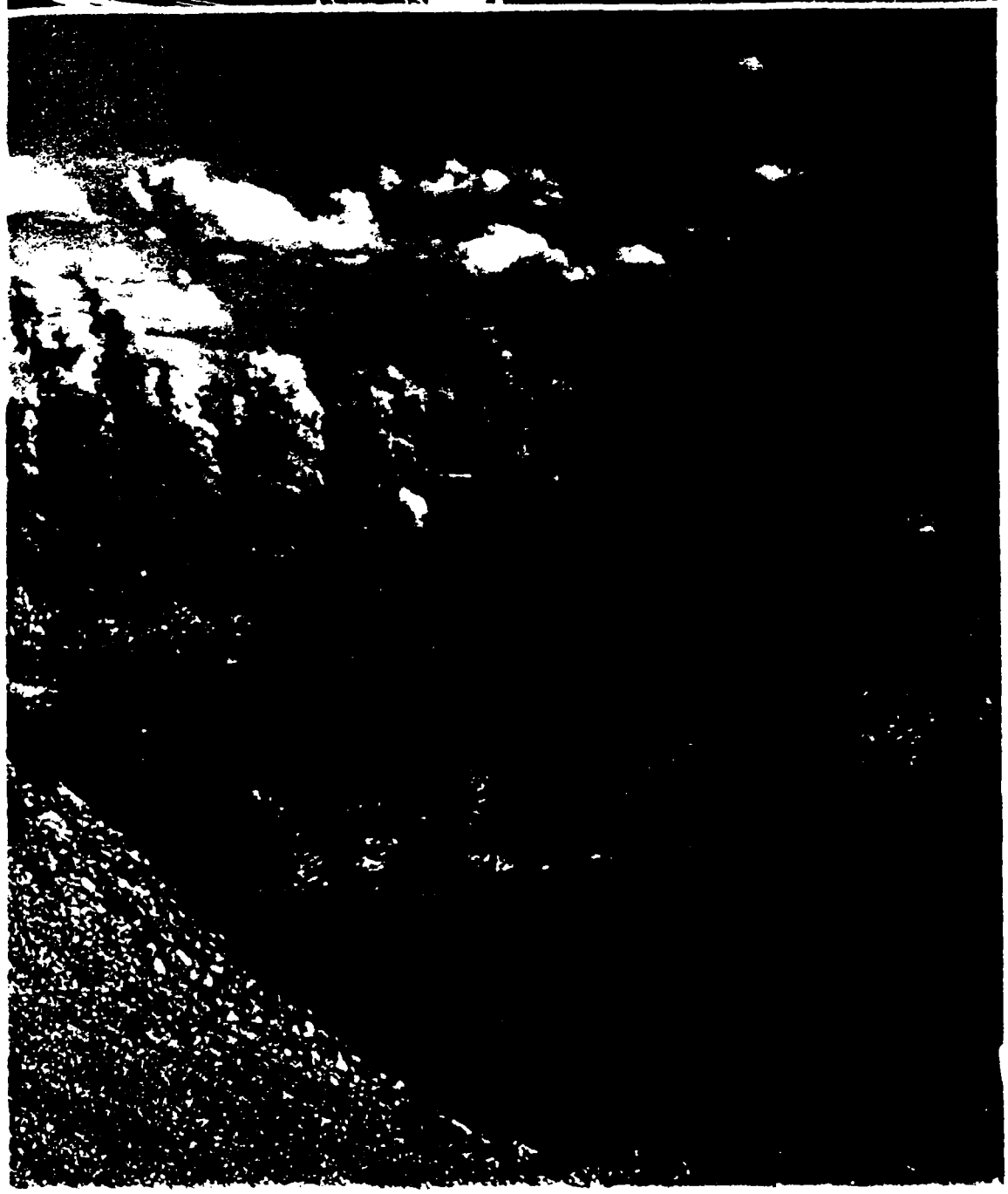
Successful application, with Amoco and others, was made for nine blocks in the 9th UK Continental Shelf licensing round. Also during the year, additional exploration interests in the Gulf of Suez and in Indonesia were acquired. In the southern part of the North Sea, further appraisal drilling has been undertaken in the Amethyst gas area, successfully defining additional reserves and bringing closer the prospect of an economic development. In Indonesia, a potentially significant oil discovery was made offshore from East Sulawesi and subsequently confirmed by a successful appraisal well. Seismic work and further appraisal drilling are programmed in 1986 to determine the full extent of the accumulation.

0045-0553



Far left: ICI Fibres had a successful year with 'Tactel', a man-made fibre product widely used in the manufacture of sports and leisure wear.

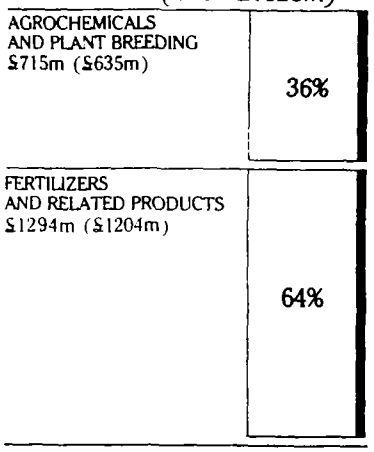
Left: ICI is developing new types of explosives and delivery systems to meet customers' needs.



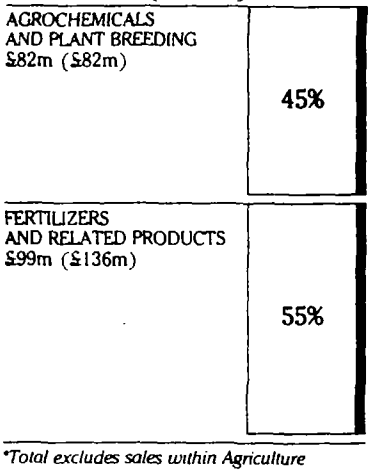
ICI explosives being used to extract coal in Queensland, Australia.

0045-0554

*Turnover**
1985 £1995m (1984 £1828m)

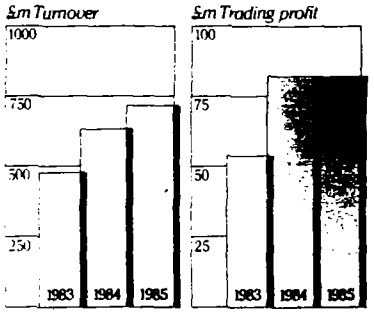


Trading profit
1985 £181m (£218m)

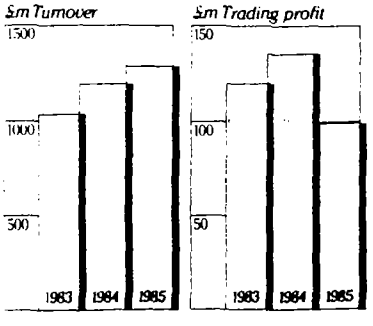


**Total excludes sales within Agriculture segment.*

AGROCHEMICALS AND PLANT BREEDING



FERTILIZERS AND RELATED PRODUCTS



ICI serves agriculture throughout the world via its agrochemicals business, which is one of the largest in the world, and by strong fertilizer production and sales operations in selected major markets. The strengths of ICI in bioscience research and fermentation technology provide the foundation for the development of new businesses in plant breeding and biotechnology-based products.

The world agricultural industry came under severe pressure in 1985, leading to intense competition. Nevertheless, ICI's agrochemicals business continued to make good progress, but the results for the segment as a whole were depressed by the poor conditions for fertilizers in the UK and North America and the costs associated with the development of a new business in plant breeding.

AGROCHEMICALS AND PLANT BREEDING

The agrochemicals business supplies herbicides, pesticides and fungicides with sales in over 120 countries and has a worldwide structure of research, development, and production facilities. It is coordinated and strategically led from the UK.

ICI's strong portfolio of agrochemicals and widespread marketing capability enabled sales of these products to be increased by 13 per cent in 1985. Progress was particularly strong in Europe with sales to Eastern Europe increasing by 20 per cent, whilst those to Western Europe rose by 18 per cent. Competition was intense throughout the world and increased pressure on prices constrained the rise in trading profit compared to 1984.

In addition to useful growth in established products, particularly in 'Reglone', ICI's unique herbicide and dessicant, several new products were introduced in 1985. 'Karate', a major new pyrethroid insecticide, was launched in nine countries and the range of cereal fungicides continued to strengthen with the launch of 'Ferrax', a new cereal seed dressing. 'Flex' soya herbicide was registered in Brazil and a novel range of products for optimizing plant growth characteristics was sold for the first time in 1985. The range includes 'Cultar', 'Bonzi' and 'Parlay' covering a broad variety of applications. Extended sales of all these products, together with further new product launches, are planned for 1986.

In order to maintain and further enhance ICI's record of innovation in agrochemicals, work began in 1985 on a major expansion of exploratory research facilities in the UK in which some £20m will be invested with the creation of about 200 new jobs.

The first steps were taken in a long-term strategy to build a new business in plant breeding, based upon ICI's bioscience research. Group investment in plant bioscience is being expanded in both the UK and the USA. An opportunity was taken to acquire the Garst Seed Company in the USA to obtain access to markets and provide a means for commercial exploitation of ICI innovations in this field. The losses being made by this company when acquired, together with other costs associated with founding a new business, adversely affected the 1985 results for the overall business area. However, it is intended by the application of ICI's strengths to the established market position of the company to turn it into an important contributor to a profitable business in plant breeding.

FERTILIZERS AND RELATED PRODUCTS

ICI has substantial fertilizer manufacturing and supply operations in the UK, North America, Australia, India and Malaysia and, via the related company AECI Ltd, in South Africa. The sector includes the industrial chemicals ammonia, methanol and carbon dioxide, and other products such as catalysts relating to ammonia and fertilizer technology.

Conditions for fertilizers were difficult in most markets in 1985. In the UK, where ICI is the leading supplier, one of the wettest summers on record depressed farming, resulting in reduced immediate demand and in lower forward buying. Although harvest conditions were good in North America, high stocks and low commodity prices led to weak farm incomes, liquidity problems, and a consequent rapid decline in ammonia and fertilizer prices with repercussions throughout the world.

In Malaysia, high sales volumes were achieved, but in India fertilizer production by IEL Ltd suffered from unusually severe restrictions in public power supplies.

The Group's interests in fertilizers in Australia, which were formerly divided between a subsidiary company with operations based on imported phosphate and a related company mainly manufacturing nitrogenous fertilizers, were merged in 1985 and ICI Australia Ltd's holding raised to 64 per cent. The resulting company is more competitive internationally and has made a good start in realizing the benefits of the merger.

Two other major events occurred in 1985 which will increase the efficiency of the ICI fertilizer business and help the Group to maintain its position as a leading and profitable supplier to one of the world's major industries. In Canada, a new highly efficient ammonia plant has been commissioned which will enable maximum advantage to be taken of favourable changes in the Canadian arrangements for pricing of natural gas feedstock. At Severnside in the UK, capital expenditure of £60m has been authorized to build two new ammonia plants employing advanced technology developed by ICI, giving a unique combination of high efficiency and low capital cost.

The catalyst business, which supplies ammonia and methanol producers all over the world, had another very good year and sales of carbon dioxide also did well.

ICI's skills in fermentation technology are being applied to the development jointly with Ranks Hovis McDougall PLC of a new high protein and fibre food. Good progress is being made and the product has been successfully test-marketed by a leading UK food retailer.

0045-0555

Far left: Agrochemicals scientists now use a hand-held computer terminal so that field trial data can be fed directly into the main-frame computer at their UK research centre.

Left: increased blossom and crops are the main benefits from the use of 'Cultar', the first of ICI's family of plant growth regulators, introduced in the UK and other territories in 1985.

ICI acquired the Garst Seed Company, a leader in the US seeds market, to assist the development of a new ICI business in plant breeding.

Far left: trial results are assessed at an ICI field station in Kawachi, Japan.

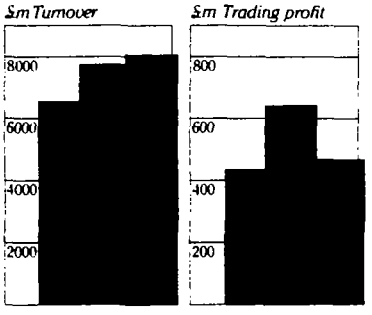
Left: ICI is the largest supplier of fertilizers to British farmers and took steps in 1985 to maintain this position and increase its strength further in Australia and North America.

0045-0556

GEOGRAPHIC AREAS

ICI sales in France have doubled in three years, through acquisitions and expansion of existing business. I.C.I. France SA now has a new headquarters at Clamart, outside Paris.

EUROPE



The ICI organization in Europe comprises a network of the Company's eight Divisions which have their headquarters in the UK, together with wholly-owned subsidiary companies throughout the Western countries. In Eastern Europe, ICI is represented by offices in every country, except Albania. The Group's main technological base is in the UK, but the ICI network provides a powerful marketing force operating on a European-wide basis, supported by factories throughout the region. Business strategies are developed to enhance ICI's position as one of the principal suppliers to the whole European market which accounts for about half the Group's total sales of chemicals. Penetration of the market in the Continental countries has been steadily increasing and in 1985 sales of chemicals to other European countries were nearly as large as those to the UK.

The economies of Western Europe in 1985, taking the year as a whole, expanded at the same modest rate as in the previous year. The rate of growth was slow in the first six months, but there was a good recovery in the second half-year when domestic demand accelerated. Demand for chemicals, which had been particularly strong in 1984, slipped back in the first six months of 1985, but after mid-year chemical output was on a higher level. Against this background, competition was fierce throughout Europe; nevertheless ICI achieved higher sales volumes and again increased its share of Continental markets. Price increases, however, did not match rises in the costs of production. In consequence, ICI's trading profit from its overall European operations declined to £470m from £644m in 1984, although remaining above the previous record of £439m earned in 1983.

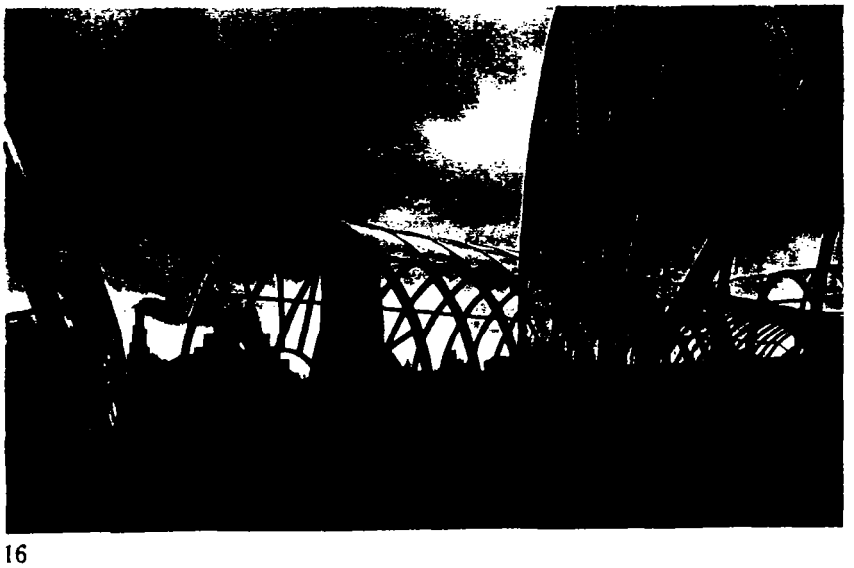
The UK economy reflected recovery from the miners' strike and recorded the highest increase in gross domestic product, compared with 1984, of all the major European economies. Nevertheless, demand for chemicals within the UK was little changed from 1984 although high exports enabled good growth in production to be achieved in the first six months, falling back as exports declined in the third quarter. The contrast between the UK chemicals market and that in the rest of Europe is closely related to the comparatively depressed state of British manufacturing industry. The growth in output of manufactured goods in Britain in 1985 was substantially lower than the average for Western Europe and the level of British production is still below that reached in the late 1970s. ICI's performance in the UK continued to be held back by the depressed state of this important section of its customers and increases in volume of sales were mainly confined to areas close to the consumer. Difficult conditions in the agricultural sector were another important factor contributing to the weaker performance in 1985. ICI again increased its exports of chemicals from the UK from £2,109m (fob) in 1984 to £2,183m in 1985, of which £1,238m were sold to other European countries. Total exports by ICI from the UK, including oil, amounted to £2,340m.

Right: ICI has a large pharmaceuticals production facility at Plankstadt in West Germany. The tablet processing facility is illustrated.

On the Continent of Europe, 1985 was a good trading year. There was some growth in all markets and ICI increased its penetration. Amongst the countries in which particularly good progress was made were the major markets of West Germany, France and Italy which are of increasing importance to the Group. Sales in these three countries now represent a significant part of the Group's turnover with scope for further substantial growth. ICI sees the entry of Spain and Portugal to the EEC as favourable to the development of its business in these countries. Further increases in sales to Eastern Europe were achieved in 1985, with a particularly strong performance in agrochemicals. Despite difficult trading conditions, ICI has been steadily increasing its sales in these markets.

Throughout Europe the growth of the business was primarily in non-commodity chemicals. The changing shape is characterized by withdrawal from the polyethylene business and the addition of products of high added-value such as those of the Stahl/Paule, Polyvinyl, Permuthane, Imperial Oil and Grease, Thoro and LNP businesses acquired in 1985 all of which have production facilities in Europe as well as in the USA and elsewhere.

One of Europe's most futuristic buildings – a school for handicapped children in Belgium – has dome roofs made of 'Perspex' acrylic sheet.



0045-0557

USA

ICI's operations in the USA comprise a rapidly expanding group of wholly-owned companies under the umbrella of ICI American Holdings Inc, with an increasing emphasis on application of advanced technology. The principal operating subsidiaries are ICI Americas Inc, Garst Seed Company, Coe Laboratories Inc, Array Technology Inc and the speciality chemicals and advanced materials companies purchased from Beatrice Companies Inc.

Growth in the US economy, particularly the manufacturing and chemical production sectors, slowed from 1983/84 levels as the strong dollar reduced export competitiveness and attracted imports. However, ICI's US operations in 1985 achieved further significant advances in sales and profits, with particularly strong performances by the pharmaceuticals, polyurethanes and Fiberite Composites businesses and contributions from the other acquired businesses. Some businesses, notably 'Melinex' polyester film, suffered from import competition.

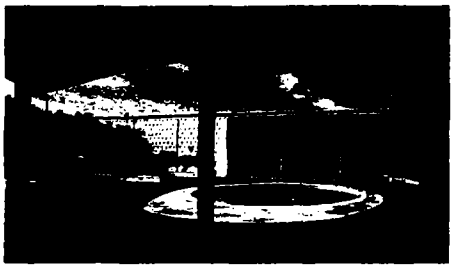
A vigorous acquisition and divestment programme produced further substantial strengthening of ICI's portfolio of high value-added businesses and gave additional impetus to new developments in line with ICI strategic objectives. These developments, which are described under the appropriate business headings, represented a major expansion of ICI's operations in the USA.

Canada

ICI's operations in Canada are principally conducted by C-I-L Inc, owned 73 per cent by ICI. The company is a major Canadian supplier of chemicals and related products, mainly to primary industries in North America. Exports, mainly to the United States, account for over 20 per cent of the company's sales of over one billion Canadian dollars.

Although sales were somewhat higher than in 1984, profits were little changed. Volume increases were achieved for some products but costs for raw materials and distribution continued to rise, while increases in selling prices were restricted by overcapacity in the industry. Low prices and abnormally high stocks of farm commodities depressed the price of ammonia, a principal product. It has been decided to withdraw from phosphoric acid and phosphate products manufacture in 1986 and provision has been made as an extraordinary item in the 1985 accounts.

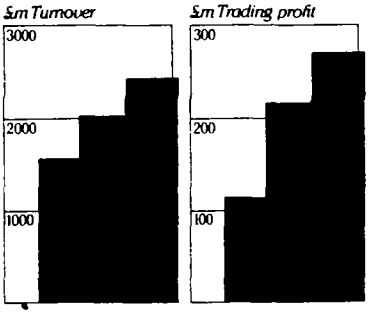
The company completed a large ammonia capacity expansion ahead of schedule and below budgeted cost. This new facility, using highly energy-efficient technology developed by ICI, was successfully started up in August and puts C-I-L in a strong position to take advantage of changes in the pricing structure of natural gas feedstock to compete in the North American fertilizer market.

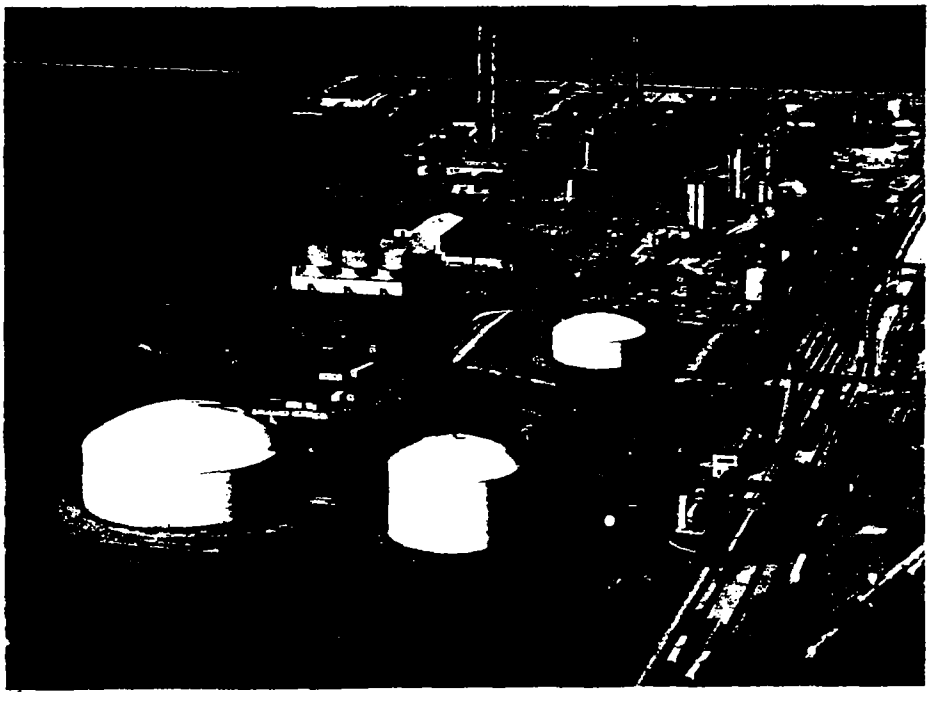


Above: a problem-solving meeting at ICI's bio-medical centre in Wilmington, Delaware, USA.

Left: there was continued strong growth in pharmaceuticals in the USA – picture shows the Stuart Pharmaceuticals plant in California.

THE AMERICAS





North America's newest ammonia plant, successfully commissioned at Sarnia, Ontario. Operated by C-I-L Inc, it uses highly efficient technology developed by ICI.

0045-0558

Duperial SAIC, ICI's subsidiary company in Argentina, marked its 50th anniversary year by staging an imaginative display at the country's Agro-Industrial Show.

Latin America

For most countries in Latin America, 1985 was a year of considerable economic difficulty in which falling commodity prices, high interest rates and the slowing growth of world trade combined to intensify the struggle against balance of payments problems. Against this background, the wholly-owned ICI companies in Brazil, Mexico, Colombia, Peru, Venezuela, Guatemala and Nicaragua all managed to increase their sales and ICI Group exports to Latin America were a record. However, because of the difficult trading conditions, particularly in Mexico, overall profits earned in the region showed some decline from the high levels of 1984.

Duperial SAIC, the wholly-owned company in Argentina, celebrated its 50th anniversary and despite extremely adverse trading circumstances continued to perform well, with good advances in local manufacture and imported agrochemicals. The colours business was restored to profitability in Brazil and continued to do well in Mexico where the ICI holding in the colours company Anyl-Mex SA was increased from 49 per cent to 100 per cent. The ICI Group has also acquired a 40 per cent shareholding in Explosivos Mexicanos SA thereby strengthening its existing business in explosives in Mexico to take advantage of expanding mining activity.

Australasia

The ICI Group operations in Australasia are conducted by ICI Australia Ltd (62 per cent owned by ICI) and its subsidiaries, including ICI New Zealand Ltd. Activities are wide ranging, covering a broad spectrum of industrial, agricultural, and speciality products, and the companies are in the forefront of manufacturing industry in Australasia.

There was continued improvement in the Australian economy throughout 1985 and this was reflected in a higher trading profit than was earned in the previous year, with sales volumes well up as a result of the improved demand for most of the products. However, in several important business areas, intense import competition was experienced, with strong downward pressure on selling prices. As a result, margins in these businesses, especially petrochemicals and plastics, were depressed, constraining trading profit. These external competitive pressures showed some signs of easing towards the end of the year.

Economic activity in New Zealand remained at a high level, leading to strong sales growth and higher trading profit in ICI New Zealand. Trading margins were reduced by competitive pricing and the sharp rise in operating costs including Government charges. Contraction in domestic demand for rural products became evident in the latter part of the year, as the farming sector responded to the Government's removal of traditional financial assistance and the adverse impact on export realisations arising from sustained strengthening of the New Zealand dollar.

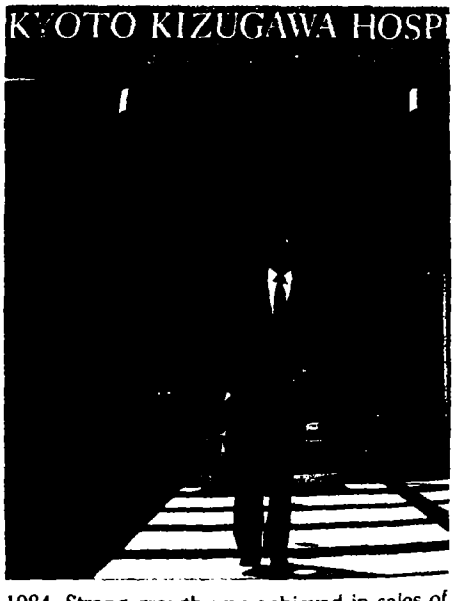
Further steps were taken during the year to improve and diversify the business portfolio of the ICI Australia Group. The fertilizer interests were merged and a joint company was formed with the Australian Government research agency for the international marketing of advanced ceramics based on zirconia. Manufacture will be by ICI Australia using technology developed by both partners. Acquisitions were made in the fields of scientific instruments and specialized building products.

Japan

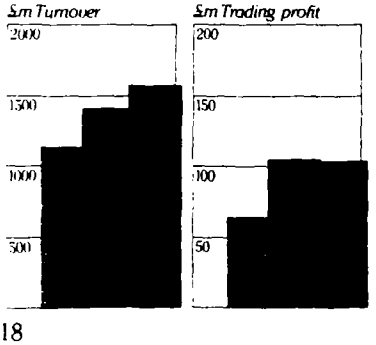
The wholly-owned company, ICI Japan Ltd, has overall responsibility for ICI's interests in Japan which include joint ventures with Japanese companies in pharmaceuticals (60 per cent ICI), agrochemicals (50 per cent ICI), 'Fluon' polytetrafluoroethylene (50 per cent ICI) and polyurethanes (25 per cent ICI). The acquisition of Fiberite Corporation gave ICI a position in advanced continuous composite materials in Japan through Kasei Fiberite Ltd, a 50 per cent joint venture with Mitsubishi Chemical Industries Ltd. Construction of a production plant for this joint company was authorized in 1985. Increasing ICI's presence in Japan by the development of new business in technologically-advanced areas and the furtherance of close links with Japanese scientific research are principal objectives.

The Japanese economy maintained its vigorous export-led expansion in 1985 although growth was slightly lower than in 1984. Strong growth was achieved in sales of high added-value imported ICI products such as 'Victrex' resins, speciality fibres, 'Melinex' polyester film and 'Maranyl' moulding powders. ICI-Pharma Ltd again had an excellent year and the fluoropolymers company, continuing the progress made in 1984, increased sales by over 75 per cent. Polyurethanes also did well but agrochemicals sales were constrained to 1984 levels.

Right: an ICI-Pharma Ltd representative leaves a hospital in Japan.



AUSTRALASIA, JAPAN AND THE FAR EAST



0045-0559

Other Far East countries

ICI's interests in Hong Kong, Taiwan and Korea are co-ordinated by the wholly-owned company ICI (China) Ltd, based in Hong Kong. This company also leads the ICI thrust for business in the increasingly important market of the People's Republic of China and oversees the business in the Philippines. The slowdown of the US economy and growing pressure there to restrict imports had an adverse effect on the export-led economies served by the ICI China group of companies. Trading in the People's Republic of China suffered from severe restrictions on the availability of foreign exchange. These two factors led to some decline in overall sales and profits for the ICI China Group from the record levels of 1984.

The ICI operations in Malaysia, Singapore and Thailand are co-ordinated by the ICI Malaysia Group. Growth in all three economies, particularly Singapore, fell away markedly in the second half of 1985. The Group achieved higher overall sales, mainly due to increased fertilizer sales from local manufacture and good business in imported fibre intermediates, but profits were somewhat lower than in 1984. The Indonesian economy also slowed down further during the year, adversely affecting ICI's business in that country.

OTHER TERRITORIES

India

The ICI operations in India, with the exception of colours manufacture by a 50 per cent related company, are conducted by IEL Ltd of which ICI owns 50.8 per cent.

During 1985 the Indian environment for business improved notably, with the Government following economic and industrial policies which are more encouraging for industrial growth than in the past. IEL increased its sales by 12 per cent and trading profit by 6 per cent.

Demand for the major products – fertilizers, fibres, explosives and paints – was strong but electric power supply limitations held back production of fertilizers, and feedstock for polyethylene production was short. Manufacture of synthetic pyrethroid insecticides was started.

ICI's paints and systems were chosen to protect and finish Malaysia's first national car, the 'Proton Saga'.

Pakistan

ICI's activities in Pakistan are carried out by two subsidiaries and one related company. Moves to merge the three companies into one subsidiary reached an advanced stage in 1985. Output and sales of polyester fibre and soda ash, the principal products manufactured locally, were again increased and profits before tax were close to the record levels of 1984. An extension to the capacity of the successful polyester fibre operation was authorized.

Africa

Export sales from the UK to Africa were £151m, a decrease of 15 per cent on 1984. This reflects the depressed state of business in South Africa and the adverse economic and political conditions prevailing in many other parts of Africa, particularly Nigeria. Exports of pharmaceuticals and plastics products improved and petrochemicals and agrochemicals maintained their position, but sales in other business areas declined.

ICI continues to pay particular attention to the employment conditions and welfare of its employees in South Africa. Copies of the Company's latest report to the UK Government on progress in implementing the provisions of the EEC Code of Conduct are available on request.

Middle East

Further growth was achieved in sales to this area despite difficult trading conditions for imported products in several of the largest markets. Progress was most significant in Turkey, Egypt, Iraq, Bahrain and the United Arab Emirates.

0045-0560

Left: colour matching in the IEL Ltd paints laboratory, Hyderabad.

FINANCIAL PERFORMANCE

Turnover

The Group's turnover from trading operations, as described in the earlier part of this report, was £10.7 billion compared with £9.9 billion in 1984.

Turnover in chemicals (excluding oil) in 1985 was £9,859m, an increase of 12 per cent. Turnover was 4 per cent higher in the UK, 14 per cent up in Continental Western Europe and 15 per cent higher outside Europe.

One half of the 12 per cent increase in turnover arose through acquisitions, 4 per cent came from higher sales volume and 2 per cent from selling price increases.

Profits

The profit from trading operations was £978m compared with £1,063m in 1984 and Group profit before taxation was £912m (1984 £1,034m). Pre-tax profits included for related companies were not as good as in 1984, declining to £56m (further details are given on the opposite page). Financing costs rose from £100m in 1984 to £122m, as a result of the reduction in net liquid resources used to help finance acquisitions.

The charge for taxation, excluding oil taxes, was £308m (1984 £373m) representing 34 per cent of profit before tax (1984 36 per cent). The charge comprised £166m of UK taxation, £126m of overseas taxation and £16m of taxation on related companies.

Earnings for Ordinary Stockholders were £552m before extraordinary items, compared with £605m in 1984. Earnings per £1 unit of Ordinary Stock were 86.4p (1984 98.2p). The £40m charge for extraordinary items relates to the restructuring of the colours and fine chemicals business in the UK and France and the withdrawal by C-I-L Inc from phosphoric acid and phosphate products manufacture.

In view of the suspension of the mandatory status of UK Statement of Standard Accounting Practice No. 16, ICI has decided not to publish current cost accounts as part of its annual accounts. The inflation-adjusted profit before tax for 1985 (on the same basis as SSAP 16), was £738m (1984 in 1985 £'s £893m) compared with £912m (1984 unadjusted £1,034m) in the historical cost accounts.

The principal adjustments to 1985 profits were:

	£m
Cost of sales adjustment	−81
Monetary working capital adjustment	+16
Supplementary depreciation	−211
Gearing adjustment	+66

Earnings per share on a current cost basis were 62p (1984 equivalent to 74p in 1985 terms).

Employees' Profit-Sharing Scheme

The rate of bonus is derived by reference to a pre-determined scale based on the ratio of added value to employee costs. The rate for 1985 is 8.1p per £1 of remuneration (at a total cost of £48m) compared with 10.1p (£58m) in 1984.

Dividend

A second interim Ordinary dividend of 20p per £1 unit, which the Annual General Meeting will be asked to confirm as the final dividend for 1985, is payable on 2 April 1986. This, together with the first interim dividend of 13p per £1 unit paid on 2 October 1985, makes a total Ordinary dividend of 33p for the year, an increase of 3p from 1984. The gross equivalent of this (including the related tax credit) is 47.14p. The payment of these dividends requires £214m (1984 £186m), leaving £298m (1984 £399m) retained in the business.

Finance

Funds generated from operations were £1,464m (1984 £1,476m). The year started with Group net liquid resources (cash and short-term investments less short-term borrowings) of £628m, and during the year new borrowings were almost equal to loan repayments. Substantial funds were therefore available to finance the high level of expenditure on acquisitions and related company investments which cost £814m (1984 £119m) and expenditure on new tangible fixed assets of £634m (1984 £441m); for details see page 23. Requirements for working capital were tightly controlled and the increase of £60m (which excludes working capital taken over with acquisitions) compares with £200m in 1984.

The major new borrowings were Euro-Sterling bond issues totalling £175m, issued at prices between 100 and 102⅝ with interest rates of 10¾ or 11¼ per cent, and repayable in seven to ten years. Ordinary Stock issues by ICI in 1985 totalled 29 million units, of which 18 million were in respect of a share placing, 9 million units related to employees' profit-sharing and share option schemes and 2 million units were issued on conversion of loan stock; the total value of Ordinary Stock issued, including share premium, was £205m. Group net liquid resources at 31 December 1985 were £286m.

0045-0561

RELATED COMPANIES

Results of the related companies include a strong profit improvement by Tioxide Group PLC, offset by lower sterling profits from AECI Ltd. The contribution from related companies was also affected by losses at Coopers Animal Health due to start-up costs and low trading margins in its first period of trading. A minority holding was taken in the Garst Seed Company and the losses incurred, during the period before full ownership was acquired, are also included. Information on the three largest related companies is given below and details of ICI's investments in these companies are given on page 51.

AECI Ltd

AECI Ltd, the South African Group in which ICI has a 38 per cent interest, produces a wide range of industrial explosives for mining and other commercial uses, general chemicals, plastics, vinyl products, paints, fibres and fertilizers.

Sales by AECI again increased to R2,340m in 1985 despite the depressed state of the South African economy. Net trading income advanced to R253m. Earnings per share were 74 cents. This was little changed from 1984 but the fall in value of the Rand against sterling severely reduced the contribution to ICI Group profits.

Corpus Christi Petrochemical Company

ICI owns a 37½ per cent interest in this partnership – the other partners being Solvay et Cie SA and Union Pacific Corporation – which operates an ethylene, propylene and related petrochemicals plant at Corpus Christi, Texas, USA. The operation continued to be affected by severe over-capacity in the industry and, despite the stringent cost-savings measures, a loss was again incurred. The book value of the investment is fully provided against.

Tioxide Group PLC

Tioxide Group PLC, in which ICI has a 50 per cent interest, is the largest manufacturer of titanium dioxide pigments in Europe and also has substantial operations in North America, Australia and South Africa.

The results for the first half of 1985 showed further strong advances with a profit before tax of £34m compared with £17m for the first half of 1984 and £43m for the full year. Trading conditions continued to be good with volume gains and price increases in most markets. The operations in Italy acquired in 1984 made a worthwhile contribution.

STOCKHOLDERS

At the end of 1985 the register of stockholders consisted of 357,412 Ordinary Stock accounts, 628 Preference Stock accounts and 152,619 accounts in respect of all classes of Loan Stock. The following table analyses the holdings of Ordinary Stock:

Size of holding £	Number of stockholders' accounts	Amount £m
1–250	156,201	19
251–500	91,327	34
501–1,000	69,709	50
1,001–5,000	37,294	64
5,001–10,000	1,128	8
10,001–50,000	1,003	24
50,001–1,000,000	671	144
Over 1,000,000	79	305
All holdings	357,412	648

In addition to the number of registered stockholders shown, there are approximately 20,000 holders of American Depositary Receipts. The ADRs, each of which is equivalent to four £1 Ordinary Stock units, are issued by Morgan Guaranty Trust Company of New York and are listed on the New York Stock Exchange.

As at 18 February 1986 (one month prior to the date of the Notice of Meeting on page 55) Morgan Guaranty Trust Company of New York had a non-beneficial interest in £93,074,892 Ordinary Stock of the Company (being approximately 14.3 per cent of the issued Ordinary share capital), of which £90,427,400 was registered or was in the course of registration in the name of their nominee company, Guaranty Nominees Limited. At that date no other person held an interest in stock comprising 5 per cent or more of the issued Ordinary share capital of the Company.

0045-0562

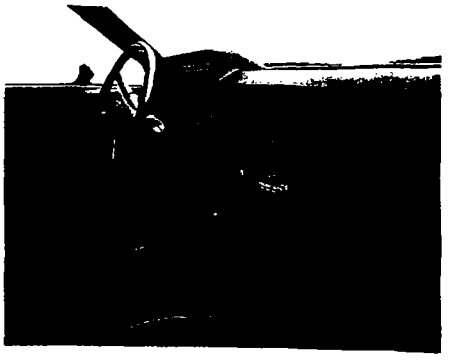
The photographs on this page illustrate some of the activities of the businesses acquired from Beatrice Companies Inc.

BUSINESS DEVELOPMENTS AND INVESTMENT

The most significant development during the year in pursuit of the twin objectives of increasing the proportion of the Group's business in products of high added-value, and of increasing ICI's presence in the USA, was the acquisition, completed on 28 February 1985, of the Beatrice Chemical interests from Beatrice Companies Inc at a cost of US$764m. This acquisition comprised ten advanced materials and speciality chemicals businesses with total sales in the year ending 28 February 1985 of US$496m and pre-tax profits of US$79m, operating through some forty subsidiary and five related companies in eighteen countries in the Americas, Europe and the Far East. Dri-Print Foils, accounting for about one per cent of the pre-tax profit, conflicted with the Group's strategy for 'Melinex' polyester film and this business has therefore been divested.

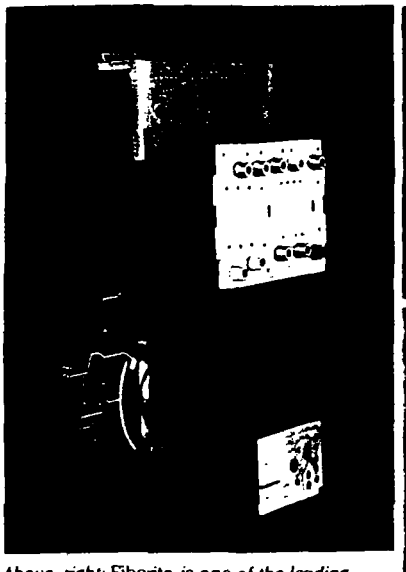
Initially all the businesses were placed under the overall responsibility of the Principal Executive Officer for speciality chemicals in order to facilitate the achievement of key objectives for 1985. These were: to realise the budgeted growth in profits of the individual businesses; to make a start on achieving additional benefits from the acquisition by bringing the technical, product and territorial strengths of the ICI Group to bear; to maintain the tightly managed and customer-orientated style of operation; to retain the staff on whom performance depends. These objectives have been successfully achieved and overall responsibility for some of the businesses has been reallocated.

Within the advanced materials business area are: Fiberite Composite Materials, a market leader in continuous composites for the defence, aerospace, sports goods and other industries; Fiberite Molding Materials, a supplier of reinforced thermoset plastics; and LNP, a supplier of reinforced engineering thermoplastic compounds. Polyvinyl, a manufacturer of acrylic and urethane binders for inks, paints and other coatings, has become part of a newly created resins and surface coatings intermediates business within general chemicals. Remaining with speciality chemicals are: Converters Ink, a manufacturer of speciality inks for flexible packaging; Imperial Oil and Grease, a supplier of high technology lubrication services; Stahl/Paule, a world leader in the supply of finishes for leather and shoes; Permuthane, a supplier of finishes for textiles and other substrates; and Thoro Systems, a supplier of sealant finishes for concrete and masonry.



Right: Permuthane *resin coatings are used to protect the leather upholstery in this US car.*

Below: LNP *compounding expertise is used with 'Victrex' high temperature resin technology and ICI capabilities in electronics to form circuitry on 3-D features to provide a unique service to customers.*



Above, right: Fiberite *is one of the leading suppliers of high technology composite materials to the aviation industry, including the Airbus A320 programme.*

Right: Thoro Systems *are world leaders in the production of waterproofing products for concrete and masonry. In 1985, Thoro completed their largest ever contract: exterior treatment of the Marina Centre in Singapore, the biggest hotel/convention centre in Asia.*

Other acquisitions and restructuring arrangements have been made during the year, as reported in the review of trading operations. In the Consumer and Speciality Products segment, the paints business in Europe was further strengthened by two small acquisitions and the speciality chemicals portfolio in the USA was improved by acquisition of two plastics additives companies and the divestment of activated carbon. There was also an acquisition to strengthen the polyurethanes business in Europe. In the Industrial Products segment, the agreement with EniChem SpA to re-structure the VCM and PVC interests of the two companies represented a major initiative, and steps to complete the withdrawal of ICI from polyethylene production in Western Europe were taken. Important moves in the Agriculture segment were the acquisition of the Garst Seed Company in the USA to assist the development of a new ICI business in plant breeding and the merging of ICI's fertilizer interests in Australia. The policy of expanding ICI's involvement with the electronics industry was continued by acquisition of the Swedish company, Stratos AB, and of Array Technology Inc, in the USA.

Capital expenditure on fixed assets was again increased, with the emphasis being on fast payback projects to improve the efficiency and expand the capacity of existing plants. In particular, large sums are being spent on modernization of the pharmaceuticals production facilities in the UK. An exception to this general trend was the authorization of two new ammonia plants at Severnside in the UK which, at £60m, is the largest single capital project authorized by ICI in the UK since 1978, demonstrating ICI's commitment to UK agriculture. It is noteworthy that the capital cost of these highly efficient plants will be substantially lower than that of any previous ammonia

0045-0563

plants of similar capacity, reflecting ICI's relentless drive to increase the efficiency of capital utilization.

The table below summarises Group authorizations and expenditure on tangible fixed assets; it also shows expenditure on acquisitions and other new investment and the proceeds from divestments. Tangible fixed assets include oil exploration expenditure.

	Authorized			Expenditure		
	1983 £m	1984 £m	1985 £m	1983 £m	1984 £m	1985 £m
Tangible fixed assets						
United Kingdom	282	325	443	192	251	370
Continental Western Europe	19	28	52	21	30	36
The Americas	80	136	127	104	115	147
Other countries	42	49	94	44	45	81
	423	538	716	361	441	634
Total authorized but unspent at end of year				397	494	576
Expenditure on acquisitions and other new investment				70	119	814
(Including acquisition from Beatrice Companies Inc						675)
Proceeds from disposal of tangible fixed assets and investments in subsidiaries and related companies				(167)	(60)	(54)

RESEARCH AND TECHNOLOGY

The Group's expenditure on research, development and technical service in 1985 was £349m (1984 £299m), of which £124m (1984 £86m) was spent outside the UK. More than 9,000 people are employed on these activities within the Group, of whom about 70 per cent work in the UK and some 10 per cent in the USA.

There are also substantial establishments in other European countries and in Australia and Canada, carrying out work of high quality and importance as recognized by the award to C-I-L in 1985 of the Government of Canada's Gold Medallion for Excellence in the inventions category for development of a paper pulping system using anthraquinone as a catalyst. Considerable effort is also being devoted to building up resources in Japan to assist the commercial application of advanced materials to high technology industrial uses.

ICI's policy is to concentrate effort on selected areas of technology, on development of new businesses and on sustaining the competitiveness of products and processes in accordance with the scope for achieving rewarding innovations. Within the framework of this overall policy, the management of each of the business areas has responsibility for the direction of research work, thereby ensuring that resources are focussed to accord with market developments and business needs.

The highest allocations of resources are in the bioscience areas, particularly the fields of health care, crop protection, plant breeding and fermentation technology. The new products and businesses which are being developed as a result of this work are described under the appropriate business headings. A particular example is the development of a long-term strategy to establish a new business in plant breeding. Innovations in these fields stem from the improved understanding of living systems acquired by fundamental studies in genetics and cell and molecular biology.

In other areas, major effort is deployed in support of speciality chemicals, surface coatings, advanced materials and electronics. This work includes fundamental studies in physics, rheology, morphology, polymer science and the science of surfaces, and in materials and process technology.

Expansions of research facilities to support the agrochemicals and paints businesses are reported under the business headings. In addition, the Technical Centre at Wilton in the UK is being expanded at a cost of £3m creating about 100 new jobs. This expansion will provide increased resources for work on high performance composites and new polymers and films for high temperature and special effect applications, for work on fibres technology, and for work on oilfield chemicals.

Management throughout the Group is deeply committed to the extensive use of information technology to improve the efficiency of its internal operations and communications and to provide computer based information and advice directly to its customers. 'Counsellor' and 'Agviser', for example, are ICI expert systems providing advice to farmers. ICI is also in the business of developing and selling computer software. An example of this new development is 'Assassin', a powerful information retrieval package written by ICI initially for internal use but which, under agreements reached in 1985, is to be marketed externally. Other fields in which ICI has developed novel software are engineering and process design, toxicology testing, process control, and management information and auditing systems.

Expert systems are widely used by British farmers as part of ICI's range of services to agriculture.

ICI is spending more than £5m a year to develop alternatives to the use of animals in medical and other research, and is recognised as a leader in this field. Here cancer research is carried out in Pharmaceuticals Division using these new techniques.

PEOPLE

The average number of people employed by the Group in 1985 was 118,600 (115,600 in 1984), of whom over half were employed in 60 countries outside the UK. Further information is on page 35.

At the end of 1985, the number of UK nationals working abroad was 304 and a further 295 employees of other nationalities were serving away from their own countries. These relatively small numbers reflect ICI's continuing policy of staffing its operations as much as possible with nationals of the country involved, whilst at the same time providing specialist or technical support where needed and ensuring international experience for senior managers.

The United Kingdom

The drive to maintain competitiveness continued through 1985 and, whilst there was further reduction in the numbers employed in mature businesses, there was significant recruitment to support expanding and new businesses. Overall, average numbers declined. Recruitment in 1985 included some 500 young people under 18 and more than 300 graduates direct from university. In addition, more than 1400 places were provided under the Youth Training Scheme and the Company continues to support, by secondment and other means, job creation and new business development activities.

Employee involvement

In the UK, there is a three-tier system for formal consultation. It is based on workplace representation and is led by the senior manager responsible at Works or Department level, the Chief Executive at Division level and the ICI Chairman at meetings held centrally each year with monthly and weekly staff representatives from all parts of the business. There are also two representative Central Business and Investment Committees which are chaired by an Executive Director and meet at least twice a year. These smaller groups are supported by similar committees in Divisions. Their aim is to discuss business prospects and plans in greater depth than is possible in larger meetings.

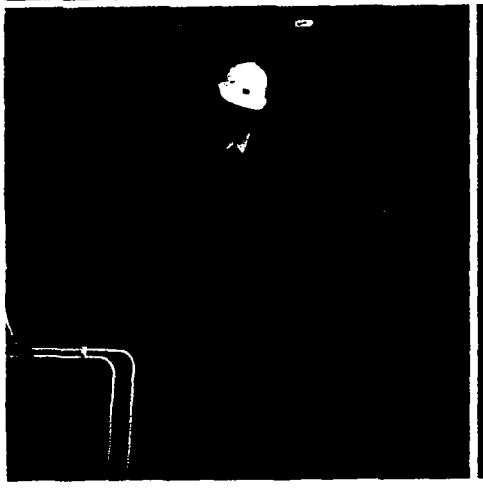
Great emphasis continues to be placed on informal consultation at work group level and an open management style, with frequent informal discussion about day-to-day operations and the technical, financial and economic factors affecting each unit's business.

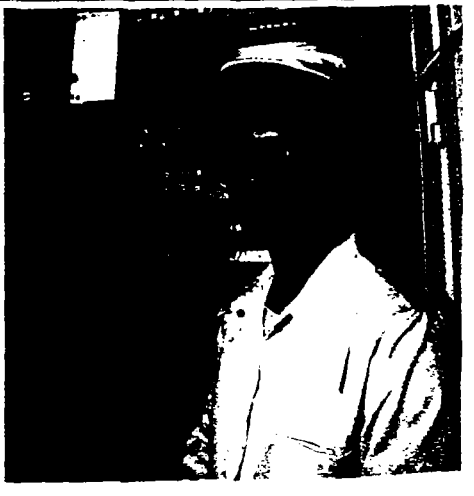
The Company has operated a Profit-Sharing Scheme since 1954 and a Savings-Related Share Option Scheme since 1980.

Equal opportunity

The Company's policy and practice require that entry into the Company, and progression within it, will be determined solely by

To find out how North American and Japanese industries operate, delegates representing UK weekly and monthly staff on ICI's central business and investment committees have visited both territories during the year. They are pictured at a plastics factory near Tokyo.





In 1985 ICI recruited more than 300 graduates from UK universities – people like Rodney Gilmour, now a plant engineer at Organics Division, and Jan Clarke (far right), now a production line manager at Pharmaceuticals Division.

0045-0565

personal merit and the application of criteria which are related to the effective performance of the job and the needs of the business. No applicant or employee will be treated less favourably because of his or her sex, marital status, race, nationality, ethnic or national origin, colour or religious beliefs. Furthermore, the Company will not apply or introduce any requirements or conditions which have a disproportionately adverse effect on persons of a particular sex, marital status, race, nationality, ethnic or national origin, colour or religious belief which cannot be shown to be necessary for the satisfactory performance of the Company's operations.

In 1985, more than one-quarter of graduates recruited direct from university were women. Over recent years, the number of women in management and professional staff jobs has increased steadily and it is the Company's intention that this trend will continue.

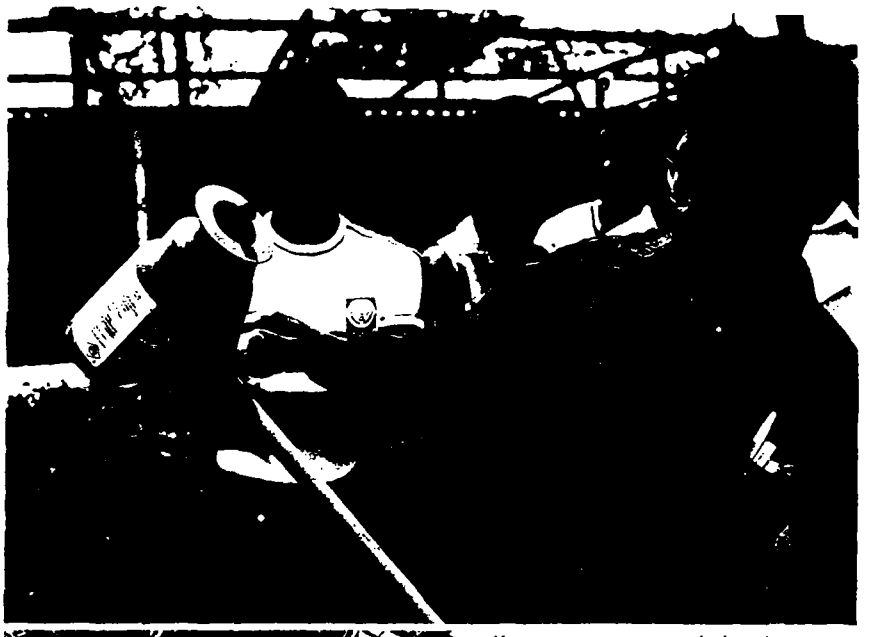
Employment of the disabled

The Company's policy is that disabled people should have the same consideration as others for all job vacancies for which they apply as suitable candidates. Depending on their skills and abilities, the disabled have the same career prospects and opportunities for promotion as other employees and the same scope for realizing their full potential within the working structure of the Company.

Pensions

Pensions were increased from 1 November 1985 by 6 per cent, with an extra 15 per cent for pensioners born on or before 15 May 1908 (or their surviving dependants). In accordance with long-standing ICI policy, deferred pensions of early leavers were increased at the same time and by the same amount. As from the end of October 1985, a change was made in the Rules of the Funds to provide for payment in future of pensions to the widowers and children of female members.

Recent actuarial valuations of the Pension Funds have shown that they are in a satisfactory state of solvency; the next valuations are due as at 31 March 1986. On the advice of the actuaries, the Company has agreed to pay special contributions totalling £65m over three years from 1 November 1985 in connection with the pension increases made from that date.



Above: a cotton agronomist learning to use the 'Electrodyn' sprayer at an ICI training course in Lusaka, Zambia.

Left: for a television programme on conservation issues, a group of children toured ICI's Jealott's Hill agrochemicals research station in the UK, to learn about the benefits of agrochemicals and how new compounds to eliminate pests and diseases are invented and rigorously tested.

SAFETY, HEALTH AND ENVIRONMENT

It is ICI's policy to manage its activities so as to avoid causing any unnecessary or unacceptable risk to the safety and health of its employees, customers and any members of the public who may be affected by its operations.

Following the tragedy of Bhopal the Company has re-affirmed its commitment to promoting high standards of health and safety throughout its worldwide operations.

This year has seen further recruitment of professional staff, particularly in the Far East, South America and India, in support of this policy. There has been further development in co-ordination of health and safety matters throughout the Group, with extensive exchange of information and expertise. Emphasis is placed on the auditing of safe operating procedures worldwide.

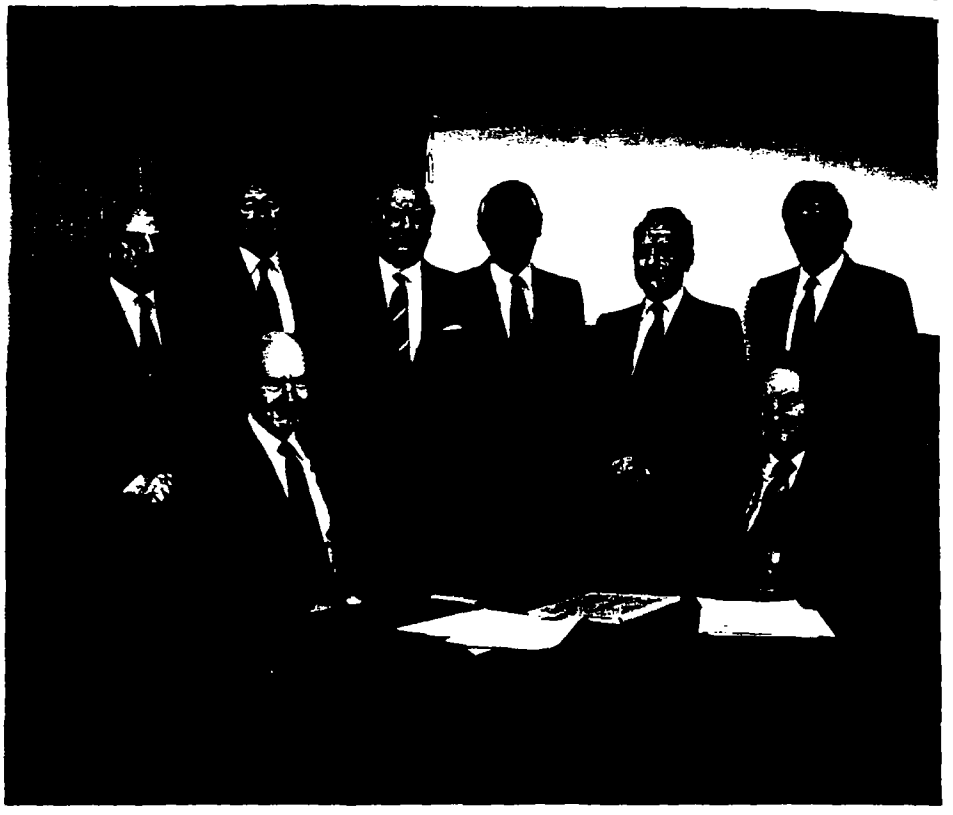
Public awareness of the environmental aspects of industrial activity has continued to grow. This is an international trend and can be expected to have increasing implications for ICI's businesses worldwide. It remains a prime objective of ICI that its businesses continue to be run in a socially acceptable fashion.

Because of its technical resources and environmental expertise ICI is well able to harness the best scientific information and understanding, both in support of its existing operations and in the development of new products and processes of an environmentally acceptable nature. The Company received two of the four 1984 UK Pollution Abatement Technology Awards and has won an award for 1985.

Whilst ICI deploys considerable resources to meet the safety, health and environmental challenges of its activities worldwide, the requirement to meet ever higher standards does increase costs and poses some restriction in choice of business options.

0045-0566

BOARD OF DIRECTORS



Left to right: Charles Reece, Sir Robin Ibbs (seated), Tom Hutchison, Denys Henderson, Alan Clements, Frank Whiteley, Sir John Harvey-Jones (seated), Ronnie Hampel.

The Board collectively provides overall direction of the ICI Group. The eight Executive Directors form the Executive Team, carrying out strategic planning for the Group, setting targets and monitoring progress. Particular business, territorial and functional responsibilities assigned to individual Directors in relation to the work of the Executive Team are shown below.

Executive Directors

Sir John Harvey-Jones
A Director since 1973 and Chairman since 1982. He has particular responsibility for planning and public affairs.

Alan Clements
A Director since 1979. He is currently Finance Director, and also Territorial Director for Africa, the Middle East and Pakistan.

Ronnie Hampel
A Director since July 1985. He is currently Business Director for the advanced materials, polyurethanes and speciality chemicals businesses and Territorial Director for the Americas.

Denys Henderson
A Director since 1980. He is currently Business Director for the agrochemicals, seeds, colours, paints and pharmaceuticals businesses, and Territorial Director for Continental Europe.

Tom Hutchison
A Director since July 1985. He is currently Business Director for the explosives and electronics businesses and Territorial Director for the Pacific and Far East.

Sir Robin Ibbs
A Director since 1976, apart from two years secondment to the Cabinet Office. He is currently Business Director for the agricultural and fibres businesses and he assists the Chairman on planning and public affairs.

Charles Reece
A Director since 1979. He is currently Technology Director and Management Services Director, and also Territorial Director for India.

Frank Whiteley
A Director since 1979. He is currently Personnel Director, and also Business Director for the general chemicals, petrochemicals and plastics, and oil and gas businesses.

0045-0567

Non-Executive Directors

Sir Alex Jarratt
A Director since 1975. Chairman of Smiths Industries Plc.

Walther Kiep
A Director since 1982. Managing Partner of Gradmann & Holler, the West German insurance group.

Sir Patrick Meaney
A Director since 1981. Chairman of The Rank Organisation Plc.

Sir Jeremy Morse
A Director since 1981. Chairman of Lloyds Bank Plc.

Shoichi Saba
A Director since February 1985. President and Chief Executive Officer of Toshiba Corporation.

Lord Thomson
A Director since 1977. Chairman of the Independent Broadcasting Authority.

Lord Beeching, Sir Lincoln Steel, Mr H Smith

It is with deep regret that the Board records the deaths, since the publication of the Annual Report for 1984, of three former Directors of the Company. Lord Beeching, who was a Director between 1957 and 1961 and again between 1965 and 1968, died on 25 March 1985; Sir Lincoln Steel, who was a Director from 1945 to 1960, died on 27 December 1985; and Mr H Smith, who was a Director from 1961 to 1968, died on 12 January 1986.

Board Members

The names of the Directors of the Company at the date of this Report are set out facing page 1. With the exception of Mr S Saba, Mr R C Hampel and Mr T O Hutchison, whose appointments to the Board are referred to below, all served as Directors for the whole of 1985. In addition, Dr P G Harvey and Dr N B Smith were Directors for part of the year.

Dr P G Harvey was a Director until his sudden and untimely death on 13 March 1985. Dr Harvey joined ICI in 1947 and his early years in the Company were spent with the Billingham Division in research, works management and engineering. He was appointed a Director of Agricultural Division in 1964 and Chairman of Mond Division in 1973. Dr Harvey was appointed a Director of the Company in 1977 and at the time of his death he was Business Director for the petrochemicals and plastics business, and for oil, ICI Europa and Eastern Europe. Dr Harvey made significant contributions to the Company's achievements in many fields and his colleagues on the Board record their sadness at the loss of Dr Harvey's extensive experience, practical approach and warm friendship.

Dr N B Smith was a Director until 30 June 1985 when he retired from the Board to become Chairman-elect of Metal Box Plc. Dr Smith joined ICI in 1954 and his early years in the Company were spent in the fibres field, leading up to his appointment as Chairman of Fibres Division in 1975. Dr Smith was appointed a Director of the Company in 1978 and, latterly, he was Business Director for the polyurethanes and speciality chemicals businesses and also Territorial Director for the Americas. Dr Smith has served the Company with great distinction and his colleagues on the Board express sincere appreciation of his notable contributions to the ICI Group.

Mr S Saba was appointed a Non-Executive Director with effect from 1 February 1985.

Two new Executive Directors have been appointed since the last Annual General Meeting of the Company. Mr R C Hampel, previously Chairman of Plant Protection Division, and Mr T O Hutchison, previously Chairman of Petrochemicals and Plastics Division, were both appointed Directors with effect from 1 July 1985.

Sir John Harvey-Jones

It is with great pleasure that the Directors record the honour of Knighthood conferred on the Chairman in the Queen's Birthday Honours for 1985.

The Secretary

Mr P S G Flint, the Secretary of the Company since 1981, retired on 30 November 1985 after 25 years' service. Mr Flint's counsel and guidance have been greatly valued by the Board, and the Directors wish to record their appreciation of the advice and assistance he has always so readily given to them, collectively and individually. Mr D J Allen, who has been an Assistant Secretary of the Company since 1982, was appointed Company Secretary, in succession to Mr Flint, with effect from 1 December 1985.

Directors recommended for re-election

Under Article 80, Mr R C Hampel (aged 53 years) and Mr T O Hutchison (aged 54 years) retire and are recommended for re-election, together with Mr D H Henderson (aged 53 years), Mr W G L L Kiep (aged 60 years), Sir Jeremy Morse (aged 57 years) and Mr F Whiteley (aged 55 years) who retire under Article 98.

Each of the Executive Directors recommended for re-election has a service contract with the Company, which is subject to termination by either party giving not less than 3 years' notice at any time; each contract also terminates when the age of 62 is attained, unless it is extended by agreement at the request of the Company.

Directors' interests

At no time during the year has any Director had any material interest in a contract with the Company, being a contract of significance in relation to the Company's business. A statement of Directors' interests in stocks, shares and debentures of the Company and its subsidiaries is set out on page 48.

Share Capital

A special resolution will be proposed at the Annual General Meeting of the Company on 28 April 1986 to enable the Directors to continue to exercise their existing power to allot unissued shares in the capital of the Company and to allow the Directors, in certain limited circumstances described below, to allot shares for cash otherwise than to existing Ordinary stockholders pro rata to their holdings; the resolution is set out in item 4 of the Notice of Meeting on page 55. The resolution is in similar form to that passed at last year's Annual General Meeting. The resolution is expressed to run until 31 December 1987, but the intention, as before, is to seek to renew it and to roll it forward by one year at each future Annual General Meeting.

Paragraphs (b) and (c) of the resolution impose conditions on the Directors as to the extent to which they may allot equity shares for cash otherwise than pro rata to existing Ordinary stockholders. Paragraph (b) is required so that, in the event of it being illegal or unduly burdensome or impracticable to offer to certain overseas stockholders the equity securities to which they would be entitled in a rights issue, the Directors can sell these securities for the benefit of those stockholders; it also allows fractions of shares arising in a rights issue to be sold, as in the past, for the benefit of the Company. Paragraph (c) is, in effect, a renewal of the authority given at each Annual General Meeting since 1973. The intention is that this authority would be used by the Directors if they wished to issue further Ordinary shares of the Company (or to issue or guarantee the issue of securities convertible into, or carrying the right to subscribe for, Ordinary shares of the Company) in the following circumstances:

(1) to take advantage of favourable opportunities to raise funds in international markets;

(2) if placing of Ordinary Stock proves necessary or desirable in connection with or consequent upon any further listings of the Company's Ordinary Stock which it may be thought appropriate to arrange on stock exchanges in major financial centres; this could involve issuing stock at below the respective market rate at the time and every endeavour would be made to keep any such discount to a minimum; and

(3) in other circumstances, subject to the prior consent of the Company in general meeting being given to each specific issue if so required by the London Stock Exchange in implementation of the Company's continuing obligations.

Donations

Donations made by the Group in 1985 for charitable purposes in the UK amounted to £1.3m (£1.1m in 1984), of which more than half was given for higher education, particularly in the sciences and engineering at British universities. The remainder was given to a variety of causes, including medical research, management training, learned and scientific societies, the arts, and organizations serving the young, the unemployed, the elderly and the handicapped. The Company continued its policy of not making donations for political purposes.

Auditors

The Auditors, KMG Thomson McLintock and Price Waterhouse, are willing to continue in office, and a resolution re-appointing them and authorizing the Directors to fix their remuneration will be submitted to the Annual General Meeting. The remuneration and expenses of the Auditors in respect of the statutory report to the members of the Company for the year 1985, provided for in the Group accounts, amount to £653,000 (1984 £627,000). The total figure for the Group was £4.1m (1984 £3.6m) which includes charges for audits of subsidiary companies in the UK and overseas, both for the purposes of consolidation into the Group accounts and to meet statutory requirements of the countries in which subsidiaries operate, including those acquired during the year.

0045-0569

Imperial Chemical House
Millbank, London SW1P 3JF
10 March 1986

On behalf of the Board
D. J. Allen
Secretary

IMPERIAL CHEMICAL INDUSTRIES PLC

This insert to ICI's Annual Report for 1985 is being issued to recipients of the report in the USA. It presents a summary of ICI's financial statements adopting a format and terminology customary in the USA.

Group financial statements for the year 1985

The financial statements below have been prepared, adopting a format and terminology customary in the USA, from the audited results of the ICI Group and should be read in conjunction therewith. The ICI Group's financial statements are prepared in accordance with accounting principles generally accepted in the United Kingdom, which differ in certain respects from those generally accepted in the United States (US GAAP). Quantification of the major differences is provided in the notes following the statements.

SUMMARISED STATEMENT OF CONSOLIDATED INCOME (UK basis)

	Year ended December 31			
	1983 £ millions	1984 £ millions	1985 £ millions	1985 $ millions*
Sales	8,256	9,909	10,725	15,444
Operating income	693	1,063	978	1,408
Income before extraordinary items	397	605	552	795
Extraordinary items	(19)	(20)	(40)	(58)
Net income	378	585	512	737
Earnings per ADR† before extraordinary items	£2.61	£3.93	£3.46	$4.98
Extraordinary items	(£0.12)	(£0.13)	(£0.25)	($0.36)
Earnings per ADR† after extraordinary items	£2.49	£3.80	£3.21	$4.62
Dividends per £1 Ordinary Stock‡	24.0p	30.0p	33.0p	
Average Ordinary Stock units outstanding (millions)	608	616	639	

* The convenience translation has been derived by converting the sterling figures to US dollars at the December 31, 1985 rate of £1 = $1.44.

† Four units of ICI Ordinary Stock are represented by each ADR.

‡ The current income tax convention between the UK and the USA includes provisions which entitle qualifying US resident ADR holders to a refund of the 3/7ths UK tax credit attaching to the dividend less a 15% withholding tax charged on the sum of the dividend and the credit. Subject to certain limitations the withholding tax may be offset against federal taxes. For ADR holders able to benefit under these arrangements the dividend of 33 pence per £1 Ordinary Stock will represent $2.72 per ADR when translated at £1 = $1.44.

SUMMARISED CONSOLIDATED BALANCE SHEET (UK basis)

	At December 31 1984 £ millions	1985 £ millions	1985 $ millions*
Assets			
Current assets			
Cash and marketable securities	1,011	797	1,148
Receivables	2,102	1,950	2,808
Inventories	1,740	1,750	2,520
Total current assets	4,853	4,497	6,476
Other assets: non-current investments	442	287	413
Property, plant and equipment (net of depreciation)	3,629	3,533	5,087
Total assets	8,924	8,317	11,976
Liabilities and Stockholders' equity			
Current liabilities			
Accounts payable and accrued liabilities	2,084	1,961	2,824
Short term debt	383	511	736
Long term debt due within one year	207	131	188
Total current liabilities	2,674	2,603	3,748
Long term debt not due within one year	1,311	1,208	1,739
Other liabilities and deferred income	602	606	873
Minority interests	508	405	583
Stockholders' equity			
Issued Stock	628	657	946
Premiums paid in excess of par value of Ordinary Stock	415	591	851
Income retained and other reserves	2,786	2,247	3,236
Total Stockholders' equity	3,829	3,495	5,033
Total liabilities and Stockholders' equity	8,924	8,317	11,976

* The convenience translation has been derived by converting the sterling figures to US dollars at the December 31, 1985 rate of £1 = $1.44.

DIFFERENCES BETWEEN UK AND US ACCOUNTING PRINCIPLES

There are no significant differences affecting the computation of net income after extraordinary items in 1985. The major differences affecting Stockholders' equity are deferred taxation, the capitalisation of interest and the treatment of goodwill and other intangible assets.

Deferred taxation is provided on a full deferral basis in the USA; in the UK no provision is made for taxation deferred by reliefs if there is reasonable evidence that such deferred taxation will not be payable in the foreseeable future.

Interest incurred as part of the cost of acquiring fixed assets is capitalised and amortised over the life of the asset under US principles; in accordance with common UK practice, ICI does not capitalise interest in its financial statements.

Goodwill arising on acquisitions accounted for under the purchase method is amortised over a period in the USA. The period selected for the purpose of amortisation is 40 years. Goodwill is computed in the USA after ascribing fair values to all assets acquired including intangible assets, which are amortised over their useful lives where these are less than 40 years. In the UK the normal practice is to eliminate goodwill and intangible assets against income retained and other reserves upon acquisition.

Under US GAAP, all items categorised as extraordinary charges in the summarised statement of consolidated income would have been charged against income before extraordinary items. Also, under US GAAP, the tax benefit of utilising net operating losses of £27 million in 1983, £51 million in 1984 and £20 million in 1985 would have been categorised as extraordinary credits; in the summarised statement of consolidated income these amounts have been included in the tax charge on ordinary activities.

NET INCOME AND STOCKHOLDERS' EQUITY (US basis)

	Year ended December 31			
	1983 £ millions	1984 £ millions	1985 £ millions	1985 $ millions*
Net income, after extraordinary items (UK basis)	378	585	512	737
Adjustments for:				
Deferred taxation	(103)	3	(39)	(57)
Capitalisation of interest	6	11	19	27
Capitalisation of leases	(4)	(4)	(1)	(1)
Transfer of tax benefits	(2)	(3)	(2)	(3)
Revaluation of fixed assets	3	4	6	9
Pension contributions	16	18	27	39
Currency translation	(8)	—	—	—
Purchase accounting adjustments, including goodwill and intangibles	—	—	(32)	(46)
	(92)	29	(22)	(32)
Net income after extraordinary items in accordance with US GAAP	286	614	490	705
Stockholders' equity (UK basis)		3,829	3,495	5,033
Adjustments for:				
Deferred taxation		(732)	(730)	(1,052)
Capitalisation of interest		162	180	259
Capitalisation of leases		(19)	(20)	(29)
Transfer of tax benefits		30	22	32
Revaluation of fixed assets		(122)	(89)	(128)
Pension contributions		97	132	190
Purchase accounting adjustments, including goodwill and intangibles		—	395	569
		(584)	(110)	(159)
Stockholders' equity in accordance with US GAAP		3,245	3,385	4,874

* The convenience translation has been derived by converting the sterling figures to US dollars at the December 31, 1985 rate of £1 = $1.44.

SENIOR EXECUTIVES

Division Chairmen		General Managers	
Agricultural	B. Appleton	Secretary	D. J. Allen
Fibres	J. Lister	Treasurer	J. T. Harrison
Mond	R. I. Lindsell	Solicitor	V. O. White
Organics	A. T. G. Rodgers	Planning	A. I. H. Pink
Paints	J. D. F. Barnes	Personnel	M. E. Brogden
Petrochemicals and Plastics	R. N. Hodge	Insurance and Investments	B. C. Hines
Pharmaceuticals	P. W. Cunliffe, CBE	Europa	J. York
Plant Protection	A. Hayes		

Principal Executive Officers of other ICI businesses	
Advanced Materials and Electronics	H. E. Miller
Polyurethanes	B. A. Killner
Speciality Chemicals	B. H. Lochtenberg

Chief Executives of major subsidiary companies		
ICI Australia Ltd	Managing Director	C. Hampson
ICI Americas Inc	President and Chief Executive Officer	H. Corless
C-I-L Inc	Chairman and Chief Executive Officer	C. H. Hantho
IEL Ltd	Chairman	S. S. Baijal
ICI Japan Ltd	President	S. A. Ridgwell, CBE
Nobel's Explosives Company Ltd	Chief Executive	E. Innes
Scottish Agricultural Industries PLC	Managing Director	Q. Brown

Registered Office	Imperial Chemical House, Millbank London SW1 P 3JF (Telephone: 01-834 4444)
Registrar and Transfer Office	B. P. Mould, PO Box 251 Wexham Road, Slough SL2 5DP (Telephone: Slough (0753) 31151)
Auditors	KMG Thomson McLintock 70 Finsbury Pavement, London EC2A 1SX Price Waterhouse Southwark Towers, 32 London Bridge Street London SE1 9SY

GROUP PROFIT AND LOSS ACCOUNT

For the year ended 31 December 1985

	Notes	1985 £m	1984 £m
TURNOVER		10,725	9,909
Operating costs	4	(9,917)	(8,990)
Other operating income	4	170	144
TRADING PROFIT (after providing for depreciation 1985 £474m, 1984 £440m)		978	1,063
Share of profits less losses of related companies and amounts written off investments	5	56	71
Net interest payable	6	(122)	(100)
PROFIT ON ORDINARY ACTIVITIES BEFORE TAXATION		912	1,034
Tax on profit on ordinary activities	7	(308)	(373)
PROFIT ON ORDINARY ACTIVITIES AFTER TAXATION		604	661
Attributable to minorities		(52)	(56)
NET PROFIT ATTRIBUTABLE TO PARENT COMPANY		552	605
Extraordinary items	8	(40)	(20)
NET PROFIT FOR THE FINANCIAL YEAR		512	585
Dividends	9	(214)	(186)
PROFIT RETAINED FOR YEAR		298	399
EARNINGS BEFORE EXTRAORDINARY ITEMS PER £1 ORDINARY STOCK	10	86.4p	98.2p

GROUP RESERVES ATTRIBUTABLE TO PARENT COMPANY

	Note	1985 £m	1984 £m
At beginning of year		3,201	2,721
Profit retained for year: Company		98	72
Subsidiaries		219	314
Related companies		(19)	13
		298	399
Amounts taken direct to reserves		(661)	181
Transfer to deferred tax provision		—	(100)
At end of year	11	2,838	3,201

Figures in brackets represent deductions; £m means millions of pounds sterling.

0045-0575

BALANCE SHEETS

At 31 December 1985

	Notes	GROUP 1985 £m	GROUP 1984 £m	COMPANY 1985 £m	COMPANY 1984 £m
ASSETS EMPLOYED					
FIXED ASSETS					
Tangible assets	12	3,533	[illegible]	1,420	[illegible]
Investments: Subsidiaries	13			2,538	[illegible]
Related and other companies	14	287	[illegible]	63	[illegible]
		3,820	[illegible]	4,021	[illegible]
CURRENT ASSETS					
Stocks	15	1,750	[illegible]	715	[illegible]
Debtors	16	1,950	[illegible]	393	[illegible]
Investments and short-term deposits	17	576	[illegible]	98	[illegible]
Cash	17	221	[illegible]	36	[illegible]
		4,497	4,853	1,242	[illegible]
TOTAL ASSETS		8,317	8,924	5,263	[illegible]
CREDITORS DUE WITHIN ONE YEAR					
Short-term borrowings	18	(511)	(383)	(182)	[illegible]
Current instalments of loans	21	(131)	207	(19)	[illegible]
Other creditors	19	(1,961)	2,084	(1,315)	[illegible]
		(2,603)	(2,674)	(1,516)	(1,515)
NET CURRENT ASSETS (LIABILITIES)		1,894	2,179	(274)	(229)
TOTAL ASSETS LESS CURRENT LIABILITIES		5,714	6,250	3,747	3,709
FINANCED BY					
CREDITORS DUE AFTER MORE THAN ONE YEAR					
Loans	21	1,208	1,311	355	199
Other creditors	19	76	127	535	708
		1,284	1,438	890	907
PROVISIONS FOR LIABILITIES AND CHARGES	20	332	279	64	53
DEFERRED INCOME: Grants not yet credited to profit		198	196	126	129
MINORITY INTERESTS		405	508		
CAPITAL AND RESERVES ATTRIBUTABLE TO PARENT COMPANY					
Called-up share capital	22	657	628	657	628
Reserves: Share premium account		591	415	591	415
Revaluation reserve		89	122	6	6
Other reserves		312	327	239	495
Profit and loss account		1,877	2,294	1,174	1,076
Related companies' reserves		(31)	43		
Total reserves	11	2,838	3,201	2,010	1,992
Total capital and reserves attributable to parent company		3,495	3,829	2,667	2,620
		5,714	6,250	3,747	3,709

The accounts on pages 30 to 51 were approved by the Board of Directors on 10 March 1986 and were signed on its behalf by:

John Harvey-Jones *Director*

Alan Clements *Director*

Trevor Harrison *Treasurer*

STATEMENT OF SOURCES AND APPLICATIONS OF GROUP FUNDS

For the year ended 31 December 1985

	Notes	1985 £m	1984 £m
SOURCES			
FUNDS GENERATED FROM OPERATIONS			
Trading profit		978	1,063
Depreciation		474	440
Petroleum revenue tax paid, less provided		(43)	(24)
Government grants credited to profit, less received		(17)	(9)
Dividends from related companies	*	53	38
Miscellaneous items, including exchange		19	(32)
		1,464	1,476
LESS: INTEREST AND TAXATION PAID DURING YEAR			
Interest (net)		(105)	(120)
Taxation		(223)	(179)
SOURCES NET OF INTEREST AND TAXATION		1,136	1,177
APPLICATIONS			
DIVIDENDS PAID DURING YEAR			
Parent company		196	160
Subsidiaries to minority shareholders		31	23
		227	183
FIXED ASSETS			
Tangible assets		634	441
Disposals of tangible assets		(31)	(35)
Acquisitions and related company investments	24	814	119
Disposals of subsidiaries and related company investments	24	(23)	(25)
		1,394	500
ADDITIONAL WORKING CAPITAL			
Stocks		110	133
Debtors		(65)	248
Creditors and provisions (excluding dividends, taxation, petroleum revenue tax and advance proceeds from oil sales)		15	(181)
		60	200
TOTAL APPLICATIONS		1,681	883
DEFICIT (1984: SURPLUS)		(545)	294
REPRESENTED BY			
Issues of ICI Ordinary Stock		205	36
Other external finance		8	25
Net repayment of loans		(10)	(172)
Increase in short-term borrowings	*	128	54
Decrease in cash and short-term investments (1984: Increase)	*	214	(237)
		545	(294)

*Movements in these items represent the differences between amounts shown in the opening and closing balance sheets. Movements in other items do not correspond to the change in balance sheet amounts, due to effects of acquisitions and disposals of subsidiaries and effects of retranslating opening currency balances of overseas subsidiaries at closing exchange rates.

0045-0577

ACCOUNTING POLICIES

The accounts have been prepared under the historical cost convention and in accordance with the Companies Act 1985. Group accounting policies conform with UK Accounting Standards; the following paragraphs describe the main policies. The accounting policies of some overseas subsidiaries do not conform with UK Accounting Standards and, where appropriate, adjustments are made on consolidation in order to present the Group accounts on a consistent basis.

DEPRECIATION

The Group's policy is to write off the book value of each tangible fixed asset evenly over its estimated remaining life. Reviews are made periodically of the estimated remaining lives of individual productive assets, taking account of commercial and technological obsolescence as well as normal wear and tear. Under this policy it becomes impracticable to calculate average asset lives exactly; however, the total lives approximate to 21 years for buildings and 14 years for plant and equipment. Depreciation of assets qualifying for grants is calculated on their full cost. Oil production assets are depreciated in accordance with the policy set out below.

FOREIGN CURRENCIES

Profit and loss accounts in foreign currencies are translated into sterling at average rates for the relevant accounting period. Assets and liabilities are translated at exchange rates ruling at the date of the Group balance sheet.

Exchange differences on short-term currency borrowings and deposits are included with net interest payable. Exchange differences on all other transactions, except foreign currency loans, are taken to trading profit. In the Group accounts exchange differences arising on consolidation of the net investments in overseas subsidiary and related companies are taken to reserves, as are differences arising on equity investments denominated in foreign currencies in the Company accounts. Differences on foreign currency loans, less related taxation, are taken to reserves and offset against the differences on net investments.

GOODWILL

On the acquisition of a business, fair values are attributed to the net assets acquired. Goodwill arises where the value of the consideration given for a business exceeds such net assets. SSAP 22 requires that purchased goodwill be eliminated from the Group balance sheet either upon acquisition against reserves or by amortisation over a period. Elimination against Group reserves has been selected as appropriate for the goodwill purchases made during 1985.

GOVERNMENT GRANTS

Grants related to expenditure on tangible fixed assets are credited to profit over a period approximating to the lives of qualifying assets. The grants shown in the balance sheets consist of the total grants receivable to date less the amounts so far credited to profit.

LEASES

All leases are accounted for as operating leases. The rentals due in each accounting period are charged to profit and loss account; no adjustments are made for notional depreciation or interest on leases of a capital nature.

OIL PRODUCTION ASSETS INCLUDING CONCESSIONS AND EXPLORATION

Expenditure on acquiring oil concessions, exploring for oil and construction of production assets is, in general, capitalized and depreciated over the life of the wells on the basis of the rate of production. Immediate write-offs are made, and included in Group depreciation, in the following circumstances:

- Expenditure on concessions – to the extent that the value is considered to have been impaired by the absence of successful drilling results;
- Exploration expenditure – if unsuccessful or if oil reserves are not determined to be commercially viable within one year of completion of drilling.

OIL TAXATION

Petroleum revenue tax, which is levied on profits from oil produced under UK licences, is charged in arriving at trading profit. Provision is made for deferred tax on the difference between the tax allowances for capital expenditure and the amount of depreciation charged in the accounts. In calculating the charge for petroleum revenue tax, the uplift allowance on capital expenditure, the oil allowance exemption and the safeguard limitation are taken into account in the period in which they are effective in affording relief from tax.

PENSIONS FUNDING

The Company and most of its subsidiaries operate pension schemes which cover the majority of employees (including directors) in the Group. The amounts charged against profit are calculated with actuarial advice in accordance with local practice, and represent a proper charge to cover the accruing liabilities on a continuing basis. With minor exceptions these schemes are financed through separate trustee-administered funds.

PLANT CLOSURES AND STAFF REDUCTIONS

Full provision for closure costs, including reduction of asset values to recoverable amounts and operating losses up to the date of closure, is made in the accounting period in which closure of a plant is decided. Losses are charged to trading profit unless the circumstances justify treatment as an extraordinary item. Payments arising from staff reductions which are not associated with plant closures or major restructuring of a business are charged to trading profit in the period in which terms are agreed with employees for the termination of their employment.

RELATED COMPANIES

A related company is a company, not being a subsidiary, in which the Group has an interest of between 20 per cent and 50 per cent and on whose commercial and financial policy decisions the Group exercises significant influence. The Group's share of the profits less losses of all significant related companies is included in the Group profit and loss account on the equity accounting basis. The results are calculated from the latest available audited accounts adjusted to incorporate unaudited results for more recent periods.

The holding value of significant related companies in the Group balance sheet is calculated by reference to the Group's equity in the net tangible assets of such companies, as shown by the most recent accounts available, adjusted where appropriate.

RESEARCH AND DEVELOPMENT

Research and development expenditure is charged to profit in the year in which it is incurred.

0045-0578

ACCOUNTING POLICIES (*continued*)

STOCK VALUATION

Finished goods are stated at the lower of cost or net realisable value, raw materials and other stocks at the lower of cost or replacement price; the first in, first out or an average method of valuation is used. In determining cost for stock valuation purposes, depreciation is included but selling expenses and certain overhead expenses (principally central administration costs) are excluded.

TAXATION

The charge for taxation is based on the profit for the year and takes into account taxation deferred because of timing differences between the treatment of certain items for taxation and accounting purposes. However, no provision is made for taxation deferred by reliefs, principally taxation allowances in lieu of depreciation on UK capital expenditure, if there is reasonable evidence that such deferred taxation will not be payable in the future. Credit for deferred corporation tax is taken in respect of the provision for deferred petroleum revenue tax.

Advance corporation tax payable on dividends paid and provided for the year is not written off if UK corporation tax liabilities are expected to be sufficient to absorb this tax.

NOTES RELATING TO THE ACCOUNTS

1 *COMPOSITION OF THE GROUP*

The Group accounts consolidate the accounts of Imperial Chemical Industries PLC (the Company) and its subsidiaries, of which there were 418 at 31 December 1985. Owing to local conditions and to avoid undue delay in the presentation of the Group accounts 128 subsidiaries made up their accounts to dates earlier than 31 December, but not earlier than 30 September.

The accounts of certain subsidiary and related companies, representing approximately 14 per cent of Group turnover and 21 per cent of Group net assets, have been audited by firms other than the Group joint auditors.

2 *SEGMENT INFORMATION*

INDUSTRY SEGMENTS

The table below sets out information, on a worldwide basis, for each of the Group's industry segments. The Group's policy is to transfer products internally at external market prices.

	Total assets less current liabilities		Turnover		Profit	
	1985	1984	1985	1984	1985	1984
	£m	£m	£m	£m	£m	£m
Consumer and speciality products	1,369	1,286	2,984	2,404	373	302
Industrial products	2,640	3,001	4,998	4,775	282	346
Agriculture	1,132	896	1,995	1,828	181	218
Oil and gas	130	159	1,107	1,349	59	109
Miscellaneous			175	156	—	9
			11,259	10,512	895	984
Net operating assets	5,271	5,342				
Inter-segment eliminations			(534)	(603)	1	(1)
Non-operating and miscellaneous assets	443	908				
	5,714	6,250	10,725	9,909	896	983
Royalty income and government grants					82	80
Trading profit					978	1,063
Share of profits less losses of related companies and amounts written off investments					56	71
Net interest payable					(122)	(100)
Profit on ordinary activities before taxation					912	1,034

Non-operating and miscellaneous assets include investments in related and other companies, current asset investments and short-term deposits and cash, less short-term borrowings.

	Capital expenditure		Depreciation	
	1985	1984	1985	1984
	£m	£m	£m	£m
Consumer and speciality products	134	84	80	67
Industrial products	259	182	258	257
Agriculture	145	116	66	57
Oil and gas	43	31	56	48
Miscellaneous	53	28	14	11
	634	441	474	440

0045-0579

2 *SEGMENT INFORMATION (continued)*

GEOGRAPHIC AREAS

The information opposite is re-analysed in the table below by geographic area. The figures for each geographic area show the net operating assets owned by and the turnover and profits made by companies located in that area; export sales and related profits are included in the areas from which those sales were made.

	Net operating assets		Turnover		Profit	
	1985	[illegible]	1985	[illegible]	1985	[illegible]
	£m		£m		£m	
United Kingdom						
Home sales			2,999	[illegible]		
Export sales			2,998	[illegible]		
	2,598	[illegible]	5,997	[illegible]	394	[illegible]
Continental Western Europe	597	[illegible]	2,065	[illegible]	76	[illegible]
The Americas	1,221	[illegible]	2,427	[illegible]	270	[illegible]
Australasia, Japan and the Far East	704	836	1,584	[illegible]	104	[illegible]
Other countries including Indian sub-continent	151	200	456	[illegible]	52	[illegible]
	5,271	5,342	12,529	[illegible]	896	[illegible]
Inter-area eliminations			(1,804)	[illegible]	—	[illegible]
			10,725	[illegible]	896	[illegible]
Royalty income and government grants					82	[illegible]
Trading profit					978	[illegible]

Turnover in each geographic market in which customers are located

	1985	[illegible]
	£m	
CHEMICALS		
United Kingdom	2,433	[illegible]
Continental Western Europe	2,160	891
The Americas	2,539	[illegible]
Australasia, Japan and the Far East	1,805	[illegible]
Other countries including Indian sub-continent	922	859
	9,859	8,820
OIL	866	1,089
Total turnover	10,725	[illegible]

EMPLOYEES	1985	1984
Average number of people employed by the Group		
United Kingdom	57,200	58,600
Continental Western Europe	14,600	[illegible]
The Americas	20,400	[illegible]
Australasia, Japan and the Far East	13,600	[illegible]
Other countries including Indian sub-continent	12,800	[illegible]
Total employees	118,600	[illegible]

3 *RESULTS OF ACQUIRED COMPANIES*

The effect on the Group results of subsidiaries acquired during 1985, all of which have been accounted for on an acquisitions basis, was to increase turnover by £509m and trading profit by £60m. After making allowance for the estimated interest costs of the non-equity funding of the acquisitions, there was no significant effect on profit before tax.

Included above are turnover of £340m and trading profit of £48m contributed by the chemical interests of Beatrice Companies, Inc., acquired on 28 February 1985 at a cost of £675m. The purchase consideration was met from the Group's cash resources and from the proceeds of a placing of 18 million £1 Ordinary Stock units at a price of £8.25 per unit.

NOTES RELATING TO THE ACCOUNTS

4 *TRADING PROFIT*

	1985 £m	1984 £m
TURNOVER	10,725	9,909
OPERATING COSTS		
Cost of sales	(7,405)	(6,702)
Distribution costs	(734)	(691)
Research and development (including technical service)	(349)	(299)
Administrative and other expenses	(1,381)	(1,240)
Employees' profit-sharing bonus	(48)	(58)
	(9,917)	(8,990)
OTHER OPERATING INCOME		
Government grants	28	28
Royalties	54	52
Other income	88	64
	170	144
TRADING PROFIT	978	1,063
Total charge for depreciation included above	474	440
Petroleum revenue tax included in cost of sales	150	169
Gross profit, as defined by the Companies Act 1985	3,320	3,207

5 *SHARE OF PROFITS LESS LOSSES OF RELATED COMPANIES AND AMOUNTS WRITTEN OFF INVESTMENTS*

SHARE OF PROFITS LESS LOSSES OF RELATED COMPANIES		
Dividend income	53	44
Share of undistributed profits less losses	(2)	27
Share of profits less losses before tax	51	71
GAINS ON DISPOSALS OF INVESTMENTS	1	9
AMOUNTS WRITTEN OFF INVESTMENTS (including provisions raised £9m (1984 £13m) and released £13m (£4m))	4	(9)
	56	71

Total dividend income from shares in related companies comprised £12m (1984 £18m) from listed companies and £41m (£26m) from unlisted companies.

6 *NET INTEREST PAYABLE*

INTEREST PAYABLE AND SIMILAR CHARGES		
Loan interest	143	138
Interest on short-term borrowings and other financing costs	69	49
	212	187
INTEREST RECEIVABLE AND SIMILAR INCOME FROM CURRENT ASSET INVESTMENTS		
Listed redeemable securities	(14)	(14)
Short-term deposits	(73)	(76)
	(87)	(90)
EXCHANGE DIFFERENCES ON SHORT-TERM CURRENCY BORROWINGS AND DEPOSITS	(3)	3
	122	100

Loan interest includes £109m (1984 £88m) on loans not wholly repayable within 5 years.

7 *TAX ON PROFIT ON ORDINARY ACTIVITIES*

ICI AND SUBSIDIARIES		
United Kingdom taxation: Corporation tax	191	278
Double taxation relief	(35)	(28)
Deferred taxation adjustment	10	6
	166	256
Overseas taxation: Overseas taxes	126	93
Deferred taxation adjustment	—	11
	126	104
	292	360
RELATED COMPANIES	16	13
TAX ON PROFIT ON ORDINARY ACTIVITIES	308	373

0045-0581

7 *TAX ON PROFIT ON ORDINARY ACTIVITIES (continued)*

UK and overseas taxation has been provided on the profits earned for the periods covered by the Group accounts. UK corporation tax has been provided at the rate of 41¼ per cent (1984 46½ per cent). The assumption has been made that the UK system of capital allowances will change in accordance with the provisions of the Finance Act 1984.

The Group tax charge has been influenced by a number of factors, including the utilization of tax losses of prior years.

	GROUP		COMPANY	
	1985	1984	1985	1984
	£m	£m	£m	£m
DEFERRED TAXATION				
The amounts of deferred taxation accounted for and the potential amounts of deferred taxation are:				
ACCOUNTED FOR AT BALANCE SHEET DATE (see note 20)				
Timing differences on UK capital allowances and depreciation in future years	92	97	72	72
Miscellaneous timing differences	19	5	(6)	(6)
Advance corporation tax recoverable	(56)	(48)	(56)	(48)
	55	54	10	18
Corporation tax effect of deferred petroleum revenue tax provision	(26)	(35)		
	29	19	10	18
NOT ACCOUNTED FOR AT BALANCE SHEET DATE				
UK capital allowances utilised in excess of depreciation charged	369	376	320	319
Miscellaneous timing differences	—	30	(1)	2
	369	406	319	321
	398	425	329	339

8 *EXTRAORDINARY ITEMS*

	1985	1984
	£m	£m
Restructuring of the colours and fine chemicals business in Europe	(26)	—
Provision for closure of Canadian phosphates facilities	(14)	—
Losses on various divestments, mainly in the United States	—	(20)
	(40)	(20)

Extraordinary items in 1985 are shown net of relief from taxation of £11m (1984 nil).

9 *DIVIDENDS*

	1985	1984	1985	1984
	pence per £1 Stock unit		£m	£m
ORDINARY				
Interim, paid 2 October 1985	13p	12p	84	74
Second interim, to be confirmed as final, payable 2 April 1986	20p	18p	130	112
	33p	30p	214	186
PREFERENCE				

Dividends on 5% (now 3.5% plus tax credit) Cumulative Preference Stock were £0.3m (1984 £0.3m).

10 *EARNINGS PER £1 ORDINARY STOCK*

	1985	1984
	£m	£m
Earnings for Ordinary Stockholders, before extraordinary items	552	605
Average Ordinary Stock in issue during year, weighted on a time basis	639	616
Earnings before extraordinary items per £1 Ordinary Stock	86·4p	98·2p

The effect on earnings per £1 Ordinary Stock of (a) full conversion of outstanding convertible bonds of subsidiaries and (b) issue of shares under option (see note 22) would not be material.

11 *RESERVES*

	Share premium account	Revaluation reserve	Other reserves	Profit and loss account	Related companies' reserves	1985 Total	1984 Total
	£m	£m	£m	£m	£m	£m	£m
GROUP RESERVES ATTRIBUTABLE TO PARENT COMPANY							
AT BEGINNING OF YEAR	415	122	327	2,294	43	3,201	2,721
PROFIT RETAINED FOR YEAR				317	(19)	298	399
AMOUNTS TAKEN DIRECT TO RESERVES							
Share premiums	176					176	29
Goodwill				(518)		(518)	(1)
Revaluations		(2)				(2)	3
Exchange adjustments		(25)	(36)	(210)	(43)	(314)	128
Other movements			(1)	(1)	(1)	(3)	22
	176	(27)	(37)	(729)	(44)	(661)	181
MOVEMENTS BETWEEN RESERVES		(6)	22	(5)	(11)		
ADJUSTMENT FOR DEFERRED TAX						—	(100)
AT END OF YEAR	591	89	312	1,877	(31)	2,838	3,201
PARENT COMPANY RESERVES							
AT BEGINNING OF YEAR	415	6	495	1,076		1,992	1,758
PROFIT RETAINED FOR YEAR				98		98	72
AMOUNTS TAKEN DIRECT TO RESERVES							
Share premiums	176					176	29
Exchange adjustments:							
Investments in overseas subsidiaries and related companies			(193)			(193)	201
Currency loans and other items			(63)			(63)	3
Other movements						—	1
	176		(256)			(80)	234
ADJUSTMENT FOR DEFERRED TAX						—	(72)
AT END OF YEAR	591	6	239	1,174		2,010	1,992

By virtue of S228(7) of the Companies Act 1985, the Company is exempt from presenting a profit and loss account.

There are no significant statutory or contractual restrictions on the distribution of current profits of subsidiaries or related companies; undistributed profits of prior years are, in the main, permanently employed in the businesses of these companies. The undistributed profits of Group companies overseas may be liable to overseas taxes and/or UK taxation (after allowing for double tax relief) if distributed as dividends. No provision has been made in respect of potential taxation liabilities on realisation of assets at restated or revalued amounts or on realisation of related companies at equity value.

Included in exchange adjustments within Group 'Other reserves' is a net credit of £92m arising from the recognition of tax relief on current and prior years' exchange differences on borrowings taken to reserves.

In the Group accounts, £54m of net exchange gains on foreign currency loans in 1985 have been offset in reserves against exchange losses on the net investment in overseas subsidiary and related companies.

For the purpose of calculating borrowing limits in the Articles of Association and relevant agreements, the total of the sums standing to the credit of capital and revenue reserves of the Company and its subsidiaries, to be added to the nominal amount of the share capital of the Company, was £2,939m at 31 December 1985.

12 *TANGIBLE FIXED ASSETS*

	Land and buildings	Plant and equipment	Payments on account and assets in course of construction	Total
	£m	£m	£m	£m
GROUP				
COST OR AS REVALUED				
At beginning of year	1,219	5,476	364	7,059
Exchange adjustments	(159)	(466)	(33)	(658)
Revaluations	(10)	2		(8)
New subsidiaries	92	109	13	214
Capital expenditure			634	634
Transfers	72	525	(597)	
Disposals	(16)	(170)		(186)
At end of year	1,198	5,476	381	7,055
DEPRECIATION				
At beginning of year	452	2,978		3,430
Exchange adjustments	(39)	(195)		(234)
Disposals	(11)	(144)		(155)
Charge for year	49	432		481
At end of year	451	3,071		3,522
NET BOOK VALUE AT END 1985	747	2,405	381	3,533
Net book value at end 1984	767	2,498	364	3,629
COMPANY				
COST OR AS REVALUED				
At beginning of year	351	2,515	173	3,039
Capital expenditure			330	330
Transfers	42	198	(240)	
Disposals	(6)	(54)		(60)
At end of year	387	2,659	263	3,309
DEPRECIATION				
At beginning of year	178	1,555		1,733
Disposals	(2)	(45)		(47)
Charge for year	14	189		203
At end of year	190	1,699		1,889
NET BOOK VALUE AT END 1985	197	960	263	1,420
Net book value at end 1984	173	960	173	1,306

	GROUP		COMPANY	
	1985	1984	1985	1984
	£m	£m	£m	£m
The net book value of land and buildings comprised:				
Freeholds	717	734	193	169
Long leases (over 50 years unexpired)	13	16	2	3
Short leases	17	17	2	1
	747	767	197	173

The Group depreciation charge for the year includes £7m charged to extraordinary items.

The net book value of Group tangible fixed assets at the end of the year included expenditure on oil production assets, including concessions and exploration, totalling £154m (1984 £164m). Depreciation for the year on these assets totalled £56m (1984 £49m) of which £30m (£15m) was in respect of the impairment of the value of concessions and exploration expenditure deemed unsuccessful.

12 *TANGIBLE FIXED ASSETS (continued)*

	GROUP				COMPANY			
	Land and buildings		Plant and equipment		Land and buildings		Plant and equipment	
	1985	1984	1985	1984	1985	1984	1985	1984
	£m	£m	£m	£m	£m	£m	£m	£m
Revalued assets included in tangible fixed assets:								
Revalued amount	198	249	243	286	47	39	84	61
Depreciation	65	60	176	178	41	33	77	54
Net book value	133	189	67	108	6	6	7	7
If the amount of these revalued assets had been determined according to historical cost accounting rules they would have been included at:								
Cost	94	113	215	283	34	31	55	41
Depreciation	49	51	181	222	31	28	51	37
Net book value	45	62	34	61	3	3	4	4

13 *INVESTMENTS IN SUBSIDIARIES*

	Shares	Loans	Total
	£m	£m	£m
BOOK VALUE			
At beginning of year			
Cost	1,495	1,134	2,629
Scrip issues capitalised	47		47
	1,542	1,134	2,676
Exchange adjustments	(195)	(178)	(373)
Additions	111	1,131	1,242
Disposals and repayments		(844)	(844)
At end of year	1,458	1,243	2,701
Cost	1,411	1,243	2,654
Scrip issues capitalised	47		47
PROVISIONS			
At beginning of year	(90)	(32)	(122)
Exchange adjustments	2		2
Additions/releases	(43)		(43)
At end of year	(131)	(32)	(163)
BALANCE SHEET VALUE AT END 1985	1,327	1,211	2,538
Balance sheet value at end 1984	1,452	1,102	2,554

	1985	1984
	£m	£m
The balance sheet value of investments in shares in subsidiary companies included:		
Investments listed on The Stock Exchange, London	5	5
Other listed investments	98	132
	103	137
With an aggregate market value of	459	509

Information on principal subsidiary companies is given on page 50.

0045-0585

14 *INVESTMENTS IN RELATED AND OTHER COMPANIES*

	Related companies Shares	Related companies Loans	Other investments	Total
	£m	£m	£m	£m
GROUP				
BOOK VALUE				
At beginning of year				
Cost	425	49	20	494
Scrip issues capitalised	13			13
	438	49	20	507
Exchange adjustments	(86)	(8)	(5)	(99)
Additions	58	24		82
Reclassified as subsidiaries	(34)	(31)		(65)
Disposals and repayments	(3)	(13)	(1)	(17)
At end of year	373	21	14	408
Cost	360	21	14	395
Scrip issues capitalised	13			13
SHARE OF POST-ACQUISITION RESERVES LESS LOSSES				
At beginning of year	55			55
Exchange adjustments	(45)			(45)
Losses less retained profits	(19)			(19)
Reclassified as subsidiaries	(3)			(3)
Other	(12)			(12)
At end of year	(24)			(24)
PROVISIONS				
At beginning of year	(111)	(5)	(4)	(120)
Exchange adjustments	21			21
Additions	(11)			(11)
Releases	9	3	1	13
At end of year	(92)	(2)	(3)	(97)
BALANCE SHEET VALUE AT END 1985	**257**	**19**	**11**	**287**
Balance sheet value at end 1984	382	44	16	442
The balance sheet value of the above investments included:				
1985				
Investments listed on The Stock Exchange, London	4		1	5
Other listed investments	61		8	69
	65		9	74
With an aggregate market value of	113		15	128
1984				
Investments listed on The Stock Exchange, London	4		1	5
Other listed investments	133		13	146
	137		14	151
With an aggregate market value of	211		16	227

Information on principal related companies is given on page 51.

14 *INVESTMENTS IN RELATED AND OTHER COMPANIES (continued)*

	Related companies Shares	Related companies Loans	Other investments	Total
	£m	£m	£m	£m
COMPANY				
BOOK VALUE				
At beginning of year				
Cost	76	11	4	91
Scrip issues capitalised	1			1
	77	11	4	92
Exchange adjustments	(1)	(1)		(2)
Additions	1			1
At end of year	77	10	4	91
Cost	76	10	4	90
Scrip issues capitalised	1			1
PROVISIONS				
At beginning of year	(10)	(2)	(2)	(14)
Additions/releases	(14)			(14)
At end of year	(24)	(2)	(2)	(28)
BALANCE SHEET VALUE AT END 1985	53	8	2	63
Balance sheet value at end 1984	67	9	2	78
The balance sheet value of the above investments included:				
Investments listed on The Stock Exchange, London 1985	4		1	5
1984	4		1	5
With an aggregate market value of: 1985	7		2	9
1984	8		2	10

15 *STOCKS*

	GROUP 1985	GROUP 1984	COMPANY 1985	COMPANY 1984
	£m	£m	£m	£m
Raw materials and consumables	540	566	206	214
Stocks in process	260	210	132	125
Finished goods and goods for resale	950	964	377	351
	1,750	1,740	715	690

16 *DEBTORS*

AMOUNTS DUE WITHIN ONE YEAR				
Trade debtors	1,580	1,638	11	15
Amounts owed by subsidiaries			260	301
Amounts owed by related companies	68	143	2	4
Other debtors	193	187	87	60
Prepayments and accrued income	75	106	31	44
	1,916	2,074	391	424
AMOUNTS DUE AFTER MORE THAN ONE YEAR	34	28	2	2
	1,950	2,102	393	426

17 *CURRENT ASSET INVESTMENTS AND SHORT-TERM DEPOSITS*

Redeemable securities listed on The Stock Exchange, London	139	140	65	82
Other listed investments	65	105		
Total listed investments	204	245	65	82
Unlisted investments	32	113		
	236	358	65	82
Short-term deposits	340	507	33	70
	576	865	98	152
Market value of listed investments	204	252	65	82

Included in current asset investments, short-term deposits and cash are amounts totalling £148m (1984 £75m) held by the Group's insurance subsidiaries.

18 *SHORT-TERM BORROWINGS*

	GROUP		COMPANY	
	1985	1984	1985	1984
BANK BORROWINGS	£m	£m	£m	£m
Secured by fixed charge	1	1		
Secured by floating charge	19	14		
Unsecured	288	215	74	42
	308	230	74	42
OTHER BORROWINGS (unsecured)	203	153	108	61
	511	383	182	103

19 *OTHER CREDITORS*

AMOUNTS DUE WITHIN ONE YEAR				
Trade creditors	803	566	328	324
Bills of exchange payable	15	15		
Other payments received on account	22	15	3	8
Amounts owed to subsidiaries			491	575
Amounts owed to related companies	30	49	3	30
Corporate taxation	332	385	153	140
Petroleum taxation	34	55		
Value added and payroll taxes and social security	83	81	48	55
Other creditors	353	355	113	129
Accruals	159	151	46	37
Dividends to Ordinary Stockholders	130	112	130	112
	1,961	2,084	1,315	1,393
AMOUNTS DUE AFTER MORE THAN ONE YEAR				
Trade creditors	3	6	1	1
Amounts owed to subsidiaries			529	597
Corporate taxation	45	88		
Other creditors	28	33	5	10
	76	127	535	708

20 *PROVISIONS FOR LIABILITIES AND CHARGES*

	At beginning of year	Movement in year	At end of year
GROUP	£m	£m	£m
Deferred taxation:			
Petroleum revenue tax	97	(22)	75
Corporation tax thereon	(35)	9	(26)
Other tax	102	9	111
Advance corporation tax recoverable	(48)	(8)	(56)
	116	(12)	104
Oilfield abandonment costs	35	8	43
Employee benefits	79	2	81
Other provisions	49	55	104
	279	53	332
COMPANY			
Deferred taxation	66	—	66
Advance corporation tax recoverable	(48)	(8)	(56)
Other provisions	35	19	54
	53	11	64

21 *LOANS*

	Repayment dates	GROUP 1985 £m	GROUP 1984 £m	COMPANY 1985 £m	COMPANY 1984 £m
SECURED LOANS					
Sterling (9¼ to 14%)	1986/95	2	[illegible]		
Australian dollars (6¾ to 19%)	1986/2000	77	[illegible]		
Other currencies (5½ to 15%)	1986/2012	55	[illegible]		
TOTAL SECURED		134	[illegible]		
Secured by fixed charge		58	[illegible]		
Secured by floating charge		76	[illegible]		
UNSECURED LOANS					
Sterling:					
7¼ and 8% Stocks	1986/93	109	[illegible]	109	[illegible]
10¾ and 11¼% bonds	1992/95	175	—	175	—
10¾% Stock	1991/96	43	[illegible]	43	[illegible]
8½% convertible bonds*	1999	100	[illegible]		
5½% Stock	1994/2004	26	26	26	[illegible]
Others	1986/99	18	18	8	[illegible]
		471	296	361	[illegible]
US dollars:					
9¾% bonds*	1990	69	86		
7½ to 8¼% Eurodollar bonds	1986/92	47	68		
6¾% convertible Eurodollar bonds*	1997	6	21		
8⅞ and 9.05% bonds	1986/2003	175	224		
5¼ to 12½% loans	1986/2005	83	190	—	8
Others	1986/98	19	28	3	6
		399	617	3	14
Canadian dollars (10⅝ to 14½%)	1987/96	98	130		
Deutschemarks (6½ to 8⅛%)	1986/92	39	88	4	4
Dutch florins (6¼ to 9%)	1986/91	23	28		
Swiss francs (3½ to 7⅛%)	1986/94	106	115	6	6
Other currencies (7½ to 18%)	1986/2003	39	49		
Multi-currency credit facility (variable interest; repayable and redrawable at borrower's option)		30	—		
TOTAL UNSECURED		1,205	1,323	374	218
TOTAL LOANS		1,339	1,518	374	218

Loans or instalments thereof are repayable:				
After 5 years from balance sheet date:				
Lump sums	502	489	253	178
Instalments	407	396	100	—
	909	885	353	178
From 2 to 5 years	201	250	—	2
From 1 to 2 years	98	176	2	19
TOTAL DUE AFTER MORE THAN ONE YEAR	1,208	1,311	355	199
TOTAL DUE WITHIN ONE YEAR	131	207	19	19
	1,339	1,518	374	218
Aggregate amount of loans repayable by instalments any of which fall due after 5 years	647	716	100	—

*Conversion rights attach to certain bonds, unless previously redeemed and subject to adjustment in certain events, as follows:

8½% sterling bonds, until 1 October 1999, into Ordinary Stock of the Company at 800 pence per £1 of Ordinary Stock (with an option to redeem on 15 October 1989 at a premium of 12%, giving rise to a contingent liability of £12 million);

9¾% US dollar bonds, until 1 June 1990, into sterling bonds at a conversion rate of US$1.5773 = £1;

21 *LOANS (continued)*

6¼% Eurodollar bonds, until 1 September 1997, into Ordinary Stock of the Company at 460 pence per £1 of Ordinary Stock (with a fixed rate of exchange applicable on conversion of the bonds of US$1.7423 = £1).

Loans from banks included in the table opposite amounted to £93m (1984 £73m) in the Group of which £17m (£3m) was secured. In the Company there were unsecured bank loans of £3m (£1 [illegible]). New borrowings during the year totalled £224m, of which £175m related *to sterling bonds issued by the Company for the general purposes of the ICI Group.*

22 *CALLED-UP SHARE CAPITAL OF PARENT COMPANY*

	Authorized	Allotted, called-up and fully paid	
		1985	1984
	£m	£m	£m
5% (now 3.5% plus tax credit) Cumulative Preference Stock (£1 units)	9	9	9
Ordinary Stock (£1 units)	648	648	619
Unclassified shares (£1 each)	143		
	800	657	628

The authorized capital was increased by £75m on 29 April 1985.

Ordinary Stock issued during the year totalled £29m comprising issues in respect of a placing £18m, the Employees' Profit-Sharing Scheme £7m, the Company's share option schemes £2m and conversions of loan stock £2m.

Options outstanding at 31 December 1985 to subscribe for Ordinary shares of £1 under the Company's share option schemes for staff were:

Subscription price	Last date when options exercisable	Number of shares 1985	1984
£2.69	31 March 1987	2,016,842	2,147,849
£2.86	31 March 1988	1,244,610	1,326,568
£3.20	31 January 1986	133,864	1,565,468
£3.55	18 March 1987	140,000	243,000
£3.55	17 September 1987	15,000	25,000
£3.55	18 March 1988	64,000	138,000
£3.55	17 March 1989	118,000	279,000
£3.93	16 March 1990	92,000	92,000
£3.96	31 December 1988	625,042	652,744
£5.33	31 December 1989	595,917	619,739
£5.88	14 March 1991	131,000	131,000
£5.95	12 September 1994	1,169,200	1,169,200
£6.06	31 May 1991	1,380,664	
£6.06	31 May 1993	300,627	
£6.60	4 September 1995	98,700	
£7.86	17 April 1995	568,200	
		8,693,666	8,389,568

Options granted to directors, included above, are shown on page 48.

During 1985 movements in the number of shares under option comprised new options issued 2,406,401, options exercised 1,880,880 and options lapsed 221,423. At the end of 1985 there were 23,982,609 shares available for the granting of options (1984 26,330,800).

Warrants granting options to subscribe for 398,736 Ordinary shares of £1 each at 540p were exercised during the year, leaving a balance representing options over 11,301,264 shares.

23 *LEASES*

The total of lease rentals charged as an expense in the profit and loss account is disclosed below. For the purpose of this analysis, the category of 'operating lease' includes all leases other than those of a capital nature, which are categorised as 'non-capitalised finance leases'.

	1985	1984
	£m	£m
Non-capitalised finance leases		
Hire of plant and machinery	48	[illegible]
Other	6	[illegible]
Operating leases		
Hire of plant and machinery	75	[illegible]
Other	17	[illegible]
	146	[illegible]

	GROUP		COMPANY	
	1985	1984	1985	1984
Obligations under non-capitalised finance leases:	£m	£m	£m	£m
Rentals due within one year	35	43	13	[illegible]
Rentals due from 1 to 5 years	114	151	33	[illegible]
Rentals due thereafter	179	283	16	[illegible]
Less: interest element	(180)	(275)	(16)	[illegible]
	148	202	46	56

The Group had no commitments under finance leases which were due to commence after the balance sheet date.

The statement above includes the lease of an olefines plant to a subsidiary of ICI Australia Ltd by a related company. Commitments to pay lease rentals through to 1997 are £155m (1984 £262m).

Commitments under operating leases to pay rentals during the year following the year of these accounts are given in the table below, analysed according to the period in which each lease expires.

Land and buildings				
Expiring within 1 year	1	1		
Expiring in years 2 to 5	4	4	1	1
Expiring thereafter	8	8	1	1
	13	13	2	2
Other assets				
Expiring within 1 year	11	12	5	4
Expiring in years 2 to 5	26	27	8	7
Expiring thereafter	18	16	6	4
	55	55	19	15

24 *ACQUISITIONS AND NEW INVESTMENTS*

	1985	1984
	£m	£m
Acquisitions and new investments comprised:		
Fixed assets	214	13
Goodwill	518	1
Related companies	35	96
Net current assets	153	14
Deferred liabilities	(28)	(1)
Loans	(39)	(3)
Minorities	(39)	(1)
	814	119

The purchase consideration for the companies acquired during the year was met from the Group's cash resources, apart from the proceeds of £146m from the placing of 18 million £1 Ordinary Stock units (see note 3).

Disposals in 1985 comprised subsidiaries £5m (1984 £4m) and related companies £18m (1984 £21m).

Goodwill includes £488m in respect of the acquisition of the chemical interests of Beatrice Companies, Inc.

25 *COMMITMENTS AND CONTINGENT LIABILITIES*

	GROUP		COMPANY	
	1985	1984	1985	1984
	£m	£m	£m	£m
Commitments for capital expenditure not provided for in these accounts (including acquisition of share and loan capital in subsidiary and other companies):				
Contracts placed for future expenditure	148	[illegible]	86	[illegible]
Expenditure authorized but not yet contracted:				
Chemical interests of Beatrice Companies, Inc.	—	[illegible]		
Other	447	[illegible]	289	[illegible]
	595	[illegible]	375	[illegible]

Contingent liabilities existed at 31 December 1985 in connection with guarantees and uncalled capital relating to subsidiary and other companies and guarantees relating to pension funds, including the solvency of pension funds. Other guarantees and contingencies arising in the ordinary course of business, for which no security has been given, are not expected to result in any material financial loss. Litigation and other proceedings against companies in the Group are not considered material in the context of these accounts.

The maximum liability in respect of guarantees and uncalled capital at 31 December 1985 would be £119m (1984 £162m) for the Group, including £96m (1984 £127m) in respect of guarantees of borrowings by Corpus Christi Petrochemical Company, in which the Group has a 37.5 per cent interest. The maximum liability for the Company, mainly on guarantees of borrowings of subsidiaries, would be £869m (1984 £1,098m).

In 1983, 1984 and 1985 the Company agreed to make special payments aggregating £51m per annum, each over a three year period, in respect of increased benefits under the Staff Pension Fund and the Workers' Pension Fund; at 31 December 1985 the instalments still to be paid totalled £101m.

26 *EMOLUMENTS OF DIRECTORS AND EMPLOYEES*

The total emoluments of the directors of the Company for the year were £1,732,000 (1984 £1,712,000) including £118,000 (£77,000) in respect of non-executive directors. Pensions, commutations of pensions and gratuities in respect of executive service of former directors amounted to £3,982,000 (1984 £2,871,000).

The table which follows shows the number of directors and employees of the Company, other than those who worked wholly or mainly outside the UK, whose emoluments during the year were within the bands stated (excluding employees whose emoluments were below £30,000):

Emoluments	Directors		Employees		Emoluments	Directors		Employees	
£	1985	1984	1985	1984	£	1985	1984	1985	1984
5,001– 10,000	1				110,001–115,000			2	3
10,001– 15,000		6			115,001–120,000			1	
15,001– 20,000	5				120,001–125,000			1	
30,001– 35,000	1		363	303	125,001–130,000			2	
35,001– 40,000			244	151	135,001–140,000			1	
40,001– 45,000			148	90	145,001–150,000			1	
45,001– 50,000	1		69	60	150,001–155,000			1	
50,001– 55,000			55	27	170,001–175,000	1			
55,001– 60,000			36	23	175,001–180,000		1		
60,001– 65,000			32	17	180,001–185,000	1	1		
65,001– 70,000			13	5	185,001–190,000		1		
70,001– 75,000			14	8	190,001–195,000		2		
75,001– 80,000	1		6	4	195,001–200,000	1	1		
80,001– 85,000			7	5	200,001–205,000	1			
85,001– 90,000			4		205,001–210,000	1			
90,001– 95,000	1		3	3	215,001–220,000		1		
95,001–100,000	1		3	1	285,001–290,000		1		
100,001–105,000				1	310,001–315,000	1			
105,001–110,000			3	2					

The emoluments of the Chairman were £312,991 (1984 £287,261). Six of the directors whose emoluments are shown above for 1985 were directors for part of the year only.

26 *EMOLUMENTS OF DIRECTORS AND EMPLOYEES (continued)*

The average number of people employed by the Group in 1985 was 118,600 [illegible] and the staff costs incurred during the year in respect of those employees were:

	1985	1984
	£m	[illegible]
Wages and salaries	1,482	[illegible]
Social security costs	125	[illegible]
Pension fund contributions, pensions and gratuities (including severance costs 1985 £41 m; [illegible])	235	[illegible]
Other employment costs	35	[illegible]
Employees' profit-sharing bonus	48	[illegible]
	1,925	[illegible]
Less amounts allocated to capital expenditure etc.	(42)	[illegible]
Charged to trading profit	1,883	[illegible]

27 *DIRECTORS' INTERESTS IN STOCKS, SHARES AND DEBENTURES*

The interests at 31 December 1985 of the persons who on that date were directors (including the interests of their families) in stocks, shares and debentures of the Company and its subsidiaries, are shown below. Their interests at 1 January 1985 (or, if appointed during 1985, at their date of appointment) are shown in brackets where these differ from the holdings at the year end. There were no changes in the period 1 January 1986 to 18 February 1986.

	ICI Ordinary Stock £	
A W Clements	3,043	
R C Hampel	3,758	(3,296)
Sir John Harvey-Jones	6,367	
D H Henderson	5,100	
T O Hutchison	2,616	(2,516)
Sir Robin Ibbs	14,112	
Sir Alex Jarratt: beneficial	562	
non-beneficial	118	
W G L L Kiep	500	
Sir Patrick Meaney	1,325	
Sir Jeremy Morse	1,819	
C H Reece	6,785	(2,785)
S Saba	500	(—)
Lord Thomson	500	
F Whiteley	6,886	(5,573)

Options to subscribe for Ordinary shares granted to and exercised by directors during 1985 are shown in the table below:

	At 1 January 1985	Options granted	Price	Options exercised	At 31 December 1985
A W Clements	80,695				80,695
R C Hampel	30,346*	319	£6.06		
		11,500	£6.60	462	41,703
Sir John Harvey-Jones	75,000			55,000	20,000
D H Henderson	56,700				56,700
T O Hutchison	35,000*	4,300	£6.60		39,300
Sir Robin Ibbs	60,600				60,600
C H Reece	104,700			68,000	36,700

*The number of options held on 1 July 1985, the date of appointment.

The options outstanding are exercisable at prices between £2.69 and £7.86.

Beneficial interests in ICI Unsecured Loan Stocks are held by Sir Robin Ibbs (£1,000 of 5½% Stock, £200 of 7¼% Stock and £350 of 8% Stock) and Sir Patrick Meaney (£200 of 8% Stock).

28 *STATUTORY AND OTHER INFORMATION*

Included in debtors are interest-free loans totalling £149,500 (1984 £117,500) to officers of the Company, comprising £55,000 in total to 5 directors and £94,500 in total to 4 other officers. The loans to directors were made, prior to their joining the Board, in accordance with the Company's policy of providing housing assistance to staff who have been transferred. The amounts outstanding throughout the year were £10,000 each from Mr R C Hampel, Mr T O Hutchison, Sir Robin Ibbs and Dr C H Reece and £15,000 from Mr D H Henderson. The loans to the other officers were also in respect of housing loans.

On 1 January 1985 the Company sold its 100 per cent shareholding in Millbank Films Ltd to two directors of that company, Mr B Dargie and Mr P J Griffiths, for £44,000 and has given a guarantee to Barclays Bank PLC for a period of 18 months from that date in respect of a loan of £150,000 made by the bank to Millbank Films Ltd.

Remuneration of auditors charged in the Group accounts for 1985 was £4.1m [illegible].

PRINCIPAL SUBSIDIARY COMPANIES

At 31 December 1985

		Class of capital	Percentage held by ICI	Principal activities
EUROPE *(accounting dates 31 December)*	DEUTSCHE ICI GMBH (West Germany)	Ordinary	95 5†	*Manufacture of nylon and polyester fibres, paints, pharmaceuticals, chlorine and plastics; merchanting of other ICI products*
	ICI FINANCE PLC (England)	Ordinary	100	*Financial services*
	I.C.I. FRANCE SA (France)	Ordinary	100	*Manufacture of plasticisers, EO–PO derivatives and pharmaceuticals; merchanting of other ICI products*
	ICI HOLLAND BV (Holland)	Ordinary	100	*Manufacture of bulk and speciality plastics, nylon and polyester polymers and polyurethane chemicals; merchanting of other ICI products*
	ICI PETROLEUM LTD (England)	Ordinary	100	*Petroleum exploration, production, processing and trading*
	IMPERIAL CHEMICALS INSURANCE LTD (England)	Ordinary	100†	*Insurance*
	NOBEL'S EXPLOSIVES COMPANY LTD (Scotland)	Ordinary	100	*Manufacture of industrial explosives, blasting accessories and propellants*
	SCOTTISH AGRICULTURAL INDUSTRIES PLC (Scotland)	Ordinary*	62	*Manufacture of fertilizers; agricultural merchants*
THE AMERICAS *(accounting dates 31 December)*	C-I-L INC (Canada)	Common*	73†	*Manufacture of chemicals, fertilizers, industrial explosives, mining equipment and plastics*
	DUPERIAL SAIC (Argentina)	Ordinary	100	*Manufacture of chemicals, plastics and sporting ammunition; merchanting of ICI and other products*
	ICI AMERICAN HOLDINGS INC (USA)	Common	100	*Manufacture of pharmaceuticals, dental products, agrochemicals, seeds, colours, petrochemicals, films, advanced materials and electronics, speciality and other chemicals; merchanting of other ICI products*
OTHER COUNTRIES *(accounting dates 30 September unless otherwise stated)*	CHEMICAL COMPANY OF MALAYSIA BERHAD (Malaysia)	Ordinary*	50	*Manufacture of fertilizers, chlor-alkali chemicals and agrochemical products*
	ICI AUSTRALIA LTD (Australia)	Ordinary*	62†	*Manufacture of chemicals, fertilizers, industrial explosives, paints, plastics, pharmaceuticals and animal health products*
	ICI (CHINA) LTD (Hong Kong and China)	Ordinary	100	*Merchanting of ICI and other products; manufacture of chemicals, paints and pharmaceuticals*
	ICI JAPAN LTD (Japan)	Ordinary	100	*Merchanting of ICI and other products*
	I.C.I. (MALAYSIA) SDN BERHAD (Malaysia)	Ordinary	70	*Merchanting of ICI and other products; manufacture of paints*
	ICI NEW ZEALAND LTD (New Zealand)	Ordinary*	75†	*Manufacture of industrial explosives, paints and resins; merchanting of other ICI products*
	ICI PAKISTAN MANUFACTURERS LTD (Pakistan)	Ordinary*	62	*Manufacture of polyester staple fibres, soda ash and speciality chemicals*
	ICI-PHARMA LTD (Japan)	Ordinary	60	*Development, registration and marketing of ICI pharmaceutical products*
	ICI (SOUTH AFRICA) LTD (Republic of South Africa) *(accounting date 31 December)*	Ordinary	100	*Merchanting of ICI and other products; manufacture of pharmaceuticals; holding company*
	IEL LTD (India)	Ordinary*	51	*Manufacture of fertilizers, industrial explosives and accessories, polyester fibres, polyethylene, paints, agrochemicals, pharmaceuticals and rubber chemicals*

*Listed †Held by subsidiaries

0045-0595

The country of principal operations and registration or incorporation is stated after each comp...

PRINCIPAL RELATED COMPANIES

At 31 December 1985

	Issued share and loan capital at date of latest available audited accounts			
	Class of capital	£m	Percentage held by ICI	Principal activities
AECI LTD (Republic of South Africa)	Ordinary*	29	38†	*Manufacture of chemicals, fertilizers, fibres, industrial explosives, paints and plastics*
	Preference	1	—	
	Loan	91	—	
CORPUS CHRISTI PETROCHEMICAL COMPANY, including related facilities (USA)	Partners' capital	182	37½†	*Manufacture of olefines*
	Loan	247	—	
TIOXIDE GROUP PLC (England)	Ordinary	31	50†	*Manufacture of titanium pigments*
	Preference	1	—	
	Loan	41	—	

*Listed (the Group's 38 per cent shareholding includes 28 per cent held through Afex Holdings (Pty) Ltd in which the Group's interest is 50 per cent).

†Held by subsidiaries.

The country of principal operations and registration or incorporation is stated after each company.

The accounting date for ICI Group accounts purposes is 31 December, except AECI Ltd (30 September).

AUDITORS' REPORT

To the Members of Imperial Chemical Industries PLC

We have audited the financial statements on pages 30 to 51 in accordance with approved auditing standards.

In our opinion these financial statements, which have been prepared under the historical cost convention, give under that convention a true and fair view of the state of affairs of the Company and the Group at 31 December 1985 and of the profit and sources and applications of funds of the Group for the year then ended and comply with the Companies Act 1985.

0045-0596

London
10 March 1986

KMG Thomson McLintock
Price Waterhouse
Chartered Accountants

GROUP FINANCIAL RECORD

For the years ended 31 December

		1981	1982	1983	1984	1985
		£m	£m	£m	£m	£m
BALANCE SHEET	Tangible fixed assets	3,342	3,422	3,376	3,629	3,533
	Investments	433	403	348	442	287
	Current assets:					
	Stocks	1,253	1,377	1,462	1,740	1,750
	Debtors	1,391	1,499	1,661	2,102	1,950
	Cash and short-term investments	719	595	774	1,011	797
		3,363	3,471	3,897	4,853	4,497
	Total assets	7,138	7,296	7,621	8,924	8,317
	Creditors due within one year:					
	Short-term borrowings	(589)	(531)	(329)	(383)	(511)
	Current instalments of loans	(52)	(119)	(209)	(207)	(131)
	Other creditors	(1,092)	(1,283)	(1,542)	(2,084)	(1,961)
	Total assets less current liabilities	5,405	5,363	5,541	6,250	5,714
	Creditors due after more than one year:					
	Loans	1,445	1,417	1,268	1,311	1,208
	Other creditors	313	87	139	127	76
	Provisions and deferred income	356	442	400	475	530
	Minority interests	336	362	392	508	405
	Capital and reserves attributable to parent company	2,955	3,055	3,342	3,829	3,495
		5,405	5,363	5,541	6,250	5,714
TURNOVER AND PROFITS	Turnover: UK	2,575	2,848	2,866	3,131	3,011
	Overseas	4,006	4,510	5,390	6,778	7,714
	Total	6,581	7,358	8,256	9,909	10,725
	Trading profit (after depreciation)	425	366	693	1,063	978
	Depreciation	348	400	436	440	474
	Share of profits less losses of related companies and amounts written off investments	52	39	61	71	56
	Interest other than loan interest (net)	(13)	(11)	(3)	38	21
	Profit before loan interest	464	394	751	1,172	1,055
	Loan interest	(129)	(135)	(132)	(138)	(143)
	Profit before taxation	335	259	619	1,034	912
	Taxation	(111)	(92)	(201)	(373)	(308)
	Attributable to minorities	(32)	(22)	(21)	(56)	(52)
	Net profit attributable to parent company, before extraordinary items	192	145	397	605	552
	Extraordinary items	(6)	—	(19)	(20)	(40)
	Dividends	(113)	(115)	(147)	(186)	(214)
	Profit retained, transferred to reserves	73	30	231	399	298
SOURCES AND APPLICATIONS OF FUNDS	Sources net of interest and taxation	728	607	921	1,177	1,136
	Dividends	(101)	(135)	(140)	(183)	(227)
	Fixed assets (including investments)	(421)	(332)	(264)	(500)	(1,394)
	Additional working capital	(239)	(111)	(35)	(200)	(60)
	Surplus (deficit)	(33)	29	482	294	(545)
RETURN ON ASSETS	Profit before loan interest as a percentage of assets employed (average total assets less current liabilities)	9.1	7.3	13.8	19.9	17.6
CURRENT COST ACCOUNTING	Profit before taxation, on a current cost accounting basis, expressed in 1985 £'s	106	115	491	893	738

0045-0597

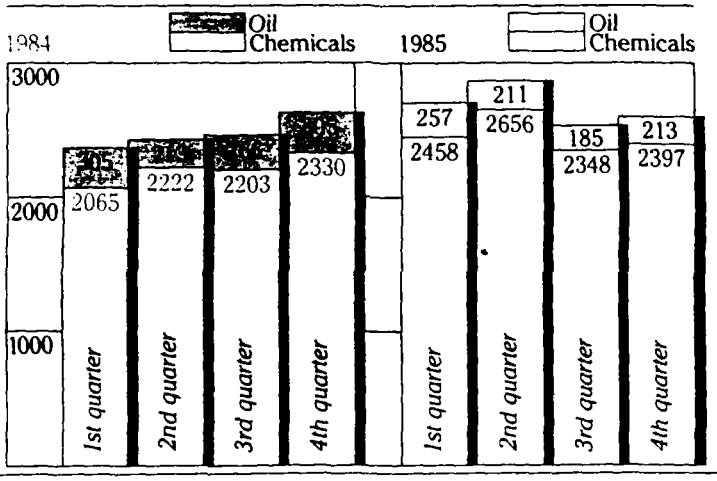
ICI ORDINARY STOCK COMPARISONS 1981 TO 1985

Pence per £1 Ordinary Stock unit

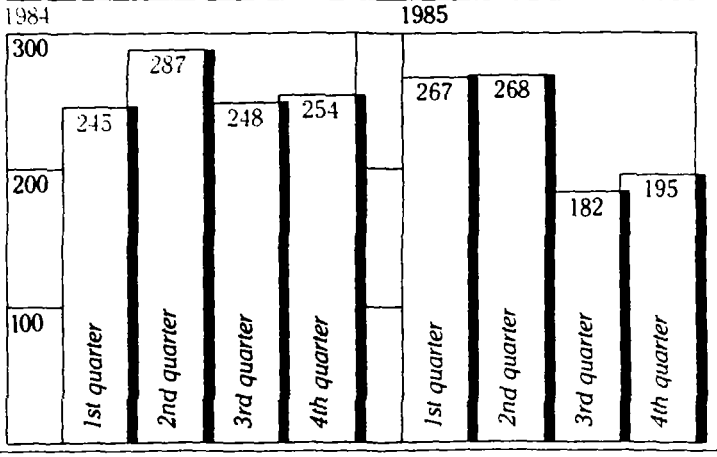
	1981	1982	1983	1984	1985
STOCK UNITS (MILLIONS) IN ISSUE					
At year-end	594	603	612	619	648
Weighted average for year	594	598	608	616	639
STOCK MARKET PRICE					
Highest	330p	364p	660p	746p	882p
Lowest	226p	262p	345p	526p	632p
Year-end	290p	360p	636p	736p	756p
EARNINGS PER £1 STOCK UNIT					
Historical cost basis	32p	24p	65p	98p	86p
Current cost accounting basis:					
Money of year	−7p	—	39p	70p	62p
Equivalent in 1985 money (adjusted by UK retail price index (RPI))	−9p	—	43p	74p	62p
DIVIDENDS					
Dividends (net)	19p	19p	24p	30p	33p
Dividends grossed up for imputed tax credit	27p	27p	34p	43p	47p
Dividends (net) in 1985 money (adjusted by RPI)	24p	22p	27p	32p	33p
BALANCE SHEET VALUE of Ordinary stockholders' equity at end of year per £1 unit	496p	505p	545p	617p	538p
Indexed value of the £, expressed in average 1985 £'s, based on RPI	1.26	1.17	1.11	1.06	1.00

CHARTS OF QUARTERLY RESULTS

£m Turnover



£m Profit before tax



0045-0598

SOURCES AND DISPOSAL OF VALUE ADDED

	Notes	1985 £m	1984 £m	Percentage change
SOURCES OF INCOME				
Sales turnover		10,725	9,909	+8%
Royalties and other trading income		142	116	+22%
Less: materials and services used		(7,560)	(6,845)	+10%
VALUE ADDED BY MANUFACTURING AND TRADING ACTIVITIES		3,307	3,180	+4%
Share of profits less losses of related companies and amounts written off investments		56	71	−21%
TOTAL VALUE ADDED		3,363	3,251	+3%
DISPOSAL OF TOTAL VALUE ADDED				
EMPLOYEES	1			
Pay, plus pension and national insurance contributions, and severance costs		1,835	1,647	
Profit-sharing bonus	2	48	58	
		1,883	1,705	+10%
GOVERNMENTS	3			
Corporate taxes		308	373	
Less: grants		(28)	(28)	
		280	345	−19%
PROVIDERS OF CAPITAL				
Interest cost of net borrowings		122	100	
Dividends to stockholders		214	186	
Minority shareholders in subsidiaries		52	56	
		388	342	+13%
RE-INVESTMENT IN THE BUSINESS				
Depreciation and provisions in respect of extraordinary items		514	460	
Profit retained		298	399	
		812	859	−5%
TOTAL DISPOSAL		3,363	3,251	

NOTES

1 The average number of employees in the Group worldwide increased by 3 per cent. The number employed in the UK decreased by 2 per cent.

2 1985 UK bonus rate 8.1p per £1 remuneration (1984 10.1p).

3 Does not include tax deducted from the pay of employees. Income tax deducted from the pay of UK employees under PAYE amounted to £157m in 1985 (1984 £148m).

This table, which is used for calculating the bonus under the Employees' Profit-Sharing Scheme, is based on the audited historical cost accounts; it shows the total value added to the cost of materials and services purchased from outside the Group and indicates how this increase in value has been disposed of.

NOTICE OF MEETING

Notice is hereby given that the fifty-ninth Annual General Meeting of Imperial Chemical Industries PLC will be held at the Royal Lancaster Hotel, Lancaster Terrace, London W2 on Monday 28 April 1986 at 11.00 am, for the following purposes:

1. To consider the Company's Accounts and the Reports of the Directors and Auditors for the year ended 31 December 1985, and to confirm dividends.

2. To elect Directors in place of those retiring (see page 27).

3. To appoint Auditors, and to authorize the Directors to fix the remuneration of the Auditors (see page 28).

4. To consider and, if thought fit, pass the following Resolution as a Special Resolution:

   'That the Directors of the Company be and are hereby generally authorized and empowered for the purposes of Section 80 and pursuant to Section 95 of the Companies Act 1985 during the period expiring on 31 December 1987 both to exercise all powers of the Company to allot relevant securities (as defined in the said Section 80) and to make an offer or agreement which would or might require relevant securities to be allotted after that date, provided that:

   (a) the nominal value of the relevant securities allotted under this authority shall not exceed the nominal value of the present unissued share capital of the Company;

   (b) allotments of equity securities (as defined in Section 94 of the aforesaid Act) in connection with a rights issue to Ordinary stockholders shall be made in the manner set out in sub-section (1) of the said Section 94 but subject to the Directors having the right:

      (i) to sell, for the benefit of those Ordinary stockholders who are citizens of or resident in any overseas territory where in the opinion of the Directors it would at the time of the offer be illegal or unduly costly or impracticable for the Company to make or for those Ordinary stockholders to accept an offer of equity securities of the Company, the equity securities to which they would otherwise be entitled; and

      (ii) to aggregate and sell for the benefit of the Company all fractions of a share which may arise in apportioning the equity securities among the Ordinary stockholders; and

   (c) allotments of equity securities for cash (otherwise than pursuant to sub-paragraph (b) above) shall be limited in total to 5 per cent of the nominal value of the Ordinary share capital of the Company at present in issue, and for this purpose an issue of securities convertible into Ordinary shares shall be deemed to be an allotment of the number of shares which would be required to satisfy the conversion rights attached to those securities in full at the initial conversion price provided for in the terms and conditions of the issue.

   And that any allotment under the authority hereby conferred shall be as if sub-section (1) of the said Section 94 did not apply thereto.

   And that the foregoing shall be in substitution for the authority conferred on the Directors of the Company in that regard at the Annual General Meeting of the Company held on 29 April 1985.'

   (Note: for an explanation of this Resolution see page 28).

Imperial Chemical House
Millbank, London SW1P 3JF
18 March 1986

By Order of the Board
D. J. Allen
Secretary

Any Member of the Company entitled to attend and vote is entitled to appoint one or more proxies (whether members or not) to attend and, on a poll, to vote instead of him. The instrument appointing a proxy, and the power of attorney or other authority (if any) under which it is signed or a notarially certified copy of that power or authority, must be deposited at the Company's Transfer Office, PO Box 251, Wexham Road, Slough SL2 5DP, not less than 48 hours before the time for holding the meeting.

FINANCIAL CALENDAR

Dividend and interest payments

A second interim dividend for the year 1985, which the Annual General Meeting will be asked to confirm as the final dividend for that year, is payable on 2 April 1986 to Ordinary stockholders registered in the books of the Company on 27 February 1986.

Dividend and interest payments are normally made as follows:

First Interim Ordinary Dividend: First week of October (announced last Thursday in July)

Second Interim Ordinary Dividend: First week of April (announced fourth Thursday in February)

Preference Dividends: 1 February, 1 August

Unsecured Loan Stocks:

5½ per cent	1 February, 1 August
7¼ per cent	31 May, 30 November
8 per cent	10 January, 10 July
10¾ per cent	6 February, 6 August

Quarterly results

Unaudited trading results of the ICI Group for 1986 are expected to be announced as follows:

First quarter	24 April 1986
Half year	24 July 1986
Nine months	30 October 1986
Full year	26 February 1987

Taxation

In certain circumstances, when a stockholder sells stock his liability to tax in respect of capital gains is computed by reference to the market value of the stock on 6 April 1965. The market values of ICI stocks at that date, for the purpose of the capital gains tax, were:

Ordinary Stock 234⅜p
(The adjusted value, for a stockholder who subscribed in full for his share of the 1976 rights issues, is 245p)

Preference Stock 72½p.

The company is not, and has not been, a close company within the meaning of the Income and Corporation Taxes Act 1970 (as amended).

This Report is circulated to members of the Company and to holders of Unsecured Loan Stock of the Company. Copies of the Report are being provided for those employees of the Company who are not also stockholders. Only holders of Ordinary Stock are entitled to attend or vote at the meeting.

The following information, which is available for inspection during business hours at the Company's Registered Office, will, on the day of the Annual General Meeting, be available for inspection at the Royal Lancaster Hotel, Lancaster Terrace, London W2, from 10.45 a.m. until the conclusion of the meeting:

(1) A statement of transactions of Directors (and of their family interests) in the share capital and debentures of the Company and any of its subsidiaries;

(2) Copies of all contracts of service under which Directors of the Company are employed by the Company or any of its subsidiaries.

Over 400,000 copies of this Report are despatched to stockholders. To facilitate delivery of this very large number of copies, posting of the Report will be phased over a period.

Reports of the Chairman's speech at the Annual General Meeting will be published in the Press. A copy of the speech will be sent to any stockholder on request.

The Company from time to time files reports with the United States Securities and Exchange Commission. As a standing arrangement a copy of each such report filed within the preceding twelve months can be inspected by any stockholder or ADR holder at any time during normal business hours at the offices of ICI at Imperial Chemical House, Millbank, London SW1 and at Olympic Tower, 645 Fifth Avenue, New York.

0045-0601

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