CONTAINS NO CBI

EPA

Form Approved
OMB No. 2010-0019
Approval Expires 12-31-89

89 JUN 21 PM 2:29

89 JUN 21 PM 2:29
OTS
OFFICE

OTS
OFFICE

EPA-OTS

000657806W

90-890000252

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

## Comprehensive Assessment Information Rule

## REPORTING FORM

When completed, send this form to:

Document Processing Center
Office of Toxic Substances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: _____

Document Control Number: _____

Docket Number: _____

EPA Form 7710-52

## SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

### PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... [1][2] [2][2] [8][8]
mo. day year

CBI

[ ] a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. ..... [0][2][6][4][7][1]-[6][2]-[5]

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule ..... NA

(ii) Name of mixture as listed in the rule ....

(iii) Trade name as listed in the rule .....

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule ..... NA

CAS No. of chemical substance ..... [ ][ ][ ][ ][ ][ ]-[ ][ ]-[ ]

Name of chemical substance .....

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI

[ ] Manufacturer ..... 1

Importer ..... 2

Processor ..... 3

X/P manufacturer reporting for customer who is a processor ..... 4

X/P processor reporting for customer who is a processor ..... 5

[ ] Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

[ ]

Yes ..... [X] Go to question 1.04

No ..... [ ] Go to question 1.05

---

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

[ ]

Yes ..... 1

No ..... 2

b. Check the appropriate box below:

[ ] You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) .... _____

_____

[ ] You have chosen to report for your customers

[ ] You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

---

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

[ ]

Trade name ..... Lupranate T80 - Type I 585621

Is the trade name product a mixture? Circle the appropriate response.

Yes ..... 1

No ..... 2

---

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

[ ]

"I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

| Clarence H. Madore Jr. | [signature] | 6-15-89 |
|---|---|---|
| NAME | SIGNATURE | DATE SIGNED |

| Safety Engineer | (518) 842 - 0073 |
|---|---|
| TITLE | TELEPHONE NO. |

---

[ ] Mark (X) this box if you attach a continuation sheet.

1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

CBI

[__]

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

| NAME | SIGNATURE | DATE SIGNED |
|---|---|---|
| TITLE | (_____) _____ - _____ TELEPHONE NO. | DATE OF PREVIOUS SUBMISSION |

1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI

[__]

"My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

| NAME | SIGNATURE | DATE SIGNED |
|---|---|---|
| TITLE | (_____) _____ - _____ TELEPHONE NO. | |

[__] Mark (X) this box if you attach a continuation sheet.

PART B CORPORATE DATA

1.09 Facility Identification

CBI Name [G]e]m]_]u]r]e]t]h]a]n]e]_]C]o]r]p]_]_]_]_]_]_]_]_]

[_] Address [P]a]r]k]_]D]r]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
Street

[A]m]s]t]e]r]d]a]m]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
City

[N]Y] [1]2]0]1]0]--[0]3]9]0]
State Zip

Dun & Bradstreet Number .....[0]6]-[5]7]9]-[4]0]9]4]

EPA ID Number .....[0]0]4]1]7]7]5]6]7]

Employer ID Number .....[2]2]-[2]0]2]1]3]

Primary Standard Industrial Classification (SIC) Code .....[2]2]9]5]

Other SIC Code .....[_]_]_]_]

Other SIC Code .....[_]_]_]_]

1.10 Company Headquarters Identification

CBI Name [F]a]b]_]I]n]d]u]s]t]r]i]e]s]_]I]n]c]_]_]_]_]_]_]_]_]

[_] Address [2]0]0]_]M]a]d]i]s]o]n]_]A]v]e]_]_]_]_]_]_]_]_]_]
Street

[N]e]w]_]Y]o]r]k]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
City

[N]Y] [1]0]0]1]6]--[_]_]_]_]
State Zip

Dun & Bradstreet Number .....[0]4]-[1]5]6]-[4]3]0]3]

Employer ID Number .....[4]3]-1]6]8]7]6]

[_] Mark (X) this box if you attach a continuation sheet.

1.11 Parent Company Identification

CBI Name [F]a[b]_[I]n[d]u[s]t[l]e[s]_[I]n[c]

[_] Address [2]0[0]_[M]a[d]i[s]o[n]_[A]v[e]
Street

[N]e[w]_[Y]o[r]k
City

[N]Y [1]0[0]1[6]--[_]
State Zip

Dun & Bradstreet Number .....[0]4]-[1]5[6]-[4]3[0]3]

1.12 Technical Contact

CBI Name [H]a[r]o[l]d_[Z]i[n]a[m]a[n]

[_] Title [T]e[c]h[n]i[c]a[l]_[D]i[r]

Address [P]a[r]k_[D]r
Street

[a]m[s]t[e]r[d]a[m]
City

[N]Y [1]2[0]1[0]--[0]3[9]0]
State Zip

Telephone Number .....[5]1[8]-[8]4[2]-[0]0[7]3]

1.13 This reporting year is from ..... [1]2] [8]7] to [1]1] [8]8]
Mo. Year Mo. Year

[_] Mark (X) this box if you attach a continuation sheet.

1.14 Facility Acquired -- If you purchased this facility during the reporting year, provide the following information about the seller:

CBI Name of Seller [_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]

[_] Mailing Address [_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]
Street

[_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]
City

[_][_] [_][_][_][_][_]--[_][_][_][_]
State Zip

Employer ID Number ....................................[_][_][_][_][_][_][_][_]

Date of Sale ..........................................[_][_] [_][_] [_][_]
Mo. Day Year

Contact Person [_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]

Telephone Number ...............................[_][_][_]-[_][_][_]-[_][_][_][_]

---

1.15 Facility Sold -- If you sold this facility during the reporting year, provide the following information about the buyer:

CBI Name of Buyer [_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]

[_] Mailing Address [_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]
Street

[_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]
City

[_][_] [_][_][_][_][_]--[_][_][_][_]
State Zip

Employer ID Number ....................................[_][_][_][_][_][_][_][_]

Date of Purchase ......................................[_][_] [_][_] [_][_]
Mo. Day Year

Contact Person [_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_][_]

Telephone Number ...............................[_][_][_]-[_][_][_]-[_][_][_][_]

---

[_] Mark (X) this box if you attach a continuation sheet.

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI [ ]

| Classification | Quantity (kg/yr) |
|---|---|
| Manufactured | |
| Imported | |
| Processed (include quantity repackaged) | 250 kg |
| Of that quantity manufactured or imported, report that quantity: | |
| In storage at the beginning of the reporting year | |
| For on-site use or processing | |
| For direct commercial distribution (including export) | |
| In storage at the end of the reporting year | |
| Of that quantity processed, report that quantity: | |
| In storage at the beginning of the reporting year | |
| Processed as a reactant (chemical producer) | 1,410 |
| Processed as a formulation component (mixture producer) | |
| Processed as an article component (article producer) | |
| Repackaged (including export) | |
| In storage at the end of the reporting year | |

[ ] Mark (X) this box if you attach a continuation sheet.

## PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

[ ]

| Component Name | Supplier Name | Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%) |
|---|---|---|
| NA | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | Total 100% |

[ ] Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

[ ] Year ending ..... [1][2] [8][7]
Mo. Year

Quantity manufactured ..... _____ kg

Quantity imported ..... _____ kg

Quantity processed ..... 1,705 kg

Year ending ..... [1][2] [8][6]
Mo. Year

Quantity manufactured ..... _____ kg

Quantity imported ..... _____ kg

Quantity processed ..... 2,900 kg

Year ending ..... [1][2] [8][5]
Mo. Year

Quantity manufactured ..... _____ kg

Quantity imported ..... _____ kg

Quantity processed ..... 305 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

[ ]

Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... (3)

[ ] Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.
CBI

[ ]

Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)
CBI

[ ]

Manufacturing capacity ..... _____ kg/yr

Processing capacity ..... NA kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.
CBI

[ ]

| | Manufacturing Quantity (kg) | Importing Quantity (kg) | Processing Quantity (kg) |
|---|---|---|---|
| Amount of increase | | | |
| Amount of decrease | | | 200 |

[ ] Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

[ ]

| | Days/Year | Average Hours/Day |
|---|---|---|
| Process Type #1 (The process type involving the largest quantity of the listed substance.) | | |
| Manufactured | | |
| Processed | 18/88 | 6 |
| Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.) | | |
| Manufactured | | |
| Processed | | |
| Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.) | | |
| Manufactured | | |
| Processed | | |

2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

[ ]

Maximum daily inventory ..... _____ kg

Average monthly inventory ..... _____ kg

[ ] Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

[ ]

| CAS No. | Chemical Name | Byproduct, Coproduct or Impurity[1] | Concentration (%) (specify ± % precision) | Source of Byproducts, Coproducts, or Impurities |
|---|---|---|---|---|
| | NA | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

[1]Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

[ ] Mark (X) this box if you attach a continuation sheet.

2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI [ ]

| a. Product Types[1] | b. % of Quantity Manufactured, Imported, or Processed | c. % of Quantity Used Captively On-Site | d. Type of End-Users[2] |
|---|---|---|---|
| B | 18 | 100 | CS |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

[1]Use the following codes to designate product types:

A = Solvent
B = Synthetic reactant
C = Catalyst/Initiator/Accelerator/Sensitizer
D = Inhibitor/Stabilizer/Scavenger/Antioxidant
E = Analytical reagent
F = Chelator/Coagulant/Sequestrant
G = Cleanser/Detergent/Degreaser
H = Lubricant/Friction modifier/Antiwear agent
I = Surfactant/Emulsifier
J = Flame retardant
K = Coating/Binder/Adhesive and additives
L = Moldable/Castable/Rubber and additives
M = Plasticizer
N = Dye/Pigment/Colorant/Ink and additives
O = Photographic/Reprographic chemical and additives
P = Electrodeposition/Plating chemicals
Q = Fuel and fuel additives
R = Explosive chemicals and additives
S = Fragrance/Flavor chemicals
T = Pollution control chemicals
U = Functional fluids and additives
V = Metal alloy and additives
W = Rheological modifier
X = Other (specify) _____

[2]Use the following codes to designate the type of end-users:

I = Industrial
CM = Commercial
CS = Consumer
H = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI
[ ]

| a. Product Types[1] | b. % of Quantity Manufactured, Imported, or Processed | c. % of Quantity Used Captively On-Site | d. Type of End-Users[2] |
|---|---|---|---|
| B | 18 | 100 | CS |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

[1]Use the following codes to designate product types:

A = Solvent
B = Synthetic reactant
C = Catalyst/Initiator/Accelerator/Sensitizer
D = Inhibitor/Stabilizer/Scavenger/Antioxidant
E = Analytical reagent
F = Chelator/Coagulant/Sequestrant
G = Cleanser/Detergent/Degreaser
H = Lubricant/Friction modifier/Antiwear agent
I = Surfactant/Emulsifier
J = Flame retardant
K = Coating/Binder/Adhesive and additives
L = Moldable/Castable/Rubber and additives
M = Plasticizer
N = Dye/Pigment/Colorant/Ink and additives
O = Photographic/Reprographic chemical and additives
P = Electrodeposition/Plating chemicals
Q = Fuel and fuel additives
R = Explosive chemicals and additives
S = Fragrance/Flavor chemicals
T = Pollution control chemicals
U = Functional fluids and additives
V = Metal alloy and additives
W = Rheological modifier
X = Other (specify) _____

[2]Use the following codes to designate the type of end-users:

I = Industrial
CM = Commercial
CS = Consumer
H = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

2.14 CBI [ ] Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

| a. Product Type[1] | b. Final Product's Physical Form[2] | c. Average % Composition of Listed Substance in Final Product | d. Type of End-Users[3] |
|---|---|---|---|
| NA | | | |
| | | | |
| | | | |
| | | | |
| | | | |

[1]Use the following codes to designate product types:

A = Solvent
B = Synthetic reactant
C = Catalyst/Initiator/Accelerator/Sensitizer
D = Inhibitor/Stabilizer/Scavenger/Antioxidant
E = Analytical reagent
F = Chelator/Coagulant/Sequestrant
G = Cleanser/Detergent/Degreaser
H = Lubricant/Friction modifier/Antiwear agent
I = Surfactant/Emulsifier
J = Flame retardant
K = Coating/Binder/Adhesive and additives
L = Moldable/Castable/Rubber and additives
M = Plasticizer
N = Dye/Pigment/Colorant/Ink and additives
O = Photographic/Reprographic chemical and additives
P = Electrodeposition/Plating chemicals
Q = Fuel and fuel additives
R = Explosive chemicals and additives
S = Fragrance/Flavor chemicals
T = Pollution control chemicals
U = Functional fluids and additives
V = Metal alloy and additives
W = Rheological modifier
X = Other (specify) _____

[2]Use the following codes to designate the final product's physical form:

A = Gas
B = Liquid
C = Aqueous solution
D = Paste
E = Slurry
F1 = Powder
F2 = Crystalline solid
F3 = Granules
F4 = Other solid
G = Gel
H = Other (specify) _____

[3]Use the following codes to designate the type of end-users:

I = Industrial
CM = Commercial
CS = Consumer
H = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the listed substance to off-site customers.
CBI

[__] Truck ..... (1)

Railcar ..... 2

Barge, Vessel ..... 3

Pipeline ..... 4

Plane ..... 5

Other (specify) _____ ..... 6

---

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers or prepared by your customers during the reporting year for use under each category of end use listed (i-iv).
CBI

[__]

Category of End Use

i. Industrial Products

Chemical or mixture ..... NA kg/yr

Article ..... NA kg/yr

ii. Commercial Products

Chemical or mixture ..... NA kg/yr

Article ..... NA kg/yr

iii. Consumer Products

Chemical or mixture ..... NA kg/yr

Article ..... NA kg/yr

iv. Other

Distribution (excluding export) ..... NA kg/yr

Export ..... NA kg/yr

Quantity of substance consumed as reactant ..... 1,410 kg/yr

Unknown customer uses ..... NA kg/yr

---

[__] Mark (X) this box if you attach a continuation sheet.

## SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

### PART A GENERAL DATA

3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
CBI The average price is the market value of the product that was traded for the listed substance.
[__]

| Source of Supply | Quantity (kg) | Average Price ($/kg) |
|---|---|---|
| The listed substance was manufactured on-site. | | |
| The listed substance was transferred from a different company site. | | |
| The listed substance was purchased directly from a manufacturer or importer. | 1,500 | $2.40 |
| The listed substance was purchased from a distributor or repackager. | | |
| The listed substance was purchased from a mixture producer. | | |

3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.
CBI
[__]

Truck ..... (1)

Railcar ..... 2

Barge, Vessel ..... 3

Pipeline ..... 4

Plane ..... 5

Other (specify) _____ ..... 6

[__] Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your facility.

CBI

[ ]

Bags ..... 1

Boxes ..... 2

Free standing tank cylinders ..... 3

Tank rail cars ..... 4

Hopper cars ..... 5

Tank trucks ..... 6

Hopper trucks ..... 7

Drums ..... 8

Pipeline ..... 9

Other (specify) _____ .....10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders ..... _____ mmHg

Tank rail cars ..... _____ mmHg

Tank trucks ..... _____ mmHg

[ ] Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

[ ]

| Trade Name | Supplier or Manufacturer | Average % Composition by Weight (specify ± % precision) | Amount Processed (kg/yr) |
|---|---|---|---|
| Lupranate T-80 | BASF | 18 ± 2 | 1,410/88 |
| Lupranate T-80 | BASF | 18 ± 2 | 1,705/87 |
| Mondur TD-80 | Mobay | 18 ± 2 | 2,900/86 |
| Mondur TD-80 | Mobay | 18 ± 2 | 305/85 |

[ ] Mark (X) this box if you attach a continuation sheet.

## PART C RAW MATERIAL VOLUME

3.05 CBI State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

[ ]

| | Quantity Used (kg/yr) | % Composition by Weight of Listed Substance in Raw Material (specify ± % precision) |
|---|---|---|
| Class I chemical | | |
| | | |
| | | |
| Class II chemical | | |
| | | |
| | | |
| Polymer | 1,410 | 18 ± 2 % |
| | | |
| | | |

[ ] Mark (X) this box if you attach a continuation sheet.

## SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

### PART A PHYSICAL/CHEMICAL DATA SUMMARY

4.01 Specify the percent purity for the three major[1] technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI [ ]

| | Manufacture | Import | Process |
|---|---|---|---|
| Technical grade #1 | _____% purity | _____% purity | 99.7 % purity |
| Technical grade #2 | _____% purity | _____% purity | _____% purity |
| Technical grade #3 | _____% purity | _____% purity | _____% purity |

[1]Major = Greatest quantity of listed substance manufactured, imported or processed.

4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... (1)

No ..... 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company ..... 1

Another source ..... (2)

[ ] Mark (X) this box if you attach a continuation sheet.

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ..... 1

No ..... 2

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

[ ]

| | Physical State | | | | |
|---|---|---|---|---|---|
| Activity | Solid | Slurry | Liquid | Liquified Gas | Gas |
| Manufacture | 1 | 2 | 3 | 4 | 5 |
| Import | 1 | 2 | 3 | 4 | 5 |
| Process | 1 | 2 | 3 | 4 | 5 |
| Store | 1 | 2 | 3 | 4 | 5 |
| Dispose | 1 | 2 | 3 | 4 | 5 |
| Transport | 1 | 2 | 3 | 4 | 5 |

[ ] Mark (X) this box if you attach a continuation sheet.

4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥10 microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

[ ]

| Physical State | | Manufacture | Import | Process | Store | Dispose | Transport |
|---|---|---|---|---|---|---|---|
| Dust | <1 micron | | | NA | | | |
| | 1 to <5 microns | | | NA | | | |
| | 5 to <10 microns | | | NA | | | |
| Powder | <1 micron | | | NA | | | |
| | 1 to <5 microns | | | NA | | | |
| | 5 to <10 microns | | | NA | | | |
| Fiber | <1 micron | | | NA | | | |
| | 1 to <5 microns | | | NA | | | |
| | 5 to <10 microns | | | NA | | | |
| Aerosol | <1 micron | | | NA | | | |
| | 1 to <5 microns | | | NA | | | |
| | 5 to <10 microns | | | NA | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

4.09 Extinguishing Media -- Identify (Y/N/NA/UK) all known methods for extinguishing flames caused by each product type which contains the listed substance. (Refer to the instructions for the definition of Y, N, NA and UK.)

| | Product Types Containing the Listed Substance[1] | | | | | |
|---|---|---|---|---|---|---|
| Extinguishing Media | 1 | 2 | 3 | 4 | 5 | 6 |
| Water | ____ | ____ | ____ | ____ | ____ | ____ |
| Foam | ____ | ____ | ____ | ____ | ____ | ____ |
| $CO_2$ | ____ | ____ | ____ | ____ | ____ | ____ |
| Dry chemical (e.g., sodium bicarbonate) | ____ | ____ | ____ | ____ | ____ | ____ |
| Halogenated hydrocarbon (e.g., carbon tetrachloride, methyl bromide) | ____ | ____ | ____ | ____ | ____ | ____ |
| Other (specify) _____ | ____ | ____ | ____ | ____ | ____ | ____ |

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Identify the product types listed under each column (1-6) in the following table:

| Product Type No. | Product Type Identity |
|---|---|
| 1 | _____ |
| 2 | _____ |
| 3 | _____ |
| 4 | _____ |
| 5 | _____ |
| 6 | _____ |

[__] Mark (X) this box if you attach a continuation sheet.

4.10 Special Firefighting Procedures -- Identify (Y/N/NA/UK) all known restrictions on firefighting procedures used to combat fires caused by each product type which contains the listed substance. (Refer to the instructions for definitions of Y, N, NA and UK.)

| | Product Types Containing the Listed Substance[1] | | | | | |
|---|---|---|---|---|---|---|
| Special Firefighting Procedures | 1 | 2 | 3 | 4 | 5 | 6 |
| Do not use water | ____ | ____ | ____ | ____ | ____ | ____ |
| Do not increase air pressure | ____ | ____ | ____ | ____ | ____ | ____ |
| Other (specify) _____ | ____ | ____ | ____ | ____ | ____ | ____ |

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Identify the product types listed under each column (1-6) in the following table:

| Product Type No. | Product Type Identity |
|---|---|
| 1 | _____ |
| 2 | _____ |
| 3 | _____ |
| 4 | _____ |
| 5 | _____ |
| 6 | _____ |

[ ] Mark (X) this box if you attach a continuation sheet.

4.11 Incompatibility -- List all chemicals, materials, or categories of chemicals or materials that you know are incompatible with the listed substance and the reason why they are incompatible. (Refer to the instructions for further explanation and an example.)

| CAS No. | Name | Reaction (specify) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

4.12 Autoxidation -- Is the listed substance capable of autoxidation? Circle the appropriate response.

Yes ..... 1

No ..... 2

Unknown ..... 3

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[ ] Mark (X) this box if you attach a continuation sheet.

4.13 Indicate the autoignition temperature for the listed substance and the test method used to derive this value.

Autoignition temperature ..... _____ °C

Test method ..... _____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

4.14 Vapor in Cargo Tanks -- If storing the listed substance in a cargo tank causes vapor problems, such as peroxide formation, reaction with moisture, etc., specify the problem and necessary controls or restrictions used to remedy each problem.

| Vapor Problem | Controls/Restrictions |
|---|---|
| Peroxide formation | |
| Reaction with moisture | |
| Combustion | |
| Other (specify) | |
| | |
| | |

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[ ] Mark (X) this box if you attach a continuation sheet.

4.15 Shipment Procedures -- If you use an inhibitor or stabilizer when shipping the listed substance in bulk form, specify its name, whether it inhibits or stabilizes the listed substance, the amount normally added, and the duration of its effectiveness.

CBI

[ ]

| Name of Additive | Inhibitor or Stabilizer[1] | Amount Normally Added (ppm or %) | Duration of Effectiveness (specify units) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate inhibitor and stabilizer:

I = Inhibitor
S = Stabilizer

[ ] Mark (X) this box if you attach a continuation sheet.

## SECTION 5 ENVIRONMENTAL FATE

### PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... NA (1/M cm) at _____ nm

Reaction quantum yield, ϕ ..... _____ at _____ nm

Direct photolysis rate constant, $k_p$, at ... _____ 1/hr _____ latitude

b. Oxidation constants at 25°C:

For $^1O_2$ (singlet oxygen), $k_{ox}$ ..... _____ 1/M hr

For $RO_2$ (peroxy radical), $k_{ox}$ ..... _____ 1/M hr

c. Five-day biochemical oxygen demand, $BOD_5$ ... _____ mg/l

d. Biotransformation rate constant:

For bacterial transformation in water, $k_b$... _____ 1/hr

Specify culture ..... _____

e. Hydrolysis rate constants:

For base-promoted process, $k_B$ ..... _____ 1/M hr

For acid-promoted process, $k_A$ ..... _____ 1/M hr

For neutral process, $k_N$ ..... _____ 1/hr

f. Chemical reduction rate (specify conditions) _____

_____

g. Other (such as spontaneous degradation) ... _____

_____

[ ] Mark (X) this box if you attach a continuation sheet.

## PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

| Media | Half-life (specify units) |
|---|---|
| Groundwater | NA |
| Atmosphere | |
| Surface water | |
| Soil | |

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

| CAS No. | Name | Half-life (specify units) | | Media |
|---|---|---|---|---|
| | | | in | |
| | | | in | |
| | | | in | |
| | | | in | |

5.03 Specify the octanol-water partition coefficient, $K_{ow}$ ... NA at 25°C

Method of calculation or determination ..... _____

5.04 Specify the soil-water partition coefficient, $K_d$ ..... NA at 25°C

Soil type ..... _____

5.05 Specify the organic carbon-water partition coefficient, $K_{oc}$ ..... NA at 25°C

5.06 Specify the Henry's Law Constant, H ..... NA atm-$m^3$/mole

[ ] Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

| Bioconcentration Factor | Species | Test[1] |
|---|---|---|
| NA | | |
| | | |
| | | |

[1]Use the following codes to designate the type of test:

F = Flowthrough
S = Static

[ ] Mark (X) this box if you attach a continuation sheet.

## SECTION 6 ECONOMIC AND FINANCIAL INFORMATION

6.01 Company Type -- Circle the number which most appropriately describes your company.

CBI

[__]

Corporation ..... 1

Sole proprietorship ..... 2

Partnership ..... 3

Other (specify) _____ ..... 4

6.02 At the end of the reporting year, were you constructing additional facilities at this site that were not yet in operation at the end of the reporting year, but which are now being used or will be used in the future for manufacturing, importing, or processing the listed substance? Circle the appropriate response.

CBI

[__] Yes ..... 1

No ..... 2

6.03 List all of the product types that you manufacture that contain the listed substance as a raw material, and the percentage of the name-plate capacity dedicated to the listed substance that each product type represents. The total of all capacity percentiles should equal 100 percent. State the total name-plate capacity of the process type(s) used to manufacture all product types that contain the listed substance.

CBI

[__]

| Product Type | % Total Capacity |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

State the total name-plate capacity of the process type(s) used to manufacture all product types that contain the listed substance: _____ kg/yr

[__] Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of
CBI the listed substance sold or transferred in bulk during the reporting year.

[ ]

| Market | Quantity Sold or Transferred (kg/yr) | Total Sales Value ($/yr) |
|---|---|---|
| Retail sales | | |
| Distribution -- Wholesalers | | |
| Distribution -- Retailers | | |
| Intra-company transfer | | |
| Repackagers | | |
| Mixture producers | | |
| Article producers | | |
| Other chemical manufacturers or processors | | |
| Exporters | | |
| Other (specify) | | |
| | | |

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use
CBI in your current operation, and which results in a final product with comparable performance in its end uses.

[ ]

| Substitute | Cost ($/kg) |
|---|---|
| NA | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

6.06 CBI [__] State your average total and variable costs of manufacturing, importing, and processing the listed substance during the reporting year. (For an explanation of these costs, refer to the instructions.)

Average Total Costs

Manufacturing ..... _____ $/kg

Importing ..... _____ $/kg

Processing ..... _____ $/kg

Average Variable Costs

Manufacturing ..... _____ $/kg

Importing ..... _____ $/kg

Processing ..... _____ $/kg

---

6.07 State your average purchase price of the listed substance, if purchased as a raw material during the reporting year.

CBI

[__] Average purchase price ..... _____ $/kg

---

6.08 CBI [__] State your company's total sales and sales of the listed substance sold in bulk for the reporting year.

Year ending ..... [__][__] Mo. [__][__] Year

Company's total sales ($) ..... _____

Sales of listed substance ($) ..... _____

---

[__] Mark (X) this box if you attach a continuation sheet.

6.09 CBI [__]

State your company's total sales and sales of the listed substance sold in bulk for the corporate fiscal year preceding the reporting year. (Refer to the instructions for question 6.08 for the methodology used to answer this question.)

Year ending ..... [__][__] Mo. [__][__] Year

Company's total sales ($) ..... _____

Sales of listed substance ($) ..... _____

6.10 CBI [__]

State your company's total sales and sales of the listed substance sold in bulk for the 2 corporate fiscal years preceding the reporting year in descending order. (Refer to the instructions for question 6.08 for the methodology used to answer this question.)

Year ending ..... [__][__] Mo. [__][__] Year

Company's total sales ($) ..... _____

Sales of listed substance ($) ..... _____

Year ending ..... [__][__] Mo. [__][__] Year

Company's total sales ($) ..... _____

Sales of listed substance ($) ..... _____

[__] Mark (X) this box if you attach a continuation sheet.

## SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

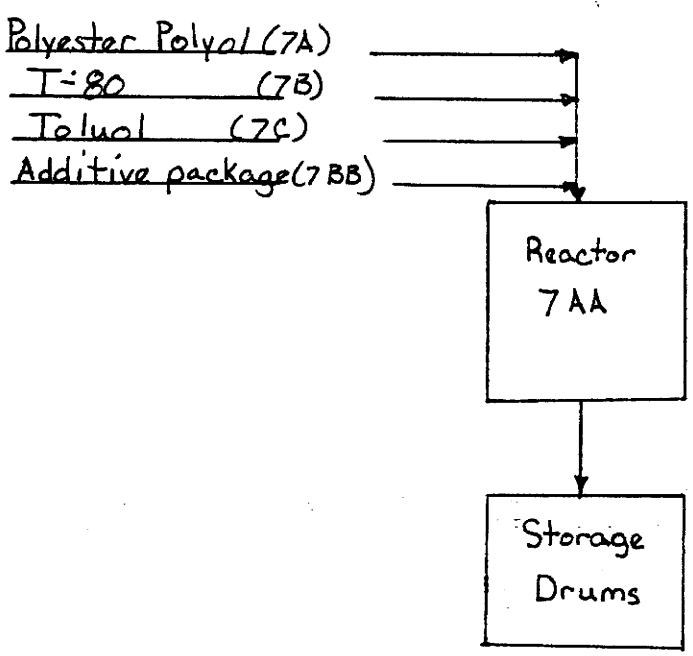
For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

### PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

[ ] Process type ..... Reactor-Solution Polyurethane Polymerization




(7A) 27.4 %
(7B) 8.4 %
(7C) 21.8 %
(7BB) 42.4 %

[ ] Mark (X) this box if you attach a continuation sheet.

7.02 In accordance with the instructions, provide a separate process block flow diagram showing each of the three major (greatest volume) process types involving the listed substance.

CBI

[__] Process type ..... _____

[__] Mark (X) this box if you attach a continuation sheet.

7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

[ ] Process type ..... Reactor Solution Polyurethane Polymerization

Closed Reactor - NO Volatiles

[ ] Mark (X) this box if you attach a continuation sheet.

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

| Unit Operation ID Number | Typical Equipment Type | Operating Temperature Range (°C) | Operating Pressure Range (mm Hg) | Vessel Composition |
|---|---|---|---|---|
| 7AA | Reactor | 70°C | Atmospheric | Stainless Steel |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Reactor-Solution Polyurethane Polymerization

| Process Stream ID Code | Process Stream Description | Physical State[1] | Stream Flow (kg/yr) |
|---|---|---|---|
| 7AA | Reactor | OL | — |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

[1]Use the following codes to designate the physical state for each process stream:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[ ] Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... Reactor-Solution Polyurethane Polymerization

| a. Process Stream ID Code | b. Known Compounds[1] | c. Concentrations[2,3] (% or ppm) | d. Other Expected Compounds | e. Estimated Concentrations (% or ppm) |
|---|---|---|---|---|
| | Polyester Polyol | 27.4 | NA | NA |
| | T-80 | 8.4 | NA | NA |
| | Toluol | 21.8 | NA | NA |
| | Additive package | 42.4 | NA | NA |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

7.06 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

7.06 (continued)

[1]For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

| Additive Package Number | Components of Additive Package | Concentrations (% or ppm) |
|---|---|---|
| 1 | Dimethylformamide | 29.23 % |
| | Dimethylotpropionic Acid | 2.53 % |
| | Ethyl Acetate | 5.40 % |
| 2 | Isopropyl Alcohol | 3.02 % |
| | Triethylamine | 0.64 % |
| | Isophorone Diamine | 3.47 % |
| 3 | Antioxipant | 0.11 % |
| | | |
| | | |
| 4 | | |
| | | |
| | | |
| 5 | | |
| | | |
| | | |

[2]Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

[3]Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

[ ] Mark (X) this box if you attach a continuation sheet.

## SECTION 8 RESIDUAL TREATMENT GENERATION, CHARACTERIZATION, TRANSPORTATION, AND MANAGEMENT

General Instructions:

For questions 8.04-8.06, provide a separate response for each residual treatment block flow diagram provided in question 8.01, 8.02 or 8.03. Identify the process type from which the information is extracted.

For questions 8.05-8.33, the Stream Identification Codes are those process streams listed in either the Section 7 or Section 8 block flow diagrams which contain residuals for each applicable waste management method.

For questions 8.07-8.33, if residuals are combined before they are handled, list those Stream Identification Codes on the same line.

Questions 8.09-8.33 refer to the waste management activities involving the residuals identified in either the Section 7 or Section 8 block flow diagrams. Not all Stream Identification Codes used in the sample answers (e.g., for the incinerator questions) have corresponding process streams identified in the block flow diagram(s). These Stream Identification codes are for illustrative purposes only.

For questions 8.11-8.33, if you have provided the information requested on one of the EPA Office of Solid Waste surveys listed below within the three years prior to your reporting year, you may submit a copy or reasonable facsimile in lieu of answering those questions which the survey addresses. The applicable surveys are: (1) Hazardous Waste Treatment, Storage, Disposal, and Recycling Survey; (2) Hazardous Waste Generator Survey; or (3) Subtitle D Industrial Facility Mail Survey.

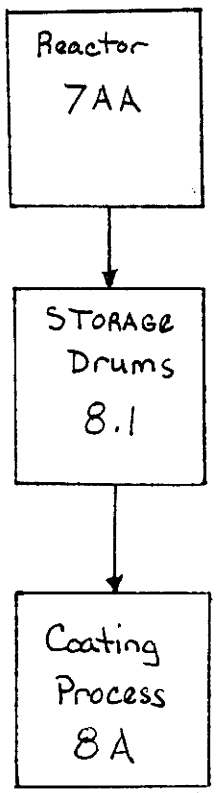
[ ] Mark (X) this box if you attach a continuation sheet.

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization




[ ] Mark (X) this box if you attach a continuation sheet.

8.02 In accordance with the instructions, provide residual treatment block flow diagram(s) which describe each of the treatment processes used for residuals identified in question 7.02.

CBI

[__] Process type ..... _____

[__] Mark (X) this box if you attach a continuation sheet.

8.03 In accordance with the instructions, provide residual treatment block flow diagram(s) which describe each of the treatment processes used for residuals identified in question 7.03.

CBI

[ ] Process type ..... _____

[ ] Mark (X) this box if you attach a continuation sheet.

8.04 Describe the typical equipment types for each unit operation identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[__] Process type ..... _____

| Unit Operation ID Number (as assigned in questions 8.01, 8.02, or 8.03) | Typical Equipment Type |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

[__] Mark (X) this box if you attach a continuation sheet.

PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

| a. Stream ID Code | b. Type of Hazardous Waste[1] | c. Physical State of Residual[2] | d. Known Compounds[3] | e. Concentrations (% or ppm)[4,5,6] | f. Other Expected Compounds | g. Estimated Concentrations (% or ppm) |
|---|---|---|---|---|---|---|
| K | NA | GU | Polyurethane | NA | NA | NA |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

8.05 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

[1]Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

[2]Use the following codes to designate the physical state of the residual:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

---

8.05 continued below

[__] Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

[3]For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

| Additive Package Number | Components of Additive Package | Concentrations (% or ppm) |
|---|---|---|
| 1 | Dimethylformamide | 29.23% |
| | Dimethylotpropionic acid | 2.53% |
| | Ethyl Acetate | 5.40% |
| 2 | Isopropyl Alcohol | 3.02% |
| | Triethylamine | 0.64% |
| | Isophorone Diamine | 3.47% |
| 3 | Antioxipant | 0.11% |
| | | |
| | | |
| 4 | | |
| | | |
| | | |
| 5 | | |
| | | |
| | | |

[4]Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

---

8.05 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

8.05 (continued)

[5]Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

[6]Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

| Code | Method | Detection Limit (± ug/l) |
|---|---|---|
| 1 | Fully Reacted | NA |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

[ ] Mark (X) this box if you attach a continuation sheet.

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

[ ] Process type :..... Reactor- Solution Polyurethane Polymerization

| a. Stream ID Code | b. Waste Description Code[1] | c. Management Method Code[2] | d. Residual Quantities (kg/yr) | e. Management of Residual (%) On-Site | e. Management of Residual (%) Off-Site | f. Costs for Off-Site Management (per kg) | g. Changes in Management Methods |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

[1]Use the codes provided in Exhibit 8-1 to designate the waste descriptions

[2]Use the codes provided in Exhibit 8-2 to designate the management methods

NA Fully Reacted

[ ] Mark (X) this box if you attach a continuation sheet.

## PART C TRANSPORTATION OF RESIDUALS TO OFF-SITE FACILITIES

8.07 Identify any special handling instructions for the residuals identified in your process block or residual treatment block flow diagram(s). (Refer to the instructions for an example.)

CBI

[__]

| Stream ID Code | Special Handling Instructions |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

8.08 Identify those construction materials that are recommended (compatible) for containing or transporting the listed substance, and those materials that you know could cause a dangerous reaction or significant corrosion (incompatible) if they are used to contain or transport the listed substance.

CBI

[__]

| Stream ID Code | Construction Materials | |
|---|---|---|
| | Compatible Containment Materials | Incompatible Containment Materials |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

[__] Mark (X) this box if you attach a continuation sheet.

8.09 Identify each off-site facility (including POTWs) that manages the residuals identified in your process block or residual treatment block flow diagram(s), and the quantity that each managed during the reporting year. Photocopy this question and complete it separately for each off-site facility.

CBI

[__]

| Stream ID Code | Annual Quantity (kg) |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Facility Name [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Address [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
Street

[__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
City

[__][__] [__][__][__][__][__]--[__][__][__][__]
State Zip Code

EPA Identification Number (i.e., Hazardous Waste Facility ID Number) ..... [__][__][__][__][__][__][__][__][__][__][__][__]

[__] Mark (X) this box if you attach a continuation sheet.

PART D ON-SITE RESIDUALS MANAGEMENT INFORMATION

8.10 Identification Permit Numbers -- List any applicable identification or permit numbers for your facility.

EPA National Pollutant Discharge Elimination System
(NPDES) Permit No.(s) ..... _____
(discharges to surface water)

_____

_____

EPA Underground Injection Well
(UIC) Permit No.(s) ..... _____
(underground injection of fluids)

_____

_____

EPA Point Source Discharge
(PSD) Permit No.(s) ..... _____
(air emissions from point sources)

_____

_____

EPA Hazardous Waste Management
Facility Permit No.(s) ..... _____

_____

_____

Other EPA Permits (specify)

_____ ..... _____

_____ ..... _____

_____ ..... _____

[ ] Mark (X) this box if you attach a continuation sheet.

8.11 On-Site Storage or Treatment in Piles -- Complete this table for the five largest (by volume) piles that are used on-site to store or treat the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

| Pile | Quantity Managed per Year (cubic meters) | Under Roofed Structure (Y/N) | Type of Containment Provided[1] | Synthetic Liner Base (Y/N)[2] | Frequency of Transfer and/or Handling Operations[3] | Stream ID Code |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate the type of containment provided:

C = Complete (includes both dike containment and underground (leachate) containment)
P1 = Partial-1 (includes just dike containment)
P2 = Partial-2 (includes just underground (leachate) containment)
N = None

[2]Waste may lie directly on the synthetic liner or the liner may be covered with a clay layer

[3]Use the following codes to designate frequency of transfer and/or handling operations:

A = Daily
B = Weekly
C = Monthly
D = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

8.12 On-Site Storage or Treatment in Tanks -- Complete the following table for the five largest (by volume) tanks that are used on-site to store or treat the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Tank | Design Capacity (liters) | Quantity per Year (liters) | Treat-ment Types[1] | Average Length of Storage (days) | Part of Wastewater Treatment Train (Y/N)[2] | Tank Covered (Y/N) | Type of Containment Provided[3] | Stream ID Code |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Indicate "S" for storage or use the codes provided in Exhibit 8-3 (which follows question 8.13) to designate treatment types

[2]Treatment train from which wastewater is discharged under a NPDES permit or through a sewer system to a publicly owned treatment works

[3]Use the following codes to designate the type of containment provided:

C = Complete (includes both dike containment and underground (leachate) containment)
P1 = Partial-1 (includes just dike containment)
P2 = Partial-2 (includes just underground (leachate) containment)
N = None

[__] Mark (X) this box if you attach a continuation sheet.

8.13 On-Site Storage, Treatment, or Disposal in Containers -- Complete the following table for the five largest (by volume) types of free standing containers that are used on-site to store, treat, or dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Container | Design Capacity (liters) | Quantity Stored per Year (liters) | Treat-ment Types[1] | Average Length of Storage (days) | Average Daily Stored Quantity (liters) | Maximum Operational Storage Capacity (liters) | Storage Base Material[2] | Stream ID Code |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Indicate "S" for storage and use the codes provided in Exhibit 8-3 to designate treatment types

If residual is stored, indicate (Y/N) in parenthesis whether the storage area is designed and operated to collect and contain surface runoff

[2]Use the following codes to designate storage base materials:

A = Concrete
B = Asphalt
C = Soil
D = Other (specify) _____

[__] Mark (X) this box if you attach a continuation sheet.

EXHIBIT 8-3
[REFERS TO QUESTIONS 8.12, 8.13, AND 8.29]

## WASTEWATER TREATMENT TYPES

**WASTEWATER TREATMENT**

**Equalization**
1WT Equalization

**Cyanide oxidation**
2WT Alkaline chlorination
3WT Ozone
4WT Electrochemical
5WT Other cyanide oxidation

**General oxidation (including disinfection)**
6WT Chlorination
7WT Ozonation
8WT UV Radiation
9WT Other general oxidation

**Chemical Precipitation**[1]
10WT Lime
11WT Sodium hydroxide
12WT Soda ash
13WT Sulfide
14WT Other chemical precipitation

**Chromium reduction**
15WT Sodium bisulfite
16WT Sulfur dioxide
17WT Ferrous sulfate
18WT Other chromium reduction

**Complexed metals treatment (other than chemical precipitation by pH adjustment)**
19WT Complexed metals treatment

**Emulsion breaking**
20WT Thermal
21WT Chemical
22WT Other emulsion breaking

**Adsorption**
23WT Carbon adsorption
24WT Ion exchange
25WT Resin adsorption
26WT Other adsorption

**Stripping**
27WT Air stripping
28WT Steam stripping
29WT Other stripping

**Evaporation**
30WT Thermal
31WT Solar
32WT Vapor recompression
33WT Other evaporation

**Filtration**
34WT Diatomaceous earth
35WT Sand
36WT Multimedia
37WT Other filtration

**Sludge dewatering**
38WT Gravity thickening
39WT Vacuum filtration
40WT Pressure filtration (belt, plate and frame, or leaf)
41WT Centrifuge
42WT Other sludge dewatering

**Air flotation**
43WT Dissolved air flotation
44WT Partial aeration
45WT Air dispersion
46WT Other air flotation

**Oil skimming**
47WT Gravity separation
48WT Coalescing plate separation
49WT Other oil skimming

**Other liquid phase separation**
50WT Decanting
51WT Other liquid phase separation

**Biological treatment**
52WT Activated sludge
53WT Fixed film--trickling filter
54WT Fixed film--rotating contactor
55WT Lagoon or basin, aerated
56WT Lagoon, facultative
57WT Anaerobic
58WT Other biological treatment

**Other wastewater treatment**
59WT Wet air oxidation
60WT Neutralization
61WT Nitrification
62WT Denitrification
63WT Flocculation and/or coagulation
64WT Settling (clarification)
65WT Reverse osmosis
66WT Other wastewater treatment

---

[1] Chemical precipitation is a treatment operation whereby the pH of a waste is adjusted to the range necessary for removal (precipitation) of contaminants. However, if the pH is adjusted solely to achieve a neutral pH, THE OPERATION SHOULD BE CONSIDERED NEUTRALIZATION (60WT).

8.14 On-Site Burning in Boilers -- Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Boiler | Boiler Type[1] | Average Boiler Load[2] (%) | Average Fuel Replacement Ratio[3] (%) | Stream ID Code |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate boiler type:

F = Fire tube
W = Water tube

[2]Designate the average boiler load when firing residual (percent of capacity)

[3]Designate the average fuel replacement ratio as a percentage (heat-input basis)

[__] Mark (X) this box if you attach a continuation sheet.

8.15 Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Boiler | Boiler Heat Capacity (heat input in kJ/hr) | Primary Boiler Fuel[1] |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate the primary boiler fuel:

A = Oil
B = Gas
C = Coal
D = Wood
E = Other (specify) _____

[__] Mark (X) this box if you attach a continuation sheet.

8.16 Provide the following information for the residuals identified in your process block or residual treatment block flow diagram(s) that are burned in on-site boilers. Photocopy this question and complete it separately for each boiler.

CBI

[__] Boiler number ..... _____

Stream ID code(s) ..... _____

| | Residual, as Fired (or residual mixture if residuals are blended) | Boiler Fuel, as Fired (residual(s) plus primary fuel) |
|---|---|---|
| Btu content (J/kg) | | |
| Average | _____ | _____ |
| Minimum | _____ | _____ |
| Total halogen content (% by wt.) | | |
| Average | _____ | _____ |
| Maximum | _____ | _____ |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[__] Mark (X) this box if you attach a continuation sheet.

8.17 Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

| Boiler | Stream ID Code | Listed Metal[1] | Total Metal Content (% by weight) Avg. | Max. |
|---|---|---|---|---|
| 1 | | | | |
| | | | | |
| | | | | |
| 2 | | | | |
| | | | | |
| | | | | |
| 3 | | | | |
| | | | | |
| | | | | |
| 4 | | | | |
| | | | | |
| | | | | |
| 5 | | | | |
| | | | | |
| | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of respons by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]A listed metal is either an EP toxic metal or a metal that is included on the California List (as defined in section 3004(d)(2) of the Resource Conservation and Recovery Act)

[ ] Mark (X) this box if you attach a continuation sheet.

8.18 Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

| Boiler | Air Pollution Control Device[1] | Types of Emissions Data Available |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)
E = Electrostatic precipitator
O = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

8.19 Stack Parameters -- Provide the following information for each of the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each boiler.

CBI

[__] Boiler number ..... _____

Stack height ..... _____ m

Stack inner diameter (at outlet) ..... _____ m

Exhaust temperature ..... _____ °C

Vertical or horizontal stack ..... _____ (V or H)

Annual emissions for the listed substance ..... _____ kg/yr

Height of attached or adjacent building ..... _____ m

Width of attached or adjacent building ..... _____ m

Building cross-sectional area ..... _____ $m^2$

Emission exit velocity ..... _____ m/sec

Average emission rate of exit stream ..... _____ kg/min

Maximum emission rate of exit stream ..... _____ kg/min

Average duration of maximum emission rate of exit stream . _____ min

Frequency of maximum emission rate of exit stream ..... _____ times/year

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[__] Mark (X) this box if you attach a continuation sheet.

8.20 On-Site Burning in Incinerators -- Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

| Incinerator | Incinerator Type[1] | Primary Incinerator Fuel[2] | Average Fuel Replacement Ratio[3] | Stream ID Code |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate the incinerator type:

1I = Liquid injection
2I = Rotary or rocking kiln
3I = Rotary kiln with a liquid injection unit
4I = Two stage
5I = Fixed hearth
6I = Multiple hearth
7I = Fluidized bed
8I = Infrared
9I = Fume/vapor
10I = Pyrolytic destructor
11I = Other (specify) _____

[2]Use the following codes to designate the primary incinerator fuel:

A = Oil
B = Gas
C = Coal
D = Wood
E = Other (specify) _____

[3]Designate the percentage of auxiliary fuel used when firing residual (percent of capacity)

[ ] Mark (X) this box if you attach a continuation sheet.

8.21 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Incinerator | Incinerator Heat Capacity (heat input in kJ/hr) | Feed Type[1] |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate feed type:

A = Liquid nozzle type (specify) _____
B = Atomizing pressure (specify) _____
C = Solid-batch charge
D = Solid-continuous charge

[__] Mark (X) this box if you attach a continuation sheet.

8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Incinerator | Combustion Chamber Temperature (°C) | | Location of Temperature Monitor | | Residence Time In Combustion Chamber (seconds) | |
|---|---|---|---|---|---|---|
| | Primary | Secondary | Primary | Secondary | Primary | Secondary |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Incinerator | Air Pollution Control Device[1] | Types of Emissions Data Available |
|---|---|---|
| 1 | NA | |
| 2 | | |
| 3 | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)
E = Electrostatic precipitator
O = Other (specify) _____

---

[__] Mark (X) this box if you attach a continuation sheet.

8.24 Stack Parameters -- Provide the following information on stack parameters for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI Photocopy this question and complete it separately for each incinerator.

[__] Incinerator number ..... _____

Stack height ..... _____ m

Stack inner diameter (at outlet) ..... _____ m

Exhaust temperature ..... _____ °C

Vertical or horizontal stack ..... _____ (V or H)

Annual emissions for the listed substance ..... _____ kg/yr

Height of attached or adjacent building ..... _____ m

Width of attached or adjacent building ..... _____ m

Building cross-sectional area ..... _____ $m^2$

Emission exit velocity ..... _____ m/sec

Average emission rate of exit stream ..... _____ kg/min

Maximum emission rate of exit stream ..... _____ kg/min

Average duration of maximum emission rate of exit stream . _____ min

Frequency of maximum emission rate of exit stream ..... _____ times/year

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[__] Mark (X) this box if you attach a continuation sheet.

8.25 Provide the following information on the incinerator feed for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each incinerator.

CBI

[__] Incinerator number ..... _____

Stream ID code(s) ..... _____

| | Residual, as Fired (or residual mixture if residuals are blended) | Incinerator Fuel, as Fired (residual(s) plus primary fuel) |
|---|---|---|
| Btu content (J/kg) | | |
| Average | _____ | _____ |
| Minimum | _____ | _____ |
| Feed rate (kg/hr) | _____ | _____ |
| Feed rate (J/hr)(kg/hr x J/kg) | _____ | _____ |
| Total halogen content (% by weight) | | |
| Average | _____ | _____ |
| Maximum | _____ | _____ |
| Total ash content (% by weight) | | |
| Average | _____ | _____ |
| Maximum | _____ | _____ |
| Total water content (% by weight) | | |
| Average | _____ | _____ |
| Maximum | _____ | _____ |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[__] Mark (X) this box if you attach a continuation sheet.

8.26 Provide the following information on the incinerator feed for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

| Incinerator | Stream ID Code | Listed Metal[1] | Total Metal Content (% by weight) Avg. | Max. |
|---|---|---|---|---|
| 1 | | | | |
| | | | | |
| | | | | |
| 2 | | | | |
| | | | | |
| | | | | |
| 3 | | | | |
| | | | | |
| | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1] A listed metal is either an EP toxic metal or a metal that is included on the California List (as defined in section 3004(d)(2) of the Resource Conservation and Recovery Act)

[ ] Mark (X) this box if you attach a continuation sheet.

8.27 On-Site Storage, Treatment or Disposal in a Land Treatment Site -- Complete the following table for each on-site land treatment site that is used to store, treat, or dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__] Total area actively used for land treatment ..... _____ $m^2$

Average slope of site (degree incline) ..... _____

Surface water runoff management[1] ..... _____

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to describe the management practices for surface water runoff:

A = Collection prior to treatment
B = Reapplication to the site
C = Canalization prior to treatment
D = Other (specify) _____

[__] Mark (X) this box if you attach a continuation sheet.

8.28 Complete the following table for the residuals identified in your process block or residual treatment block flow diagram(s) that are managed in an on-site land treatment operation.

CBI

[__]

| Stream ID Code | Year Land Treatment Initiated | Methods Used to Apply Residuals[1] | Application Rate[2] |
|---|---|---|---|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to describe the method(s) used to apply residuals to the land treatment site:

A = Surface spreading or spray irrigation without plow or disc incorporation
B = Surface spreading or spray irrigation with plow or disc incorporation to a depth of _____cm
C = Subsurface injection to a depth of _____cm
D = Other (specify) _____

[2]Use the following codes to designate the application rate:

A = Daily
B = Weekly
C = Monthly
D = Other (specify) _____

[__] Mark (X) this box if you attach a continuation sheet.

8.29 On-Site Storage, Treatment, or Disposal in Surface Impoundments -- Complete the following table for the five largest (by volume) surface impoundments that are used on-site to treat, store, or dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Impoundment | Total Capacity (liters) | Specify Storage, Disposal or Treatment Type if Applicable[1] | Average Residency Time (days)[2] | SYNTHETIC LINER No. of Liners | SYNTHETIC LINER Thickness (cm)[3] | CLAY LINER No. of Liners | CLAY LINER Thickness (cm)[3] | LEACHATE COLLECTION SYSTEM Installed (Y/N) | LEACHATE COLLECTION SYSTEM Leachate Collected (Y/N) | Stream ID Code |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Indicate "S" for storage, "D" for disposal, or use the codes provided in Exhibit 8-3 (which follows question 8.13) to designate treatment type

[2]Indicate the residency time for the surface impoundment's flow through stream. In addition, indicate in parenthesis using the following codes the frequency with which the impoundment is dredged to clear the residue that collects on the bottom:

A = Daily
B = Weekly
C = Monthly
D = Other (specify) _____

[3]Indicate the thickness of each liner

[__] Mark (X) this box if you attach a continuation sheet.

8.30 On-Site Disposal in Landfill Cells -- Complete the following table for the five largest (by volume) landfill cells that are used on-site to dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Landfill Cell | Quantity per year (kg) | DRAINAGE LAYER Installed (Y/N) | DRAINAGE LAYER Thickness (cm) | CLAY LINER No. of Liners | CLAY LINER Thickness (cm)[1] | SYNTHETIC LINER No. of Liners | SYNTHETIC LINER Material | SYNTHETIC LINER Thickness (cm)[1] | Stream ID Code |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

[1]Indicate the thickness of each liner

[__] Mark (X) this box if you attach a continuation sheet.

8.31 State the total area actively used on-site for your landfill.

CBI

[__] Total area actively used ..... _____ $m^2$

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

8.32 Complete the following table for the five largest landfill cells (by volume) that contain residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Landfill Cell | WORKING COVER | | CAP DESIGN CLAY LAYER | | LEACHATE COLLECTION SYSTEM | |
|---|---|---|---|---|---|---|
| | Average Use[1] | Thickness (cm) | Installed (Y/N) | Thickness (cm) | Installed (Y/N) | Leachate Collected (Y/N) |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No .....

---

[1]Use the following codes to designate the average use rate:

A = Daily
B = Weekly
C = Monthly
D = Other (specify) _____

---

[__] Mark (X) this box if you attach a continuation sheet.

8.33 On-Site Disposal in Injection Wells -- Complete the following table for the five largest (by volume) injection wells that are used on-site to dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[__]

| Well | Well Type[1] | Quantity Disposed (liters)[2] | Stream ID Code |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

---

[1]Use the following codes to designate well type:

A = Wells that dispose below deepest groundwater with <10,000 mg/l of total dissolved solids
B = Wells that dispose into a formation containing groundwater with <10,000 mg/l of total dissolved solids
C = Wells that dispose above all groundwater
D = Other (specify) _____

[2]Indicate the quantity of listed substance disposed

[__] Mark (X) this box if you attach a continuation sheet.

## SECTION 9 WORKER EXPOSURE

General Instructions:

Questions 9.03-9.25 apply only to those processes and workers involved in manufacturing or processing the listed substance. Do not include workers involved in residual waste treatment unless they are involved in this treatment process on a regular basis (i.e., exclude maintenance workers, construction workers, etc.).

[__] Mark (X) this box if you attach a continuation sheet.

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

[ ]

| Data Element | Data are Maintained for: Hourly Workers | Salaried Workers | Year in Which Data Collection Began | Number of Years Records Are Maintained |
|---|---|---|---|---|
| Date of hire | X | X | 1964 | 25 |
| Age at hire | X | X | 1964 | 25 |
| Work history of individual before employment at your facility | X | X | 1964 | 25 |
| Sex | X | X | 1964 | 25 |
| Race | NA | NA | NA | NA |
| Job titles | NA | X | 1964 | 25 |
| Start date for each job title | NA | NA | NA | NA |
| End date for each job title | NA | NA | NA | NA |
| Work area industrial hygiene monitoring data | NA | NA | NA | NA |
| Personal employee monitoring data | NA | NA | NA | NA |
| Employee medical history | NA | NA | NA | NA |
| Employee smoking history | NA | NA | NA | NA |
| Accident history | X | X | 1971 | 18 |
| Retirement date | X | X | 1974 | 15 |
| Termination date | X | X | 1974 | 15 |
| Vital status of retirees | NA | NA | NA | NA |
| Cause of death data | NA | NA | NA | NA |

[ ] Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

[ ]

| a. Activity | b. Process Category | c. Yearly Quantity (kg) | d. Total Workers | e. Total Worker-Hours |
|---|---|---|---|---|
| Manufacture of the listed substance | Enclosed | | | |
| | Controlled Release | | | |
| | Open | | | |
| On-site use as reactant | Enclosed | 16,786 | 3 | 120 |
| | Controlled Release | | | |
| | Open | | | |
| On-site use as nonreactant | Enclosed | | | |
| | Controlled Release | | | |
| | Open | | | |
| On-site preparation of products | Enclosed | | | |
| | Controlled Release | | | |
| | Open | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

[ ]

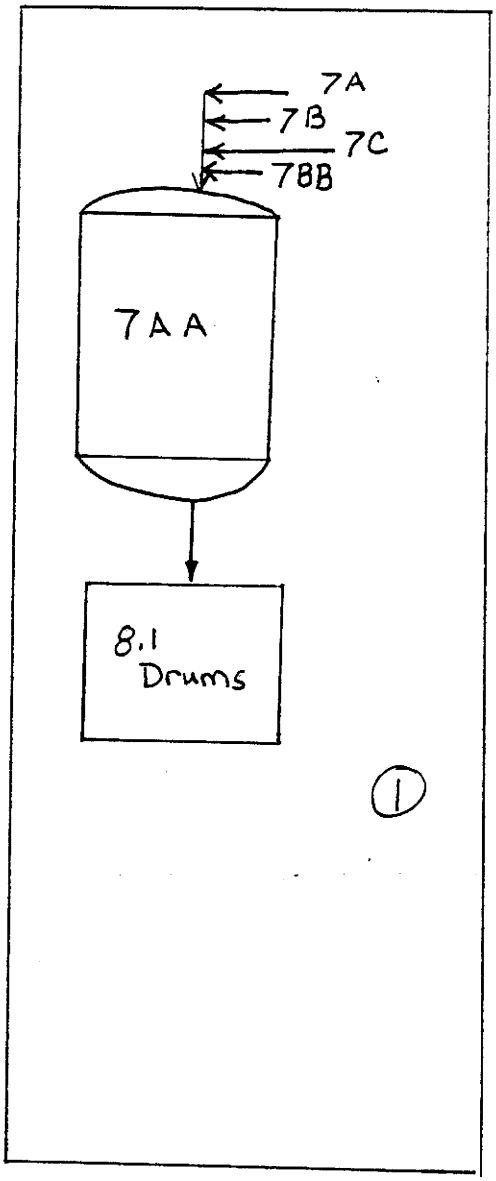
| Labor Category | Descriptive Job Title |
|---|---|
| A | Technical Director |
| B | Chemical Operator |
| C | |
| D | |
| E | |
| F | |
| G | |
| H | |
| I | |
| J | |

[ ] Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization




[ ] Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Reactor Solution Polyurethane Polymerization

| Work Area ID | Description of Work Areas and Worker Activities |
|---|---|
| 1 | Supervises Operation, |
| 2 | Charge Reactor, Monitor Reaction, and Barrel Product. |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

[ ] Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

Work area ..... 1

| Labor Category | Number of Workers Exposed | Mode of Exposure (e.g., direct skin contact) | Physical State of Listed Substance[1] | Average Length of Exposure Per Day[2] | Number of Days per Year Exposed |
|---|---|---|---|---|---|
| A & B | 3 | Inhalation | AK | B | 5 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

[1]Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure; includes fumes, vapors, etc.)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

[2]Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
B = Greater than 15 minutes, but not exceeding 1 hour
C = Greater than one hour, but not exceeding 2 hours
D = Greater than 2 hours, but not exceeding 4 hours
E = Greater than 4 hours, but not exceeding 8 hours
F = Greater than 8 hours

[ ] Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

Work area .....

| Labor Category | 8-hour TWA Exposure Level (ppm, mg/m$^3$, other-specify) | 15-Minute Peak Exposure Level (ppm, mg/m$^3$, other-specify) |
|---|---|---|
| A & B | NA | NA |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

[ ] Mark (X) this box if you attach a continuation sheet.

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

[ ]

| Sample/Test | Work Area ID | Testing Frequency (per year) | Number of Samples (per test) | Who Samples[1] | Analyzed In-House (Y/N) | Number of Years Records Maintained |
|---|---|---|---|---|---|---|
| Personal breathing zone | NA | | | | | |
| General work area (air) | NA | | | | | |
| Wipe samples | NA | | | | | |
| Adhesive patches | NA | | | | | |
| Blood samples | NA | | | | | |
| Urine samples | NA | | | | | |
| Respiratory samples | NA | | | | | |
| Allergy tests | NA | | | | | |
| Other (specify) | | | | | | |
| Other (specify) | | | | | | |
| Other (specify) | | | | | | |

[1]Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist
B = Insurance carrier
C = OSHA consultant
D = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

CBI

[ ]

| Sample Type | Sampling and Analytical Methodology |
|---|---|
| NA | |
| | |
| | |
| | |
| | |

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

[ ]

| Equipment Type[1] | Detection Limit[2] | Manufacturer | Averaging Time (hr) | Model Number |
|---|---|---|---|---|
| NA | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

[1]Use the following codes to designate personal air monitoring equipment types:

A = Passive dosimeter
B = Detector tube
C = Charcoal filtration tube with pump
D = Other (specify) _____

Use the following codes to designate ambient air monitoring equipment types:

E = Stationary monitors located within work area
F = Stationary monitors located within facility
G = Stationary monitors located at plant boundary
H = Mobile monitoring equipment (specify) _____
I = Other (specify) _____

[2]Use the following codes to designate detection limit units:

A = ppm
B = Fibers/cubic centimeter (f/cc)
C = Micrograms/cubic meter ($\mu/m^3$)

[ ] Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

| [ ] Test Description | Frequency (weekly, monthly, yearly, etc.) |
|---|---|
| NA | |
| | |
| | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

Work area ..... 1

| Engineering Controls | Used (Y/N) | Year Installed | Upgraded (Y/N) | Year Upgraded |
|---|---|---|---|---|
| Ventilation: | | | | |
| Local exhaust | Y | 1976 | Y | 1988 |
| General dilution | | | | |
| Other (specify) | | | | |
| | | | | |
| Vessel emission controls | | | | |
| Mechanical loading or packaging equipment | | | | |
| Other (specify) | | | | |
| | | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type :..... Reactor - Solution Polyurethane Polymerization

Work area ..... 1

| Equipment or Process Modification | Reduction in Worker Exposure Per Year (%) |
|---|---|
| Installed Large Exhaust Fan | NA |
| | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

Work area ..... 1

| Equipment Types | Wear or Use (Y/N) |
|---|---|
| Respirators | Y |
| Safety goggles/glasses | Y |
| Face shields | Y |
| Coveralls | Y |
| Bib aprons | Y |
| Chemical-resistant gloves | Y |
| Other (specify) | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

| Work Area | Respirator Type | Average Usage[1] | Fit Tested (Y/N) | Type of Fit Test[2] | Frequency of Fit Tests (per year) |
|---|---|---|---|---|---|
| 1 | Paint Spray #10180 | A | Y | QL | 4 |
| | | | | | |
| | | | | | |
| | | | | | |

Note: All respirator are MSHA/NIOSH approved

[1]Use the following codes to designate average usage:

A = Daily
B = Weekly
C = Monthly
D = Once a year
E = Other (specify) _____

[2]Use the following codes to designate the type of fit test:

QL = Qualitative
QT = Quantitative

[ ] Mark (X) this box if you attach a continuation sheet.

9.16 Respirator Maintenance Program -- For each type of respirator used when working with the listed substance, specify the frequency of the maintenance activity, and the person who performs the maintenance activity. Photocopy this question and complete it separately for each respirator type.

Respirator type ..... _____

| Respirator Maintenance Activity | Frequency[1] | Person Performing Activity[2] |
|---|---|---|
| Cleaning | _____ | _____ |
| Inspection | _____ | _____ |
| Replacement | | |
| Cartridge/Canister | _____ | _____ |
| Respirator unit | _____ | _____ |

[1]Use the following codes to designate the frequency of maintenance activity:

A = After each use
B = Weekly
C = Other (specify) _____

[2]Use the following codes to designate who performs the maintenance activity:

A = Plant industrial hygienist
B = Supervisor
C = Foreman
D = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

9.17 Respirator Training Program -- Describe your respirator training and re-training programs for each type of respirator used when working with the listed substance. Photocopy this question and complete it separately for each respirator type.

a.

Respirator type ..... _____

| Type of Training[1] | Number of Workers Trained | Location of Training[2] | Length of Training (hrs) | Person Performing Training[3] | Frequency[4] |
|---|---|---|---|---|---|
| | | | | | |

b.

Respirator type ..... _____

| Type of Re-training[1] | Number of Workers Re-trained | Location of Re-Training[2] | Length of Re-Training (hrs) | Person Performing Re-Training[3] | Frequency[4] |
|---|---|---|---|---|---|
| | | | | | |

---

[1]Use the following codes to designate the type of training or re-training:

E = Emergency
R = Routine

[2]Use the following codes to designate the location of training or re-training:

A = Outside plant instruction
B = In-house classroom instruction
C = On-the-job
D = Other (specify) _____

[3]Use the following codes to designate the person who performs the training or re-training:

A = Plant industrial hygienist
B = Supervisor
C = Foreman
D = Other (specify) _____

[4]Use the following codes to designate the frequency of respirator training or re-training:

A = Monthly
B = Fixed monthly
C = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

9.18 For each type of personal protective clothing and safety equipment used when working with the listed substance, indicate whether you have conducted a permeation test on the clothing or equipment for the listed substance.

| Clothing and Equipment | Permeation Tests Conducted (Y/N) |
|---|---|
| Coveralls | |
| Bib apron | |
| Gloves | |
| Other (specify) | |
| | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

PART E WORK PRACTICES

9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

Work area ..... 1

Restrict Area

Warning Signs

Worker Training Programs

9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... Reactor - Solution Polyurethane Polymerization

Work area ..... 1

| Housekeeping Tasks | Less Than Once Per Day | 1-2 Times Per Day | 3-4 Times Per Day | More Than 4 Times Per Day |
|---|---|---|---|---|
| Sweeping | | X | | |
| Vacuuming | | | | |
| Water flushing of floors | | | | |
| Other (specify) | | | | |
| | | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes ..... 1

No ..... 2

Emergency exposure

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained?

Routine exposure: _____

Emergency exposure: _____

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... (1)

No ..... 2

If yes, where are copies of the plan maintained? Safety Engineer's office

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes ..... 1

No ..... (2)

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) _____ ..... 4

[ ] Mark (X) this box if you attach a continuation sheet.

9.24 Who is responsible for safety and health training at your facility? Circle the appropriate response.

Plant safety specialist ..... 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) _____ ..... 4

9.25 Who is responsible for the medical program at your facility? Circle the appropriate response.

Plant physician ..... 1

Consulting physician ..... 2

Plant nurse ..... 3

Consulting nurse ..... 4

Other (specify) _____ ..... 5

[ ] Mark (X) this box if you attach a continuation sheet.

## SECTION 10 ENVIRONMENTAL RELEASE

General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

### PART A GENERAL INFORMATION

10.01 Where is your facility located? Circle all appropriate responses.

CBI

[__] Industrial area ..... 1

Urban area ..... 2

Residential area ..... 3

Agricultural area ..... 4

Rural area ..... 5

Adjacent to a park or a recreational area ..... 6

Within 1 mile of a navigable waterway ..... 7

Within 1 mile of a school, university, hospital, or nursing home facility ..... 8

Within 1 mile of a non-navigable waterway ..... 9

Other (specify) _____ ..... 10

[__] Mark (X) this box if you attach a continuation sheet.

10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... 42 ° 56 ' ____ "

Longitude ..... 74 ° 10 ' ____ "

UTM coordinates ..... Zone _____, Northing _____, Easting _____

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation ..... _____ inches/year

Predominant wind direction ..... _____

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater ..... _____ meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of Y, N, and NA.)

CBI

[ ]

| On-Site Activity | Environmental Release Air | Water | Land |
|---|---|---|---|
| Manufacturing | | | |
| Importing | | | |
| Processing | N | N | N |
| Otherwise used | | | |
| Product or residual storage | | | |
| Disposal | | | |
| Transport | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

[ ]

Quantity discharged to the air ..... NA kg/yr ± ___ %

Quantity discharged in wastewaters ..... _____ kg/yr ± ___ %

Quantity managed as other waste in on-site treatment, storage, or disposal units ..... _____ kg/yr ± ___ %

Quantity managed as other waste in off-site treatment, storage, or disposal units ..... _____ kg/yr ± ___ %

Closed Reactor

[ ] Mark (X) this box if you attach a continuation sheet.

10.07 Complete the following table for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

[__]

Process type ..... _____

| Process Stream ID Code | Media Affected[1] | Average Amount of Listed Substance Released[2] | Number of Batches/Year | Days of Operation/ Year |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

[1]Use the following codes to designate the media affected:

A = Air
B = Land
C = Groundwater
D = POTW
E = Navigable waterway
F = Non-navigable waterway
G = Other (specify) _____

[2]Specify the average amount of listed substance released to the environment and use the following codes to designate the units used to measure the release:

A = kg/day
B = kg/batch

[__] Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

| Stream ID Code | Control Technology | Percent Efficiency |
|---|---|---|
| 7B | Closed Reactor | 100% |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

[ ] Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

[ ]

Process type ..... Reactor - Solution Polyurethane Polymerization

| Point Source ID Code | Description of Emission Point Source |
|---|---|
| | NA |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics - - Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

| [ ] Point Source ID Code | Physical State[1] | Average Emissions (kg/day) | Frequency[2] (days/yr) | Duration[3] (min/day) | Average Emission Factor[4] | Maximum Emission Rate (kg/min) | Maximum Emission Rate Frequency (events/yr) | Maximum Emission Rate Duration (min/event) |
|---|---|---|---|---|---|---|---|---|
| NA | No | Emission | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Use the following codes to designate physical state at the point of release:
G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) _____

[2]Frequency of emission at any level of emission

[3]Duration of emission at any level of emission

[4]Average Emission Factor — Provide estimated (± 25 percent) emission factor (kg of emission per kg of production of listed substance)

[ ] Mark (X) this box if you attach a continuation sheet.

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

[ ]

| Point Source ID Code | Stack Height(m) | Stack Inner Diameter (at outlet) (m) | Exhaust Temperature (°C) | Emission Exit Velocity (m/sec) | Building Height(m)[1] | Building Width(m)[2] | Vent Type[3] |
|---|---|---|---|---|---|---|---|
| NA | No | Emission | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

[1]Height of attached or adjacent building

[2]Width of attached or adjacent building

[3]Use the following codes to designate vent type:

H = Horizontal
V = Vertical

[ ] Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source.

CBI

[ ] Point source ID code ..... No Emission

| Size Range (microns) | Mass Fraction (% ± % precision) |
|---|---|
| < 1 | |
| ≥ 1 to < 10 | |
| ≥ 10 to < 30 | |
| ≥ 30 to < 50 | |
| ≥ 50 to < 100 | |
| ≥ 100 to < 500 | |
| ≥ 500 | |
| | Total = 100% |

[ ] Mark (X) this box if you attach a continuation sheet.

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Reactor - Solution Polyurethane Polymerization

Percentage of time per year that the listed substance is exposed to this process type ..... _____%

| Equipment Type | Number of Components in Service by Weight Percent of Listed Substance in Process Stream: Less than 5% | 5-10% | 11-25% | 26-75% | 76-99% | Greater than 99% |
|---|---|---|---|---|---|---|
| Pump seals[1] | | | | | | |
| Packed | | | 1 | | | |
| Mechanical | | | | | | |
| Double mechanical[2] | | | | | | |
| Compressor seals[1] | | | | | | |
| Flanges | | | | | | |
| Valves | | | | | | |
| Gas[3] | | | | | | |
| Liquid | | | | | | |
| Pressure relief devices[4] (Gas or vapor only) | | | | | | |
| Sample connections | | | | | | |
| Gas | | | | | | |
| Liquid | | | | | | |
| Open-ended lines[5] (e.g., purge, vent) | | | | | | |
| Gas | | | | | | |
| Liquid | | | | | | |

[1]List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

[ ] Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

[2]If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

[3]Conditions existing in the valve during normal operation

[4]Report all pressure relief devices in service, including those equipped with control devices

[5]Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

[ ]

| a. Number of Pressure Relief Devices | b. Percent Chemical in Vessel[1] | c. Control Device | d. Estimated Control Efficiency[2] |
|---|---|---|---|
| 1 | 18 % | Rupture Disc. | 100 % |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

[1]Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

[2]The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

[ ] Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

[__] Process type ..... _____

| Equipment Type | Leak Detection Concentration (ppm or mg/m$^3$) Measured at ____ Inches from Source | Detection Device[1] | Frequency of Leak Detection (per year) | Repairs Initiated (days after detection) | Repairs Completed (days after initiated) |
|---|---|---|---|---|---|
| Pump seals | | | | | |
| Packed | _____ | _____ | _____ | _____ | _____ |
| Mechanical | _____ | _____ | _____ | _____ | _____ |
| Double mechanical | _____ | _____ | _____ | _____ | _____ |
| Compressor seals | _____ | _____ | _____ | _____ | _____ |
| Flanges | _____ | _____ | _____ | _____ | _____ |
| Valves | | | | | |
| Gas | _____ | _____ | _____ | _____ | _____ |
| Liquid | _____ | _____ | _____ | _____ | _____ |
| Pressure relief devices (gas or vapor only) | _____ | _____ | _____ | _____ | _____ |
| Sample connections | | | | | |
| Gas | _____ | _____ | _____ | _____ | _____ |
| Liquid | _____ | _____ | _____ | _____ | _____ |
| Open-ended lines | | | | | |
| Gas | _____ | _____ | _____ | _____ | _____ |
| Liquid | _____ | _____ | _____ | _____ | _____ |

[1]Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer
FPM = Fixed point monitoring
O = Other (specify) _____

[__] Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CBI

[ ]

| Vessel Type[1] | Floating Roof Seals[2] | Composition of Stored Materials[3] | Throughput (liters per year) | Vessel Filling Rate (gpm) | Vessel Filling Duration (min) | Vessel Inner Diameter (m) | Vessel Height (m) | Operating Vessel Volume (l) | Vessel Emission Controls[4] | Design Flow Rate[5] | Vent Diameter (cm) | Control Efficiency (%) | Basis for Estimate[6] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NA | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

[1]Use the following codes to designate vessel type:

F = Fixed roof
CIF = Contact internal floating roof
NCIF = Noncontact internal floating roof
EFR = External floating roof
P = Pressure vessel (indicate pressure rating)
H = Horizontal
U = Underground

[2]Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary
MS2 = Shoe-mounted secondary
MS2R = Rim-mounted, secondary
LM1 = Liquid-mounted resilient filled seal, primary
LM2 = Rim-mounted shield
LMW = Weather shield
VM1 = Vapor mounted resilient filled seal, primary
VM2 = Rim-mounted secondary
VMW = Weather shield

[3]Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

[4]Other than floating roofs

[5]Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

[6]Use the following codes to designate basis for estimate of control efficiency:

C = Calculations
S = Sampling

[ ] Mark (X) this box if you attach a continuation sheet.

## PART D RELEASE TO WATER

10.17 National Pollutant Discharge Elimination System (NPDES) Discharges -- Complete the following information for each body of water NPDES discharges are discharged into. If discharges are to more than one body of water, photocopy this question and complete it separately for each discharge.

CBI

[__]

Discharge source (stream ID code) ..... _____

Is discharge to a moving or standing body of water? Circle the appropriate response.

Moving body of water ..... 1

Standing body of water ..... 2

Estimated average base flow (moving) ..... _____ l/day

Estimated average volume (standing) ..... _____ l

Average volume of discharge from facility ..... _____ l/day

_____ days/year

Maximum volume of discharge from facility ..... _____ l/day

_____ days/year

Average concentration of listed substance in discharge .... _____ mg/l or ppm

Maximum concentration of listed substance in discharge .... _____ mg/l or ppm

10.18 Publicly Owned Treatment Works (POTW) -- Complete the following information for discharges containing the listed substance which are discharged to a POTW from your facility.

CBI

[__] Discharge source (stream ID code) ..... _____

Average volume of discharge from facility ..... _____ l/day

_____ days/year

Maximum volume of discharge from facility ..... _____ l/day

_____ days/year

Average concentration of listed substance in discharge .... _____ mg/l or ppm

Maximum concentration of listed substance in discharge .... _____ mg/l or ppm

[__] Mark (X) this box if you attach a continuation sheet.

10.19 Nonpoint Sources -- Complete the following information for each nonpoint discharge source. Examples of nonpoint sources include stormwater runoff, waste pile runoff, and runoff from product or raw material storage areas or other sources that contain the listed substance and may be discharged to surface water. Exclude NPDES or POTW discharges. If discharges are to more than one body of water, photocopy this question and complete it separately for each discharge.

CBI

[__] Discharge source (stream ID code) ..... _____

Is discharge to a moving or standing body of water? Circle the appropriate response.

Moving body of water ..... 1

Standing body of water ..... 2

Estimated average base flow (moving) ..... _____ l/day

Estimated average volume (standing) ..... _____ l

Average volume of discharge from facility ..... _____ l/day

_____ days/year

Maximum volume of discharge from facility ..... _____ l/day

_____ days/year

Average concentration of listed substance in discharge .... _____ mg/l or ppm

Maximum concentration of listed substance in discharge .... _____ mg/l or ppm

[__] Mark (X) this box if you attach a continuation sheet.

10.20 Releases to Soils -- Complete the following information for up to three random soil core samples that were taken and analyzed for the listed substance during the reporting year. Report the concentrations of the listed substance determined by soil core monitoring studies/tests. Specify the distance from the facility that soil cores were taken, and indicate the soil type and sample depth of the soil cores. (Refer to the glossary for definitions of soil textures given in foo note 2.)

CBI

[__]

| Sample | Concentration (ug/kg) of Listed Substance ( ± % precision) | Distance from Plant (m)[1] | Soil Texture[2] | Sample Depth (cm) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

[1]Use the following code to designate if the sample was taken within the facility's boundary:

OS = On-site

[2]Use the following codes to designate soil texture:

A = Sand
B = Loamy sand
C = Sandy loam
D = Loam
E = Silty loam
F = Silt
G = Sandy clay loam
H = Clay loam
I = Silty clay loam
J = Sandy clay
K = Silty clay
L = Clay

10.21 Releases to Groundwater -- Complete the following information for up to three random samples of groundwater from monitoring wells during the reporting year that were analyzed for the listed substance. The average and maximum concentration refers to the listed substance.

CBI

[__]

| Sample | Distance from Plant (m)[1] | Well Depth (m) | Average Concentration (mg/l) (± % precision) | Maximum Concentration (mg/l) (± % precision) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

[1]Use the following code to designate if the sample was taken within the facility's boundary:

OS = On-site

[__] Mark (X) this box if you attach a continuation sheet.

10.22 Releases to Drinking Water -- Complete the following table for up to three samples from drinking water wells monitored during the reporting year. The average and maximum concentration refers to the listed substance.

CBI

[ ]

| Well | Well Depth (m) | Distance from Plant (m)[1] | Average Concentration (mg/l) (± % precision) | Maximum Concentration (mg/l) (± % precision) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

[1] Use the following code to designate if the sample was taken within the facility's boundary:

OS = On-site

[ ] Mark (X) this box if you attach a continuation sheet.

## PART E NON-ROUTINE RELEASES

10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

| Release | Date Started | Time (am/pm) | Date Stopped | Time (am/pm) |
|---|---|---|---|---|
| 1 | NA | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |

10.24 Specify the weather conditions at the time of each release.

| Release | Wind Speed (km/hr) | Wind Direction | Humidity (%) | Temperature (°C) | Precipitation (Y/N) |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |

[ ] Mark (X) this box if you attach a continuation sheet.

10.25 Complete the following information for each media into which the listed substance was released. Any volatile substance that was released to land, but that was expected to volatilize, should be listed as a release to air.

Release No. ..... _____

| Media | Quantity (kg) | Method of Release | Migration Beyond Boundaries (Y/N) | Quantity Migrated (kg) |
|---|---|---|---|---|
| Land | | | | |
| Air | | | | |
| Groundwater | | | | |
| Surface water | | | | |

10.26 Specify the physical state and concentration of the listed substance at the time and point of release.

Release No. ..... _____

Point of release ..... _____

Physical state ..... _____

Concentration (%) ..... _____

[ ] Mark (X) this box if you attach a continuation sheet.

10.27 Circle all appropriate responses relating to the cause and the effects of the release.

Release No. ..... _____

Cause of Release

Equipment failure ..... 1

Operator error ..... 2

Bypass condition ..... 3

Upset condition ..... 4

Fire ..... 5

Unknown ..... 6

Other (specify) _____ ..... 7

Results of Release

Spill ..... 1

Vapor release ..... 2

Explosion ..... 3

Fire ..... 4

Other (specify) _____ ..... 5

[ ] Mark (X) this box if you attach a continuation sheet.

10.28 Specify which authorities were notified of the release.

Release No. ..... _____

a. Federal

Agency [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Office [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Contact Person [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Address [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
Street

[__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
City

[__][__]
State

Telephone Number ..... [__][__][__]-[__][__][__]-[__][__][__][__]

Date Notified ..... [__][__] [__][__] [__][__]
Mo. Day Year

Time Notified ..... [__][__][__][__] am/pm

b. State

Agency [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Office [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Contact Person [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Address [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
Street

[__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
City

[__][__]
State

Telephone Number ..... [__][__][__]-[__][__][__]-[__][__][__][__]

Date Notified ..... [__][__] [__][__] [__][__]
Mo. Day Year

Time Notified ..... [__][__][__][__] am/pm

10.28 continued below

[__] Mark (X) this box if you attach a continuation sheet.

10.28 (continued)

c. Local

Agency [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Office [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Contact Person [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Address [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
Street

[__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
City

[__][__]
State

Telephone Number ..... [__][__][__]-[__][__][__]-[__][__][__][__]

Date Notified ..... [__][__] [__][__] [__][__]
Mo. Day Year

Time Notified ..... [__][__][__][__] am/pm

10.29 For each of the proximities listed below, indicate whether the population living within that proximity was notified of, or evacuated because of the release. Specify who notified the population, the number of people evacuated, if any, and the date and time of day the evacuation began.

Release No. ..... _____

| Proximity to the Release | Notified of Release (Y/N) | Notifying Person | Notifying Person's Telephone Number | Area Evacuated (Y/N) | Number of Persons Evacuated | Date and Time of Day Evacuation Began |
|---|---|---|---|---|---|---|
| 1/4 mile | | | | | | |
| 1/2 mile | | | | | | |
| 1 mile | | | | | | |
| Other (specify) | | | | | | |

[__] Mark (X) this box if you attach a continuation sheet.

10.30 Specify the number of personal injuries or casualties resulting from the release.

Release No. ..... _____

Number of injuries to facility employees ..... _____

Number of injuries to general population ..... _____

Number of deaths to facility employees ..... _____

Number of deaths to general population ..... _____

10.31 Indicate who conducted cleanup activities, and the dates over which the cleanup was performed.

Release No. ..... _____

Name [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]

Address [__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
Street

[__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__][__]
City

[__][__] [__][__][__][__][__]--[__][__][__][__]
State Zip

Telephone Number ..... [__][__][__]-[__][__][__]-[__][__][__][__]

Date Cleanup Initiated ..... [__][__][__][__]
Mo. Year

Date Cleanup Completed (or expected) ..... [__][__][__][__]
Mo. Year

10.32 Briefly describe the release prevention practices and policies (backup systems, containment systems, training programs, etc.) in place at the facility at the time the release occurred.

Release No. ..... _____

_____

_____

_____

_____

[__] Mark (X) this box if you attach a continuation sheet.

10.33 Indicate which of the prevention practices and policies listed in question 10.32 were ineffective in preventing the release from reaching the environment.

Release No. ..... _____

_____

_____

_____

_____

10.34 Describe all repairs and/or preventive measures (management practices, operational changes, etc.) made to equipment or operations as a result of the release.

Release No. ..... _____

_____

_____

_____

_____

10.35 Describe additional preventive measures that will be taken to minimize the possibilities of recurrence.

Release No. ..... _____

_____

_____

_____

_____

[ ] Mark (X) this box if you attach a continuation sheet.

## APPENDIX I: List of Continuation Sheets

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

| Question Number (1) | Continuation Sheet Page Numbers (2) |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

[ ] Mark (X) this box if you attach a continuation sheet.

## APPENDIX II: Substantiation Form and Instructions to Accompany Claims of Confidentiality Under the Comprehensive Assessment Information Rule (CAIR)

If you assert one or more claims of confidentiality for information submitted on a Comprehensive Assessment Information Rule (CAIR) form, please answer, pursuant to 40 CFR 740.219, all the following questions in the space provided. Type all responses. If you need more space to answer a particular question, please use additional sheets. If you use additional sheets, be sure to include the section, number, and (if applicable) subpart of the question being answered, and write your facility's name and Dun & Bradstreet Number in the lower right-hand corner of each sheet. A completed copy of this form must accompany all submissions containing one or more claims of confidentiality. Failure to do so will result in the waiver of your claim of confidentiality.

EPA has identified six information categories as those which encompass all claims of confidentiality. These are: Submitter identity (h); Substance identity (i); Volume manufactured, imported, or processed (j); Use information (k); Process information (l); and Other information (m). Respondents who assert a CBI claim on the reporting form must mark the letter(s) (h through m) that represent(s) the appropriate category(ies) of confidentiality in the box adjacent to the question, and answer the questions in this form.

Respondents who assert a CBI claim for information submitted under CAIR must also provide EPA with sanitized and unsanitized versions of their submissions. The unsanitized version must be complete and contain all information being claimed as confidential. The sanitized copy must contain only information not claimed as confidential. EPA will place the second copy of the submission in the public file. Failure to submit the second copy of the form at the time the respondent submits the reporting form containing confidential information or after receipt of a notice from EPA thereafter will result in a waiver of the respondent's claim of confidentiality.

---

Please indicate the CAS Registry Number (if known) or chemical name (if the CAS Registry Number is not known) for the substance that is the subject of this form:

_____

If you are reporting on a tradename, please provide the tradename for the substance that is the subject of this form:

_____

Does this form contain CBI? [ ] Yes [ ] No

If the answer to this question is yes, you must bracket the text claimed as CBI. Any unbracketed information may be placed in the public file.

---

[ ] Mark (X) this box if you attach a continuation sheet.

A. All Claims. Respondents who assert any CBI claims must answer the following questions in addition to the appropriate questions from sections B through G, below:

(1) For what period do you assert a claim of confidentiality? If a claim is to extend until a certain event or point in time, please indicate that event or time period. If the period indicated is longer than 2 calendar years, explain why. If different periods of protection are required for different categories of information, please so indicate.

(2) Has the information that you are claiming as confidential been or will it be disclosed to individuals outside your company?

[ ] Yes [ ] No

If so, what, if any, restrictions apply to the use or further disclosure of the information?

(3) Briefly describe the physical and procedural restrictions, if any, within your company on the use and storage of the information you are claiming as confidential. What other steps have you taken to prevent the undesired disclosure of the information by others?

(4) Does the information you are claiming as confidential appear or is it referred to in advertising, promotional, or safety materials for the substance or an end-product containing the substance?

[ ] Yes [ ] No

Does it appear or is it referred to in professional or trade publications?

[ ] Yes [ ] No

If so, indicate why the information should nonetheless be considered confidential.

[ ] Mark (X) this box if you attach a continuation sheet.

(5) If the information you wish to claim as confidential were to be disclosed to the public by EPA, how much difficulty would a new competitor have in entering the market for this substance, considering such constraints as capital and marketing costs, specialized marketing expertise, or unusual production processes?

(6) Has EPA, another Federal agency, or a Federal Court made any pertinent confidentiality determinations for information regarding this substance?

[ ] Yes [ ] No

If so, please identify the entity and provide EPA with copies of such determinations.

B. Submitter Identity (code h). Respondents who assert CBI claims for submitter identity must also answer the following questions:

(1) Approximately how many competitors do you have in the market for this substance or the final product containing this substance?

(2) What harm, if any, would result from EPA's disclosure of the submitter identity? Provide detailed descriptions of both the probable harm from disclosure and the causal relationship between disclosure and harm.

(3) If you have also asserted a claim of confidentiality for substance identity, what harm to your company's competitive position would result from disclosure of your company's identity if the substance identity were to remain confidential?

[ ] Mark (X) this box if you attach a continuation sheet.

C. Substance Identity (code i). Specific substance identity can be claimed as confidential only if that substance identity is confidential for purposes of the TSCA Chemical Substance Inventory. Respondents who assert CBI claims for substance identity must also answer the following questions:

(1) (a) Has the substance been patented or disclosed in a patent in the U.S. or elsewhere?

[ ] Yes [ ] No

If so, indicate the relevant patent(s) and the reasons why the substance identity should nonetheless be considered confidential.

Patent Number: _____

(b) Exactly what information which does not appear in the patent would be disclosed to competitors by releasing the specific substance identity? Explain in detail how competitors could use this information.

(c) Since the patent provides protection for the substance, why are you asserting confidentiality?

(2) (a) In what form (i.e., product, effluent, emission, etc.) does this substance leave your site?

(b) What measures have you taken to guard against the discovery of the substance identity by others?

[ ] Mark (X) this box if you attach a continuation sheet.

(c) If the substance is formulated with other chemicals, list them, and state the concentration of the claimed substance in the mixture.

(3) (a) If the substance leaves the site in a product that is available to the public or your competitors, can the substance be identified by analysis of the product?

[ ] Yes [ ] No

(b) Is it likely that a competitor has attempted or will attempt to chemically analyze the substance?

[ ] Yes [ ] No

(c) Would the cost and difficulty of such analysis be great or small? Why?

(4) What harm, if any, would result from EPA's public disclosure of the specific chemical identity? Provide detailed descriptions of both the probable harm to your company from disclosure and the causal relationship between release and harm.

(5) Would public disclosure of the specific chemical identity reveal to your competitors the use of the substance or the process by which this substance is manufactured?

[ ] Mark (X) this box if you attach a continuation sheet.

D. Volume Manufactured, Imported, or Processed (code j). Respondents who assert CBI claims for volume manufactured, imported, or processed must also answer the following questions:

(1) If you have also claimed submitter's name as confidential and EPA keeps confidential the link between your company identity and the volume manufactured, imported, or processed, your identity will not be associated in any way with that volume. In this case, what harm to your company's competitive position would result from disclosing that volume? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

(2) If you have also claimed substance identity as confidential and EPA keeps confidential the link between the substance identity and the volume manufactured, imported, or processed, the substance identity will not be associated in any way with that volume. In this case, what harm to your company's competitive position would result from disclosing that volume? How could a competitor use that information? What is the causal relationship between the disclosure and the harm?

(3) If you have claimed neither submitter nor substance identity as confidential, what harm, if any, would result from release of your volume manufactured, imported, or processed? Provide a detailed description of both the harm and the causal relationship between disclosure and harm.

E. Use Information (code k). Respondents who assert CBI claims for use information must also answer the following questions:

(1) If you have also claimed submitter identity as confidential and EPA keeps confidential the link between your company identity and the use data, your identity will not be associated in any way with the use data. In this case, what harm to your competitive position would result from disclosing the use data? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

[__] Mark (X) this box if you attach a continuation sheet.

(2) If you have also claimed substance identity as confidential and EPA keeps confidential the link between the substance identity and the use data, the substance identity will not be associated in any way with the use data. In this case, what harm to your company's competitive position would result from disclosing the use data? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

(3) If you have claimed neither submitter nor substance identity as confidential, what harm, if any, would result from release of your use information? Provide a detailed description of both the harm and the causal relationship between disclosure and harm.

F. Process information (code 1). Respondents who assert CBI claims for process information must also answer the following questions:

(1) If you have also claimed submitter identity as confidential and EPA keeps confidential the link between your company identity and process information, your identity will not be associated in any way with this information. In this case, what harm to your competitive position would result from disclosing the process information? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

(2) If you have also claimed substance identity as confidential and EPA keeps confidential the link between the substance identity and the process information, the substance identity will not be associated in any way with the process information. In this case, what harm to your company's competitive position would result from disclosing the process information? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

[ ] Mark (X) this box if you attach a continuation sheet.

(3) If you claimed neither submitter nor substance identity as confidential, what harm, if any, would result from release of your process information? Provide a detailed description of both the harm and the causal relationship between the disclosure and the harm.

G. Other information (code m). Respondents who assert CBI claims using the "other information" category, must also answer the following questions:

(1) Is the item confidential in and of itself, or is it confidential because it will reveal some other confidential information, whether or not that other information is reported on this form? If the latter, what is the information that will be revealed, and how would disclosure of the item in turn lead to disclosure of the other information?

(2) Describe with specificity the harm to your company's competitive position which would result from disclosing the information.

(3) If you have also claimed submitter identity as confidential and EPA keeps confidential the link between your company identity and this information, your identity will not be associated in any way with the item claimed. In this case, what harm to your competitive position would result from disclosing the item? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

(4) If you have also claimed substance identity as confidential and EPA keeps confidential the link between the substance identity and the item, the substance identity (other than category name) will not be associated in any way with the item claimed. In this case, what harm to your company's competitive position would result from disclosing the item? How could a competitor use this information? What is the causal relationship between the disclosure and the harm?

[ ] Mark (X) this box if you attach a continuation sheet.

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

| NAME | SIGNATURE | DATE SIGNED |
|---|---|---|

| TITLE | (_____) _____ - _____ TELEPHONE NO. |
|---|---|

[__] Mark (X) this box if you attach a continuation sheet.

BEST COPY AVAILABLE

# MATERIAL SAFETY DATA SHEET

BASF Corporation Chemicals Division
100 Cherry Hill Road, Parsippany, New Jersey 07054, (201) 316-3000

HMIS: H4 F1 R1

BASF

PRODUCT NUMBER: 585621 LUPRANATE* T80-Type 1

## SECTION I

*Registered Trademark

TRADE NAME: LUPRANATE* T80-Type 1

CHEMICAL NAME: Toluene Diisocyanate

SYNONYMS: TDI; Tolylene Diisocyanate

FORMULA: $CH_3C_6H_3(NCO)_2$

CHEMICAL FAMILY: Aromatic Isocyanates

MOL. WGT.: 174.16

## SECTION II - INGREDIENTS

| COMPONENT | CAS NO. | % | PEL/TLV - SOURCE |
|---|---|---|---|
| LUPRANATE* T80-Type 1 Contains: | | 100 | Not established |
| 2,4 Toluene Diisocyanate | 584-84-9 | 80 | 0.005 ppm; 0.02 ppm STEL ACGIH, OSHA (Final) 0.02 ppm C OSHA (Trans) |
| 2,6 Toluene Diisocyanate | 91-08-7 | 20 | 0.005 ppm; 0.02 ppm STEL NIOSH recommendation |

SARA Title III Sect. 313: Listed.
All components are in TSCA inventory.

## SECTION III - PHYSICAL DATA

BOILING/MELTING POINT @760 mm Hg: 484°F/ N/A

pH: N/A

VAPOR PRESSURE mm Hg @20 C: 0.025

Vapor Density (Air=1): 6.0

SPECIFIC GRAVITY OR BULK DENSITY: 1.22

Freezing Point: 51.8-53.6°F

SOLUBILITY IN WATER: Water reacts

APPEARANCE: Colorless liquid ODOR: Pungent INTENSITY: Strong

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD): 270°F TAG Open Cup

AUTOIGNITION TEMP: >620°F

FLAMMABILITY LIMITS IN AIR (% BY VOL) LOWER: 0.9% UPPER: 9.5%

| | |
|---|---|
| EXTINGUISHING MEDIUM | Use water fog, foam or CO2 extinguishing media. |
| SPECIAL FIREFIGHTING PROCEDURES | Personnel engaged in fighting isocyanate fires must be protected against nitrogen dioxide fumes as well as isocyanate vapors. Firefighters must wear self-contained breathing apparatus and turnout gear. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | Avoid water contamination in closed containers or confined areas; carbon dioxide gas is generated. |

## EMERGENCY TELEPHONE NUMBER

CHEMTREC 800-424-9300 201-316-3000

THIS NUMBER IS AVAILABLE DAYS, NIGHTS, WEEKENDS, AND HOLIDAYS

BEST COPY AVAILABLE



## SECTION V - HEALTH DATA

| TOXICOLOGICAL TEST DATA: | RESULT: |
|---|---|
| LUPRANATE* T80-Type 1 | |
| 2,4 Toluene Diisocyanate | Severe eye and skin irritant, sensitizer |
| Rat, Oral LD50 | 5.8 g/kg. |
| Mouse, Inhalation LC50 | 10 ppm/4H |

**EFFECTS OF OVEREXPOSURE:**

The primary routes of exposure to this material are eye or skin contact, and inhalation. Contact with the liquid can cause skin and eye burns. The vapors are irritating to the eyes and respiratory tract. Overexposure may cause pulmonary edema. Pulmonary sensitization can occur in some individuals, leading to asthma-type spasms of the bronchial tubes and difficulty breathing. Anyone having a history of respiratory illness, asthmatic conditions, eye damage. or TDI sensitization should avoid any exposure to TDI. TDI was carcinogenic to rats and mice in a NTP bioassay; however, it was not carcinogenic to rats in a lifetime inhalation study. TDI is listed in the National Toxicology Program (NTP) Fourth Annual Report on Carcinogens, and the International Agency for Research (IARC) concluded that there is sufficient evidence that TDI is carcinogenic in animals.
Existing medical conditions aggravated by exposure to this material:
Pulmonary disorders.

**FIRST AID PROCEDURES:**

Existing medical conditions aggravated by exposure to this material:
Pulmonary disorders.

Eyes-Immediately wash eyes with running water for 15 minutes. Get immediate medical attention.
Skin-Wash affected areas with water while removing contaminated clothing. Get immediate medical attention. Launder contaminated clothing before reuse.
Ingestion-If swallowed, DO NOT INDUCE VOMITING. Dilute with water or milk and get immediate medical attention. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.
Inhalation-Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

## SECTION VI - REACTIVITY DATA

| | |
|---|---|
| STABILITY: | Stable. |
| CONDITIONS TO AVOID: | Avoid temperatures >40°C for extended periods of time. |
| CHEMICAL INCOMPATIBILITY: | Water, basic compounds, alcohols, acids, amines. |
| HAZARDOUS DECOMPOSITION PRODUCTS: | TDI vapors, NOx, CO and HCN. |
| HAZARDOUS POLYMERIZATION: | May occur. |
| CONDITIONS TO AVOID: | Avoid contamination with moisture and other products that react with isocyanates. |
| CORROSIVE TO METAL: | No |
| OXIDIZER: | No |

## SECTION VII - SPECIAL PROTECTION

**RESPIRATORY PROTECTION:**
NIOSH/MSHA approved respiratory equipment for transfer operations or escape. Self-contained breathing apparatus if the P.E.L. is exceeded, or in confined areas or if a leak occurs.

**EYE PROTECTION:** Wear fitted goggles or face shield and safety glasses.

**PROTECTIVE CLOTHING:** Rubber gloves, coveralls, boots and rubber apron which must be cleaned after each use. Hardhat for head protection.

**VENTILATION:** Use local exhaust wherever vapors are generated.

**OTHER:** Maintain work area below P.E.L. Vented vapors should be scrubbed through carbon filters or other similarly effective medias.

## SECTION VIII - ENVIRONMENTAL DATA

**ENVIRONMENTAL TOXICITY DATA:**

Aquatic toxicity rating: TLm 96: 10 ppm - 1 ppm.

**SPILL AND LEAK PROCEDURES:**

LUPRANATE* T80 is a RCRA-regulated product. Wear protective clothing, evacuate all not involved in the cleanup. For minor spills, absorb with absorbent and containerize into open top drums. Decontaminate spill area with a mixture of 90% water, 8% concentrated ammonia and 2% detergent.

HAZARDOUS SUBSTANCE SUPERFUND: Yes RQ (lbs): 100

**WASTE DISPOSAL METHOD:**

Dispose of waste in a RCRA-permitted facility.
Incinerate or landfill in a RCRA-permitted facility.

HAZARDOUS WASTE 40CFR261: Yes HAZARDOUS WASTE NUMBER: U 223

**CONTAINER DISPOSAL:**

Containers should be neutralized with liquid decontaminant. Empty containers, containing less than 1" of residue, may be landfilled. If containers are not empty, they must be disposed as a hazardous waste in a RCRA-licensed facility.

## SECTION IX - SHIPPING DATA

| D.O.T. PROPER SHIPPING NAME (49CFR172.101-102) | HAZARDOUS SUBSTANCE (49CFR CERCLA LIST) |
|---|---|
| Toluene Diisocyanate | Yes<br>REPORTABLE QUANTITY (RQ) 100 lb |

| D.O.T. HAZARD CLASSIFICATION (CFR172.101-102) PRIMARY | SECONDARY |
|---|---|
| Poison B | |

| D.O.T. LABELS REQUIRED (49CFR172.101-102) | D.O.T. PLACARDS REQUIRED (CFR172.504) | POISON CONSTITUENT (49CFR172.203(K)) |
|---|---|---|
| Poison | BULK ONLY<br>Poison-2078 | TDI |

**BILL OF LADING DESCRIPTION**

Toluene Diisocyanate-Poison B-UN 2078 RQ 100 lbs.
*** Placarded: POISON ***

| CC NO. 190 | UN/NA CODE 2078 |
|---|---|

DATE PREPARED: 4 / 17 / 86 UPDATED: 5 / 25 / 89

WHILE BASF CORPORATION BELIEVES THE DATA SET FORTH HEREIN ARE ACCURATE AS OF THE DATE HEREOF, BASF CORPORATION MAKES NO WARRANTY WITH RESPECT THERETO AND EXPRESSLY DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. SUCH DATA ARE OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION.

## SECTION X - PRODUCT LABEL

LUPRANATE* T80-Type 1

DANGER: POISON
HARMFUL IF INHALED.
CONTACT WITH EYES AND SKIN RESULTS IN SERIOUS BURNS. INHALATION OF VAPORS CAUSES SEVERE IRRITATION TO LUNGS. PULMONARY EDEMA MAY OCCUR. PULMONARY SENSITIZATION CAN OCCUR IN SOME INDIVIDUALS, LEADING TO ASTHMA-TYPE SPASMS OF THE BRONCHIAL TUBES AND DIFFICULTY IN BREATHING. INDIVIDUALS WITH A HISTORY OF RESPIRATORY ILLNESS, ASTHMATIC CONDITIONS, EYE DAMAGE OR TDI SENSITIZATION SHOULD NOT BE EXPOSED TO THIS PRODUCT.
IN AN NTP STUDY, TDI WAS CARCINOGENIC TO RODENTS GIVEN HIGH ORAL DOSES AND IS INCLUDED IN THE NTP ANNUAL REPORT ON CARCINOGENS. TDI WAS NOT CARCINOGENIC TO RATS IN A TWO-YEAR INHALATION STUDY.

Use with local exhaust. Wear an approved respirator or self-contained breathing apparatus, fitted goggles or face shield and safety glasses, rubber gloves, coveralls, boots, apron and other protective clothing as necessary to prevent contact.

FIRST AID:
Eyes-Immediately wash eyes with running water for 15 minutes. Get immediate medical attention.
Skin-Wash affected areas with water while removing contaminated clothing. Get immediate medical attention. Launder contaminated clothing before reuse.
Ingestion-If swallowed, DO NOT INDUCE VOMITING. Dilute with water or milk and get immediate medical attention. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.
Inhalation-Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

HANDLING AND STORAGE: Keep containers closed and store in a well-ventilated place. Outage of container should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture. Contamination by moisture or basic compounds can cause dangerous pressure buildup in closed container. Store Store above 60 F to prevent freezing and isomer separation. If solidified, do not exceed 95 F while thawing to prevent discoloration. Mix before using.

IN CASE OF SPILLS OR LEAKS: Material is a RCRA-regulated product. Spills should be contained, absorbed and placed in suitable containers for disposal in a RCRA-licensed facility.

IN CASE OF FIRE: Use water fog, foam or $CO_2$ extinguishing media. Firefighters should be equipped with self-contained breathing apparatus and turnout gear for protection against TDI vapors and toxic decomposition products.

EMPTY CONTAINERS: All labeled precautions must be observed when handling, storing and transporting empty containers due to product residues. Do not reuse this container unless it is professionally cleaned and reconditioned.

DISPOSAL: Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations. Refer to our Material Safety Data Sheet for specific disposal instructions.

IN CASE OF CHEMICAL EMERGENCY: Call CHEMTREC day or night for assistance and information concerning spilled material, fire, exposure and other chemical accidents 800-424-9300.

ATTENTION: This product is sold solely for use by industrial institutions. Refer to our Technical Bulletin and Material Safety Data Sheet regarding safety, usage, applications, hazards, procedures and disposal of this product. Consult your supervisor for additional information.

FOR INDUSTRY USE ONLY.
CAS No.: 584-84-9; 91-08-7.
Proper Shipping Name: Toluene Diisocyanate, Poison B - UN 2078 RQ
Made in USA.
Polymers
0488

Fold at line over top of envelope to the right of the return address.

CERTIFIED

P 889 800 083

MAIL

AMSTERDAM NY JUN 10 '89

U.S. POSTAGE $4.15

**FROM**

Gem Urethane Corp.
P.O. Box 390 Park Drive
Amsterdam, N.Y. 12010

**PARCEL POST**
**CONTENTS: MERCHANDISE**
**RETURN REQUESTED**

**TO**

Document Processing Center
Office of Toxic Subtances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

ATTN: CAIR REPORTING OFFICE