WESTON MAJOR PROGRAMS DIVISION

HEALTH AND SAFETY PLAN

EMERGENCY RESPONSE / SITE INVESTIGATION

(Revised 27 January 1993)

TDD No. 02-9306-0004 Site Name: CHASE INTERIORS, INC

Site Address: Street No. 205-247 WEST LISTER AVENUE

City FALCONER

County/State CHAUTAUQUA, NY

Site Contact / Phone No.:

Directions to Site: (Att.Map) Route 287N, Route 206N, Route 80W Route 380N, Route 81N, Route 17W, Route 394 make right onto Work Street, make right onto Williamstreet, site on West Lister Ave.

Historical/Current Site Information:

SITE IS COMPRISED OF A THREE-STORY FACILITY OCCUPYING 120,000 SQUARE FEET. THE SITE WAS INVOLVED IN THE MANUFACTURE AND ASSEMBLY OF WOODEN DISPLAY CASES. SOME METAL CASES WERE ALSO ASSEMBLED AND SPRAY-PAINTED. PAINTS, SOLVENTS, THINNERS, LUMBER AND METAL COMPONENTS ARE DISPERSED THROUGHOUT THE FACILITY.

Incident Type:
- ( ) Air Release -
- ( ) Spill -
- ( ) Fire -
- (X) HW Site -

Location Class : (✓) Industrial ( ) Commercial (✓) Urban/Residential ( ) Rural

USEPA Contact: ~~NICK MAGNIFICO~~ BONNIE GREEN Date of Initial Site Activities: 6/3/93

Original HASP: Yes X Modification Number:

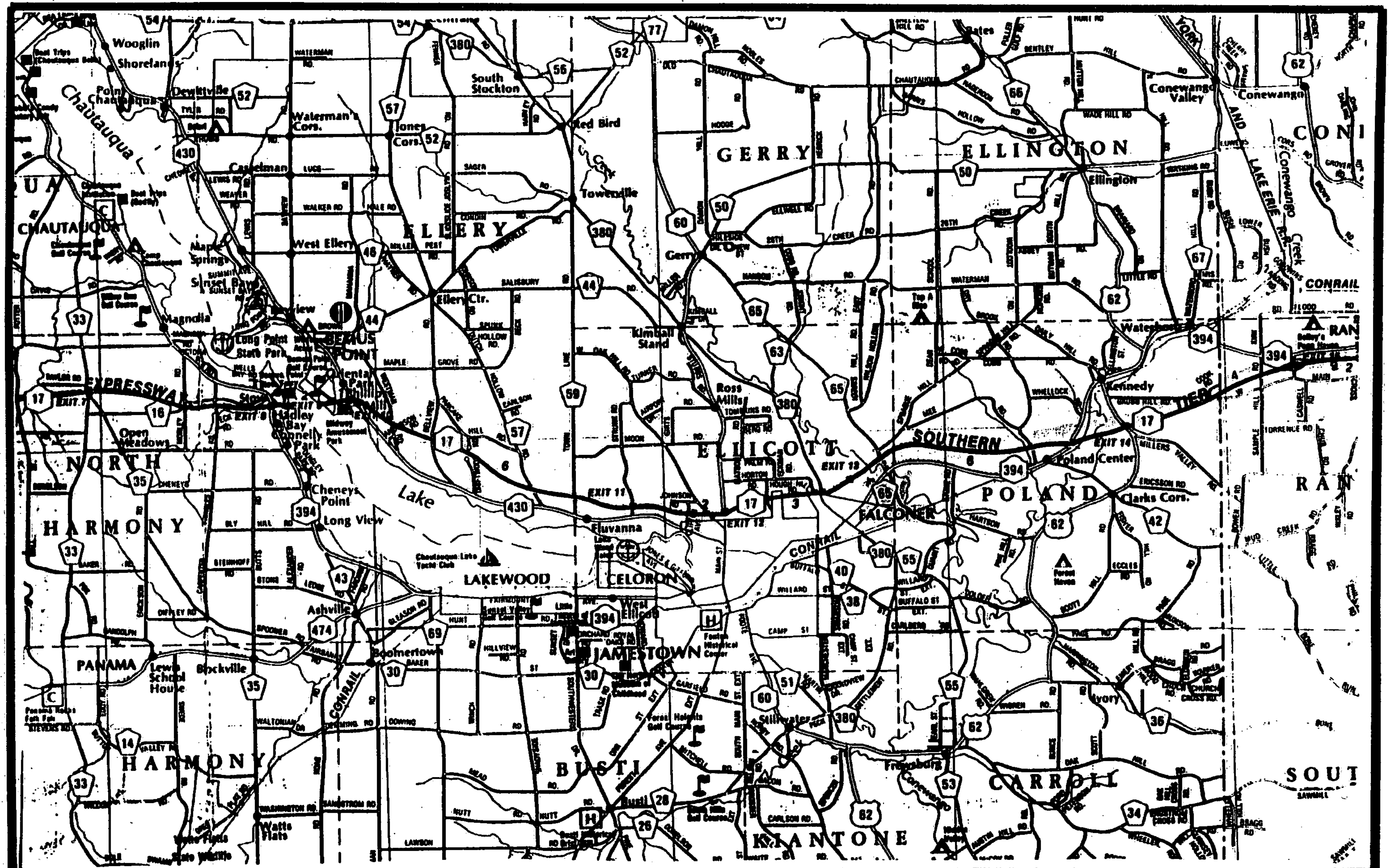
Lead TAT: SUZANNE MAY Site Health & Safety Coordinator: ~~Elizabeth Kelly~~ Irmee Huhn

Response Activities/Duration (fill in as applicable)

Emergency Response:
- ( ) Perimeter Recon.
- ( ) Site Entry
- ( ) Visual Documentation:
- ( ) Multi-media Sampling:
- ( ) Decontamination:

Assessment:
- (X) Perimeter Recon.
- (X) Site Entry
- (X) Visual Documentation:
- (X) Multi-media Sampling:

357809



Roy F. Weston, Inc.
MAJOR PROGRAMS DIVISION

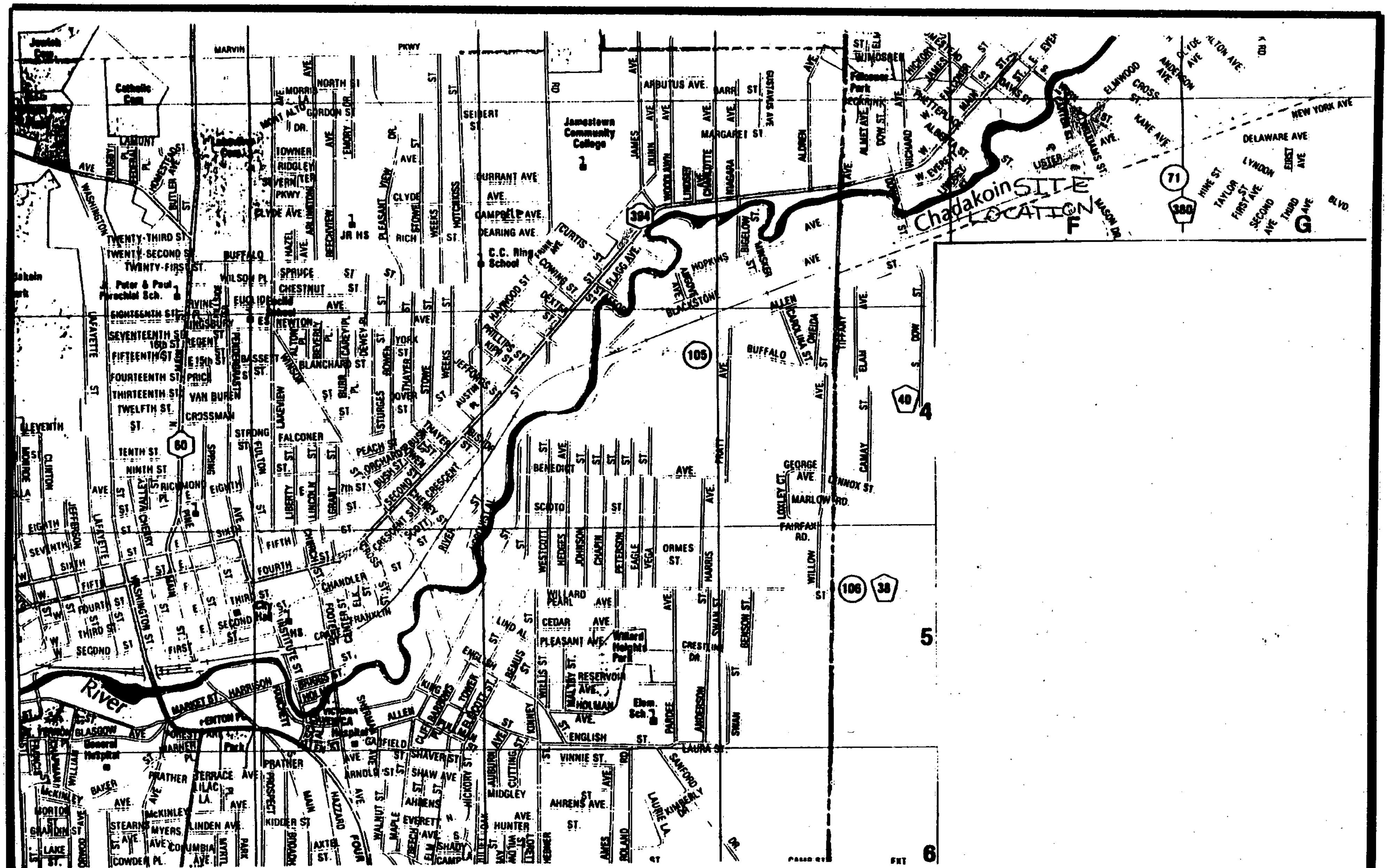
WESTON
MANAGERS DESIGNERS/CONSULTANTS

IN ASSOCIATION WITH FOSTER WHEELER CORP.,
C.C JOHNSON & MALHOTRA, P.C., RESOURCE
APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES

EPA PM	N. Magriples
TAT PM	S. May

Chase Interiors/Division
of HBSA Industries

Falconer, New York



WESTON — MANAGERS DESIGNERS/CONSULTANTS Roy F. Weston, Inc. MAJOR PROGRAMS DIVISION	EPA PM N. Magripies	Chase Interiors/Division of HBSA Industries
IN ASSOCIATION WITH FOSTER WHEELER CORP., C.C JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC. AND R.E. SARRIERA ASSOCIATES	TAT PM S. May	Falconer, New York

(X) Decontamination: _____

Physical Safety Hazards to Personnel

(X) Heat ( ) Cold (X) Precipitation ( ) Confined Space ( ) Terrain
(X) Walking/Working Surfaces (X) Fire & Explosion ( ) Oxygen Deficiency
( ) Underground Utilities (X) Overhead Utilities (X) Heavy Equipment
(X) Unknowns in Drums, Tanks, Containers ( ) Ponds, Lagoons, Impoundments
( ) Rivers, Streams ( ) Pressurized Containers, Systems ( ) Noise
( ) Illumination ( ) Nonionizing Radiation ( ) Ionizing Radiation

Biological Hazards to Personnel

( ) Infectious/Medical/Hospital Waste ( ) Non-domesticated Animals ( ) Insects
( ) Poisonous Plants/Vegetation ( ) Raw Sewage

Training Requirements

(X) 40 Hour General Site Worker Course with three days supervised experience.
( ) 24 Hour Course for limited, specific tasks with one day supervised experience.
( ) 24 Hour Course for Level D Site with one day supervised experience.
(X) 8 Hour Annual Refresher Health and Safety Training.
( ) 8 Hour Management/Supervisor Training in addition to basic training course.
( ) Site Specific Health and Safety Training.
( ) Pre-entry training for emergency response skilled support personnel.

Medical Surveillance Requirements

(X) Baseline initial physical examination with physician certification.
(X) Annual medical examination with physician certification.
( ) Site Specific medical monitoring protocol (Radiation, Pesticide, PCB, Metals).
( ) Asbestos Worker medical protocol.
( ) Exempt from medical surveillance:_____.
(X) Examination required in event of chemical exposure or trauma.

Physical Parameters	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant
	XYLENE	TOLUENE	2-ETHOXYETHYL ACETATE	TURPENTINE
Exposure Limits IDLH Level	100 ppm ___ mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm ___ mg/m³ IDLH	___ ppm ___ mg/m³ PEL ___ ppm ___ mg/m³ TLV 2000 ppm ___ mg/m³ IDLH	100 ppm 540 mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm ___ mg/m³ IDLH	___ ppm ___ mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm ___ mg/m³ IDLH 100 ppm TWA
Physical Form Sol.Liq.Gas Color	___ Solid X Liquid ___ Gas clear Color	___ Solid X Liquid ___ Gas clear Color	___ Solid X Liquid ___ Gas clear Color	___ Solid X Liquid ___ Gas clear Color
Odor	AROMATIC	Sweet, pungent, benzene-like	Mild	Pungent
Flash Point Flammable limits	80 Degrees (F) or C 7.0 % UEL 1.1 % LEL	40 Degrees (F) or C 7.1 % UEL 1.2 % LEL	117 Degrees (F) or C 13 % UEL 1.7 % LEL	90-115 Degrees (F) or C — % UEL 0.8 % LEL
Vapor Press. Vapor Dens.	9 mm/Hg ___ Air = 1	22 mm/Hg 3.14 Air = 1	1.2 mm/Hg 4.6 Air = 1	@ 20°C 4 mm/Hg 4.8 Air = 1
Specific Gravity	0.86 Water = 1	0.87 Water = 1	0.97 Water = 1	0.87 Water = 1 @ 15/15 C
Solubility	INSOLUBLE	Soluble	Soluble	Insoluble
Incompatible Materials	STRONG Oxidizers	Strong Oxidizers	NITRATES, STRONG OXIDIZERS, STRONG ACID AND ALKALIES	STRONG OXIDIZERS OXIDATION CATALYSTS, IGNITION, HEAT
Route of Exposure	X Inh X Abs X Con X Ing	X Inh X Abs X Con X Ing	X Inh X Abs X Con X Ing	X Inh X Abs X Con X Ing
Symptoms of Acute Exposure	DIZZINESS, IRRITATION, STAGGERING, NAUSEA, VOMITING	CONFUSION, fatigue, dilated pupils, euphoria	IRRITATION. EYES-IMMEDIATE PAIN, INH-VOMITING, KIDNEY DAMAGE	headache, dizziness chest pains, chemical burns
First Aid Treatment	WASH IMMEDIATELY, RESP. SUPPORT MED. ATTENTION immed	Flush, Resp. Support Medical Attention Immediately	Flush, Remove to air, 2-3 glasses milk/water DO NOT INDUCE VOMIT seek med. attention	Inh. remove support breathing call physician, DO NOT INDUCE VOMITING
Ion Potential	___ eV	8.82 eV	? eV	___ eV
Instruments For Detection	X PID w/ 10.2 Probe X FID X CGI ___ RAD ___ Det Tube ___ Ph Other ___	X PID w/ 10.2 Probe X FID X CGI ___ RAD ___ Det Tube ___ Ph Other ___	X PID w/ 10.2 Probe X FID X CGI ___ RAD ___ Det Tube ___ Ph Other ___	X PID w/ 10.2 Probe X FID X CGI ___ RAD ___ Det Tube ___ Ph Other ___

Site Control Measures

Site Map with work zones:

Decontamination Procedures

( ) Wet Decontamination - using:_____

(X) Dry Decontamination

Description of Site Specific Decontamination Plan: DEPOSIT EQUIPMENT ON PLASTIC DROP CLOTHES; DISCARD OR DECON. REMOVE OUTER BOOTS AND GLOVES. DEPOSIT IN CONTAINER WITH PLASTIC LINER. REMOVE ANY CHEMICAL RESISTANT OUTER GARMENTS AND DEPOSIT IN PLASTIC-LINED CONTAINER. REMOVE HARD HAT, FACE PIECE, SCBA AND DECONTAMINATE/WIPE. REMOVE INNER GLOVES. DEPOSIT IN DISPOSAL CONTAINER. ALL PERSONNEL MUST WASH HANDS/FACE THOROUGHLY WITH WATER/SOAP BEFORE EATING.

Adequacy of decontamination determined by:_____

Personal Protective Equipment

TASK TO BE PERFORMED/AIR MONITORING REQUIRED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	TYPE OF APR CARTRIDGE OR CANISTER
SITE ENTRY	B *	SARANEX	latex surgicals Solvex outer gloves latex Boots	SCBA
SAMPLING	B	SARANEX	latex surgicals Solvex outer gloves Latex Boots	SCBA
HAZ CATTING	C **	Poly-Tyvek	latex surgicals Latex Boots	GMC-H

Frequency and Types of Air Monitoring: (X) Continuous ( ) Routine - _____ ( ) Periodic - _____

DIRECT READING INSTRUMENTS	COMBUSTIBLE GAS/OXYGEN METER (1)	RADIATION SURVEY METER/PROBE (2)	PHOTOIONIZATION DETECTOR/PROBE (3)	FLAME IONIZATION DETECTOR (4)	CHEM. DETECTOR TUBE (5)
ID NUMBER	638159	942366	941228	898154	
CAL. DATE	9/13/93	9/13/93	9/13/93	9/13/93	
TAT MEMBER	Huhn	Huhn	Arntz	Hodenish	
ACTION LEVEL	≥ 20%LEL ≤19.5%, ≥23% O_2 - LEAVE	3X BACKGRND - CAUTION; 1 mR/HR-LEAVE	UNKNOWNS 0-5 UNITS:"C" 5-500:"B"	UNKNOWNS 0-5 UNITS:"C" 5-500:"B"	PEL/TLV COMPARE W/PF

* down-grade to level C, as warranted, based on air monitoring results

** down-grade to Level D, 5 as warranted, based on air monitoring results

Emergency Phone Numbers

Emergency Contact	Location	Phone Number	Notified
Hospital	WCA Hospital Jamestown, NY	(716) 487-0141	Yes
Ambulance Hazmat	Mayville	664-3100	
Police	215 South Work Street Town of Ellicot	661-7902	
Fire Dept.	115 Davis Street Falconer	911	

Chemical Trauma Capability? (X) Yes ( ) No If no, closest backup:_____ Phone:_____

Directions to Hospital (attach map) - Route verified by:_____ Date: __/__/__

Go South, make a Right onto Allen Street. Follow South to Foote Street. left onto Foote Street. Hospital is on the left → Make left out-of parking lot of site, Go to stop - make another left onto 394. Take down until you come to Foote Ave. make left. Hospital at 207 Foote Ave.

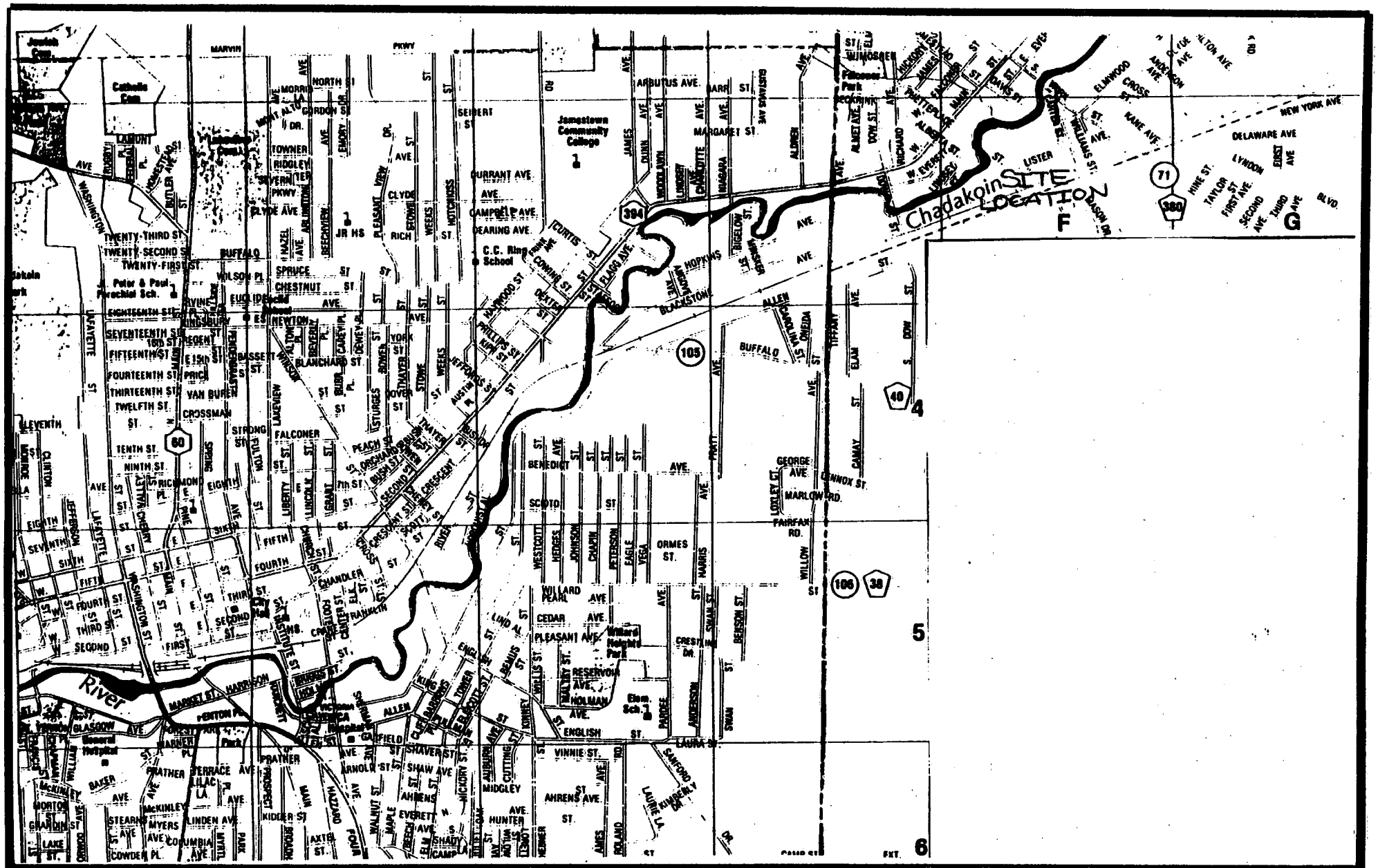
Additional Emergency Phone Contacts

Contact	Phone Number
WESTON 24 hr. Hotline	215-524-1925 215-524-1926
WESTON Medical Emergency Service	800-229-3674
Chemtrec	800-424-9300
ATSDR	404-639-0615
ATF (explosives information)	800-424-9555
National Response Center	800-424-8802
National Poison Control Center	800-942-5969

HASP prepared by: Elizabeth Kelly Date: 6/8/93

Pre-Response/Entry Approval by: [signature] Date: 6/9/93

Verbal Approval/Modification to Original HASP by:_____ Date: __/__/__



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EPA PM	N. Magriples	Chase Interiors/Division of HBSA Industries
TAT PM	S. May	Falconer, New York

Physical Description of Site and Response Activities

Size of Site:_____ Terrain_____ Weather_____
Distance to Nearest: Residence 100 yds School_____ Hospital_____
Public Building_____ Other_____
Evacuation: ( ) Yes (✓) No By Whom:_____
Nearest Waterway:_____ Distance from Site:_____

Condition	Observed	Potential	None	Comments/Observations
Surface Water Contamination			✓	
Ground Water Contamination			✓	
Drinking Water Contamination			✓	
Air Release	-	✓	✓	
Soil Contamination		✓		
Stressed Vegetation			✓	
Dead Animal Species	✓			racoon or opossum dead inside bldg.

Actions Taken On-Site:

Perimeter Monitoring: (✓) Yes ( ) No
Site Entry by TAT: (✓) Yes ( ) No

Tasks Conducted	Level of Protection/Specific PPE Used
Initial Entry - air monitoring	Level B - saranex, booties, nitrile gloves, SCBA
Sampling + inventory of hazardous material storage rooms	Level B - " " " - - -
Inventory - sketching of open areas of building - Air monitoring - no readings above bkgd.	Level C - tyvek, booties nitrile gloves, GMC-H cartridges
Hazcat	Level C Mod - GMC-H, nitrile gloves tyvek

Air Monitoring Summary Log

Date: 9/13/93

Data Collected by: Huh

Data to be summarized by a "Range of readings,i.e.,- Low to High" and/or "Average" by location.

Station/Location	CGI/O_2 Meter	Radiation Meter	PID/Probe Bkgd = 2.6 units	FID/OVA Bkgd = 0.5	Detector Tube
Paint Room	Bkgd 0%/20.8%	Bkgd	30-32 units above bkgd	100 units above bkgd	
Waste Room	Bkgd 0%/20.8%	Bkgd	1-2 units above bkgd	1 unit above bkgd	
Office	Bkgd 0%/~~20.8~~ 19.6% (IH)	Bkgd	1 unit above bkgd	0-1 units above bkgd.	

Summary/Comments: No readings observed in main area of room only where quantities of material are stored.

Off Site: ( ) Yes (✓) No
On Site: (✓) Yes ( ) No

Describe types of samples and methods used to obtain samples: Hazcat Samples were taken from drums or transformers on site utilizing plastic scoops + glass Kalimazoo tubes. See Sampling Plan for more details.

Was Laboratory notified of Potential Hazard Level Of Samples? ( ) Yes ( ) No

Note: The nature of the work assignment may require the use of the following procedures/programs which will be included as Attachments to this HASP as applicable: Emergency Response Plan, Confined Space Entry Procedures, Spill Containment Program.

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Technical Assistance Team (TAT) Contract 68-WO-0036 for Zone I. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

The signatures below indicate that the individuals have read and understood this Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
Bruce Huhn	Bruce Huhn	Weston TAT	9/13/93
Mike Holland	[illegible]	Weston TAT	9/13/93
Chris Arntz	[illegible]	Weston, TAT	9/13/93
Ed Mogle	[illegible]	Weston TAT-2	9/13/93

Final Submission of HASP by:	Bruce Huhn	Date 9/19/93
Post Response Review by:	[illegible]	9/20/93
Post Response Approval by:	[illegible]	9/20/93
TAT HSO Review by:		

COMMENTS/FOLLOWUP

Material Safety Data Sheet

From Genium's Reference Collection
Genium Publishing Corporation
1145 Catalyn Street
Schenectady, NY 12303-1836 USA
(518) 377-8855

GENIUM PUBLISHING CORP.

No. 318

XYLENE (Mixed Isomers)
(Revision D)
Issued: November 1980
Revised: August 1988

SECTION 1. MATERIAL IDENTIFICATION 26

Material Name: XYLENE (Mixed Isomers)

Description (Origin/Uses): Used as a raw material for the production of benzoic acid, phthalic anhydride, isophthalic and terephthalic acids and their dimethyl esters in the manufacture of polyester fibers; in sterilizing catgut; with Canadian balsam as oil-immersion in microscopy; and as a cleaning agent in microscopic techniques.

Other Designations: Dimethylbenzene; Xylol; C_8H_{10}; CAS No. 1330-20-7

Manufacturer: Contact your supplier or distributor. Consult the latest edition of the *Chemicalweek Buyers' Guide* (Genium ref. 73) for a list of suppliers.

Comments: Although there are three different isomers of xylene (*ortho*, *meta*, and *para*), the health and physical hazards of all three isomers are very similar. This MSDS is written for a xylene mixture of all three isomers, which is usually commercial xylene.

NFPA: 3 / 2 / 0 / -

HMIS			
H	2	R	1
F	3	I	3
R	0	S	2
PPG*		K	3

*See sect. 8

SECTION 2. INGREDIENTS AND HAZARDS / % / EXPOSURE LIMITS

Ingredients and Hazards	%	Exposure Limits
Xylene (Mixed Isomers), CAS No. 1330-20-7*	**	IDLH*** Level: 1000 ppm
o-Xylene, CAS No. 0095-47-6 *m*-Xylene, CAS No. 0108-38-3 *p*-Xylene, CAS No. 0106-42-3		**OSHA PEL** 8-Hr TWA: 100 ppm, 435 mg/m³
**Check with your supplier to determine if there are additions, contaminants, or impurities (such as benzene) that are present in reportable quantities per 29 CFR 1910.		**ACGIH TLVs, 1987-88** TLV-TWA: 100 ppm, 435 mg/m³ TLV-STEL: 150 ppm, 655 mg/m³
***Immediately dangerous to life and health.		**Toxicity Data**** Human, Inhalation, TC_{Lo}: 200 ppm
**** See NIOSH, *RTECS* (No. ZE2100000), for additional data with references to reproductive, irritative, and mutagenic effects.		Man, Inhalation, LC_{Lo}: 10000 ppm/6 Hrs Rat, Oral, LD_{50}: 4300 mg/kg

SECTION 3. PHYSICAL DATA

Boiling Point: 275°F to 293°F (135°C to 145°C)*
Melting Point: -13°F (-25°C)
Evaporation Rate: 0.6 Relative to BuAc = 1
Specific Gravity (H_2O = 1): 0.86

Water Solubility (%): Insoluble
Molecular Weight: 106 Grams/Mole
% Volatile by Volume: Ca 100
Vapor Pressure: 7 to 9 Torrs at 68°F (20°C)
Vapor Density (Air = 1): 3.7

Appearance and Odor: A clear liquid; aromatic hydrocarbon odor.

*Materials with wider and narrower boiling ranges are commercially available.

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temperature	Flammability Limits in Air	LOWER	UPPER
81°F to 90°F (27°C to 32°C)	867°F (464°C)	% by Volume	1%	7%

Extinguishing Media: Use foam, dry chemical, or carbon dioxide. Use water sprays to reduce the rate of burning and to cool containers.

Unusual Fire or Explosion Hazards: Xylene vapor is heavier than air and may travel a considerable distance to a low-lying source of ignition and flash back.

Special Fire-fighting Procedures: Wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in the pressure-demand or positive-pressure mode.

SECTION 5. REACTIVITY DATA

Xylene is stable in closed containers during routine operations. It does not undergo hazardous polymerization.

Chemical Incompatibilities: This material may react dangerously with strong oxidizers.

Conditions to Avoid: Avoid any exposure to sources of ignition and to strong oxidizers.

Hazardous Products of Decomposition: Carbon monoxide (CO) may be evolved during xylene fires.

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Material Safety Data Sheet

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GENIUM PUBLISHING CORP.

No. 321
2-ETHOXYETHYL ACETATE
(Revision C)
Issued: November 1979
Revision: April 1986

SECTION 1. MATERIAL IDENTIFICATION

20

MATERIAL NAME: 2-ETHOXYETHYL ACETATE

OTHER DESIGNATIONS: CELLOSOLVE® Acetate, Ethoxy Acetate, Ethylene Glycol Ethyl Ether Acetate, Ethylene Glycol Monoethyl Ether Acetate, Glycol Monoethyl Ether Acetate, POLY-SOLV EE® Acetate, $C_6H_{12}O_3$, CAS #0111-15-9.

HMIS
H: 2
F: 2
R: 0
PPE*
* See sect. 8

R 1
I 4
S 2
K 2

MANUFACTURER/SUPPLIER: Available from several sources, including:
Ashland Chemical Co., Industrial Chemicals & Solvents Div., PO Box 2219, Columbus, OH 43216; Telephone (614) 889-3333
ICI Americas Inc., Route 202, Wilmington, DE 19897; Telephone: (302) 575-3000

SECTION 2. INGREDIENTS AND HAZARDS

	%	HAZARD DATA
2-Ethoxyethyl Acetate $CH_3CH_2 - O - CH_2CH_2 C(=O)-OCH_3$ * Current (1985-86) ACGIH TLV. OSHA PEL is 100 ppm or 540 mg/m^3 (skin). ** Skin designation indicates that 2-ethoxyethyl acetate can be absorbed through intact skin and contribute to overall exposure.	ca 100	8-hr. TWA: 5 ppm or 27 mg/m^3* (Skin)** Rat, Oral, LD_{50}: 2900 mg/kg Rat, Inhalation, LCLo: 1500 ppm/8 hrs. Rabbit, Skin, LD_{50}: 10500 mg/kg

SECTION 3. PHYSICAL DATA

Boiling Point ... 313°F (156°C)
Vapor Pressure @ 20°C, mm Hg ... 1.2
@ 30°C, mmHg ... 3.8
Water Solubility @ 20°C, wt. % ... 23
Vapor Density (Air = 1) ... 4.6
Evaporation Rate (BuAc = 1) ... 0.2
Specific Gravity (H_2O = 1) ... 0.97
Melting Point ... -80°F (-62°C)
Percent Volatile by Volume ... ca 100
Molecular Weight ... 132.18

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air % by Volume	LOWER	UPPER
117°F (47°C) C.C.	716°F (380°C)		1.7	13

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, alcohol foam. Do not use a solid stream of water because the stream will scatter and spread the fire. Use water spray to cool fire-exposed tanks/containers, to disperse vapors, and to dilute spills to nonflammable mixtures.

UNUSUAL FIRE/EXPLOSION HAZARDS: This OSHA class III combustible liquid is a moderate fire and explosion hazard when exposed to heat, sparks, or open flame. It can react with oxidizing agents.

SPECIAL FIRE-FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus with facepiece and fully protective clothing when fighting fires involving 2-ethoxyethyl acetate.

SECTION 5. REACTIVITY DATA

2-Ethoxyethyl acetate is stable in closed containers at room temperature under normal storage and handling conditions. It does not undergo hazardous polymerization.

CHEMICAL INCOMPATIBILITIES: This material is incompatible with nitrates, strong oxidizers, strong acid, and strong alkalies. Contact with these materials may cause fire and explosions.

CONDITIONS TO AVOID: Mild explosions have occurred in still (copper still pot) residues, but oxidation studies have not indicated formation of high peroxide concentrations in the liquid phase.
Thermal decomposition or burning produces carbon dioxide and/or carbon monoxide.

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Material Safety Data Sheet

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GENIUM PUBLISHING CORP.

No. 317
TOLUENE
(Revision D)

Issued: August 1979
Revised: April 1986

SECTION 1. MATERIAL IDENTIFICATION

20

MATERIAL NAME: TOLUENE

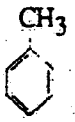
OTHER DESIGNATIONS: Methyl Benzene, Methyl Benzol, Phenylmethane, Toluol, C_7H_8, CAS #0108-88-3

MANUFACTURER/SUPPLIER: Available from many suppliers, including:
Allied Corp., PO Box 2064R, Morristown, NJ 07960; Telephone: (201) 455-4400
Ashland Chemical Co., Industrial Chemicals & Solvents Div., PO Box 2219, Columbus, OH; Telephone: (614) 889-3844

HMIS
H: 2
F: 3
R: 0
PPE*
*See sect. 8

R 1
I 3
S 2
K 4

SECTION 2. INGREDIENTS AND HAZARDS

	%	HAZARD DATA
Toluene 	ca 100	8-hr TLV: 100 ppm, or 375 mg/m^3* (Skin)**
		Man, Inhalation, TCLo: 100 ppm: Psychotropic***
		Rat, Oral, LD_{50}: 5000 mg/kg Rat, Inhalation, LCLo: 4000 ppm/4 hrs. Rabbit, Skin, LD_{50}: 14 gm/kg
		Human, Eye: 300 ppm

* Current (1985-86) ACGIH TLV. The OSHA PEL is 200 ppm with an acceptable ceiling concentration of 300 ppm and an acceptable maximum peak of 500 ppm/10 minutes.

** Skin designation indicates that toluene can be absorbed through intact skin and contribute to overall exposure.

*** Affects the mind.

SECTION 3. PHYSICAL DATA

Boiling Point ... 231°F (111°C)
Vapor Pressure @ 20°C, mm Hg ... 22
Water Solubility @ 20°C, wt. % ... 0.05
Vapor Density (Air = 1) ... 3.14

Evaporation Rate (BuAc = 1) ... 2.24
Specific Gravity (H_2O = 1) ... 0.866
Melting Point ... -139°F (-95°C)
Percent Volatile by Volume ... ca 100
Molecular Weight ... 92.15

Appearance and odor: Clear, colorless liquid with a characteristic aromatic odor. The odor is detectable to most individuals in the range of 10 to 15 ppm. Because olfactory fatigue occurs rapidly upon exposure to toluene, odor is not a good warning property.

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
40°F (4°C) CC	896°F (480°C)	% by Volume	1.27	7.1

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, alcohol foam. Do not use a solid stream of water because the stream will scatter and spread the fire. Use water spray to cool tanks/containers that are exposed to fire and to disperse vapors.

UNUSUAL FIRE/EXPLOSION HAZARDS: This OSHA class IB flammable liquid is a dangerous fire hazard. It is a moderate fire hazard when exposed to oxidizers, heat, sparks, or open flame. Vapors are heavier than air and may travel a considerable distance to an ignition source and flash back.

SPECIAL FIRE-FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus with full facepiece operated in a positive-pressure mode when fighting fires involving toluene.

SECTION 5. REACTIVITY DATA

CHEMICAL INCOMPATIBILITIES: Toluene is stable in closed containers at room temperature under normal storage and handling conditions. It does not undergo hazardous polymerization. This material is incompatible with strong oxidizing agents, dinitrogen tetraoxide, silver perchlorate, tetranitromethane, and uranium hexafluoride. Contact with these materials may cause fire or explosion. Nitric acid and toluene, especially in the presence of sulfuric acid, will produce nitrated compounds that are dangerously explosive.

CONDITIONS TO AVOID: Avoid exposure to sparks, open flame, hot surfaces, and all sources of heat and ignition. Toluene will attack some forms of plastics, rubber, and coatings. Thermal decomposition or burning produces carbon dioxide and/or carbon monoxide.

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MATERIAL SAFETY DATA SHEET

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GENIUM PUBLISHING CORP.

NO. 375

TURPENTINE
Revision B
DATE October 1984

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: TURPENTINE
DESCRIPTION: A volatile mixture of hydrocarbon isomers ($C_{10}H_{16}$) obtained from pine gum or pine wood.
OTHER DESIGNATIONS: Spirit or Oil of Turpentine, CAS # 008 006 642, ASTM D13, GE Material D5B17.
MANUFACTURER: Material is available from several suppliers.

SECTION II. INGREDIENTS AND HAZARDS

	%	HAZARD DATA
Gum, Wood, or Sulfate Process Turpentine ($C_{10}H_{16}$)	ca 99	8-hr TWA 100 ppm or 560 mg/m³*

Typical Composition from USA Southern Pine:

	Gum	Wood	Sulfate
alpha-Pinene (CAS #000 080 568)	60-65	75-80	60-70
beta-Pinene (CAS #000 127 913)	25-35	0-2	20-25
Camphene (CAS #000 079 925)	-	4-8	-
Other Terpenes ----------	5-8	15-20	6-12

Human, Oral
LDLo 500 mg/kg

Human, Inhalation
TCLo 175 ppm
(irritant effects)

*Current OSHA PEL and ACGIH (1984) TLV.

SECTION III. PHYSICAL DATA *

Boiling range, 1 atm, deg C -	(mainly) 154-170	Specific gravity, 15/15 C --	~0.87
Vapor density (Air=1) -------	~4.8	Volatiles, % ----------	>98
Vapor pressure, mm Hg at 20 C	~4	Evaporation rate (nBuAc=1) -	slower
Water solubility ----------	Insoluble	Refractive index at 20 C ---	~1.473

Appearance & Odor: Material is a clear, colorless liquid with a characteristic pungent odor. Odor becomes more pronounced on aging or exposure to air.

*Properties can vary somewhat with the specific product.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	Lower	Upper
90-115 F (closed cup)	488 F (253 C)	% by volume	0.8%	-

Extinguishing media: Carbon dioxide, dry chemical, foam, water fog. Water spray may be ineffective to put out fire, but it can be used to cool fire-exposed containers and surroundings.

When heated, material is a moderate fire and explosion hazard. Acrid fumes are emitted on heating.

Firefighters need self-contained breathing equipment and protective clothing.

SECTION V. REACTIVITY DATA

Material is reasonably stable when stored in a well-ventilated, cool, place in suitable containers sealed to exclude air. It does not undergo hazardous polymerization. It can undergo autoxidation in air and generate heat which can build up in a confined space, possibly causing spontaneous combustion.

This flammable or combustible material (OSHA Class IC or II depending on the flash point) must be kept away from strong oxidizing agents, oxidation catalysts, and sources of ignition and heat.

Thermal-oxidative degradation products can include partial oxidation products of terpenes and carbon monoxide.

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FACILITY: CHASE

DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H2O SOL.	HEX SOL.
1	Paint	168 Five gal. cans of paint	drum/mixed	5	30-40				
2	Paint	168 Five gal. cans of paint	drum/mixed	5	30-40				
3	Paint	56 Five gal. cans of paint	drum/mixed	5	30-10				
4	Paint	40 Five gal. cans of paint	drum/mixed	5	30-10				
5	Office	Paint related materials 1 gal.	box/fiber	4 cf	100	Y			
6	Office	Paint related materials 1 gal.	box/fiber	4 cf	100	Y			
7	Office	Paint related materials 1 gal.	box/fiber	4 cf	100	Y			
8	Office	Paint related materials 1 gal.	box/fiber	4 cf	100	Y			
9	Office	Bleach	box/fiber	4 cf	100	Y			
10	Office	Ammonia	box/fiber	4 cf	100	Y			
11	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
12	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
13	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
14	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
15	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
16	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
17	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
18	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
19	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
20	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
21	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
22	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			

* gallons unless otherwise noted

FACILITY: CHASE

DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H_2O SOL.	HEX SOL.
23	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
24	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
25	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
26	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
27	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
28	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
29	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
30	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
31	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
32	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
33	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
34	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
35	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
36	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
37	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
38	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			
39	Office	Paint related materials < 1 gal.	box/fiber	4 cf	100	Y			

* gallons unless otherwise noted

FACILITY: CHASE DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H_2O SOL.	HEX SOL.
40	Paint	Grey paint	drum/metal	55	25	Y			
41	Paint	Grey paint	drum/metal	55	80	Y			
42	Paint	Paint thinner	drum/metal	55	70	Y			
43	Paint	Wood sealer	drum/metal	55	100	Y			
44	Paint	Thinner	drum/metal	55	90	Y			
45	Paint	White paint	drum/metal	55	90	Y			
46	Paint	Flat lacquer	drum/metal	55	60	Y			
47	Paint	Black paint	drum/metal	55	20	Y			
48	Paint	Waste paint	drum/metal	55	100	Y			
49	Paint	Waste paint	drum/metal	55	100	Y			
50	Paint	Gloss lacquer	drum/metal	55	100	Y			
51	Paint	Metal powder	drum/metal	10	20	N			
52	Paint	Metal powder	drum/metal	10	40	N			
53	Paint	Metal powder	drum/metal	10	40	N			
54	Paint	Metal powder	drum/metal	10	10	N			
55	Paint	11 x 1 gal. cans polyurethane	drum/metal	1	100	Y			
56	Paint	9 x 1 gal. cans wood filler	drum/metal	1	100	Y			
57	Paint	12 x 1 gal. cans linseed oil putty	drum/metal	1	100	N			
58	Paint	7 x 1 gal. wood filler	drum/metal	1	100	Y			
59	Paint	4 x 1 gal. wood stain	drum/metal	1	100	Y			
60	Paint	4 x 1 gal. epoxy glaze part B	drum/metal	1	100	Y			
61	Paint	4 x 1 gal. epoxy glaze part A	drum/metal	1	100	Y			

* gallons unless otherwise noted

FACILITY: CHASE

DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H_2O SOL.	HEX SOL.
62	Paint	3 x 1 gal. latex primer	can/metal	1 g	100	Y			
63	Paint	9 x 1 gal cans wood filler	can/metal	1 g	100	Y			
64	Paint	18 x 1 gal paint	can/metal	1 g	100	Y			
65	Paint	10 x 1 gal umber lacquer	can/metal	1 g	100	Y			
66	Paint	36 x 1 gal lacquer	can/metal	1 g	100	Y			
67	Paint	24 x 1 gal lacquer	can/metal	1 g	100	Y			
68	Paint	4 x 1 gal fire retardant varnish	can/metal	1 g	100	Y			
69	Paint	16 x 1 gal paint	can/metal	1	100	Y			
70	Paint	20 x 1 gal paint, green	can/metal	1	100	Y			
71	Paint	12 x 1 gal paint, blue	can/metal	1	100	Y			
72	Paint	22 x 1 gal paint	can/metal	1	100	Y			
73	Paint	8 x 1 gal wood bleach	can/metal	1	100	N			
74	Paint	9 x 1 gal sealer	can/metal	1	100	Y			
75	Paint	26 x 1 gal multi spec finish	can/metal	1	100	Y			
76	Paint	68 x 5 gal cans paint (shelf)	can/metal	5	20-100	Y			
77	Waste	White paint primer	drum/metal	55	100	Y			
78	Waste	White paint primer	drum/metal	55	100	Y			
79	Waste	Mineral spirits	drum/metal	1	100	N			
80	Waste	Still bottoms, waste	drum/metal	55	100	Y			
81	Waste	Kerosene	drum/metal	60	100	Y			
82	Waste	Waste oil	drum/metal	60	100	N			
83	Waste	White primer	drum/metal	55	100	Y			

* gallons unless otherwise noted

FACILITY: CHASE DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H2O SOL.	HEX SOL.
84	Waste	Lacquer	drum/metal	55	100	Y			
85	Waste	Waste antifreeze and oil	drum/metal	55	40	N	7	N	Y
86	Waste	Waste rages and paint	drum/metal	55	88	Y	7	N	Y
87	Waste	Waste still bottoms	drum/metal	55	100	Y			
88	Waste	Waste still bottoms	drum/metal	55	50	Y			
89	Waste	Waste paint filters	drum/metal	55	100	Y			
90	Waste	White lacquer	drum/metal	55	20	Y			
91	Waste	Sodium hydroxide based boiler treatment	drum/metal	55	30	N	14		
92	Waste	Sodium hydroxide based boiler treatment	drum/metal	55	30	N	14		
93	Waste	Wood glue solidified	drum/metal	55	100	N			
94	Waste	Waste oil and gasoline	drum/metal	55	90	N			
95	Waste	Waste oil	drum/metal	55	90	N			
96	Waste	Paint related materials < 1 gal in box	box/fiber	4 cf	100	Y			
97	Office	Paint related materials < 1 gal in box	box/fiber	4 cf	100	Y			
98	Office	Paint related materials < 1 gal in box	box/fiber	4 cf	100	Y			
99	Office	Wood adhesive	box/fiber	3 1/2	100	Y			
100	Office	Wood adhesive	drum/plastic	5	20	Y			
101	Office	Wood adhesive	drum/plastic	5	100	N			
102	Office	Wood glue	drum/plastic	5	50	Y			
103	Office	Wood glue	drum/plastic	5	50	Y			
104	Office	Wood glue	drum/plastic	5	50	Y			
105	Office	Wood glue	drum/plastic	5	50	Y			

* gallons unless otherwise noted

FACILITY: CHASE DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H2O SOL.	HEX SOL.
106	Office	Wood glue	drum/metal	5	100	Y			
107	Office	Wood glue	drum/plastic	5	100	N			
108	Office	Wood glue	drum/plastic	5	50	Y			
109	Office	Wood glue	drum/metal	5	55	Y			
110	Office	Wood glue	drum/plastic	5	50	Y			
111	Office	Paint	drum/plastic	5	50	Y			
112	Office	Paint	drum/plastic	5	50	Y			
113	Office	Paint	drum/plastic	5	50	Y			
114	Office	Wood glue	drum/plastic	5	50	Y			
115	Office	Paint	drum/plastic	5	50	Y			
116	Office	Paint	drum/metal	5	50	Y			
117	Office	Paint	drum/plastic	5	50	Y			
118	Office	Mortar mix	drum/metal	7	100	N			
119	Office	Mortar mix	drum /metal	7	100	N			
120	Office	Mortar mix	drum/metal	7	100	N			
121	Office	Detergent	drum/plastic	5	100	N			
122	Office	Vinyl glue	drum/plastic	5	100	Y			
123	Office	Paint	drum/plastic	5	100	Y			
124	Office	Battery	12 V	N/A	N	0			
125	Office	Potassium Hydroxide solution	drum/plastic	5	100	N	14		
126	Office	Roof sealer	drum/metal	5	100	N			
127	Office	Glue	drum/plastic	5	50	Y			

* gallons unless otherwise noted

FACILITY: CHASE

DATE: MAY 4, 1992

CONTAINER #	ROOM	DESCRIPTION	CONTAINER/ TYPE	SIZE*	% FULL	FLASH	PH	H2O SOL.	HEX SOL.
128	Office	Roof cement	drum/metal	5	100	N			
129	Office	Paint	drum/plastic	5	50	Y			
130	Office	Contact cement	drum/plastic	5	50	Y			
131	Office	Paint	drum/plastic	5	50	Y			
132	Office	Oil	drum/plastic	5	50	N			
133	Office	Oil	drum/plastic	5	50	N			
134	Office	Paint	drum/plastic	5	50	Y			
135	Office	Paint	drum/plastic	5	50	Y			
136	Office	Paint	drum/plastic	5	50	Y			
137	Office	Acid Compound	drum/plastic	5	100				
138	Office	Silver nitrate ox.	drum/plastic	5	100				
139	Office	Aerosol cans	box/fiber	4 cf	100	Y			
140	Office	Oils, mixed	box/fiber	4 cf	100	Y			
141	Office	Stripper 5 gal partial	drum/plastic	5	100	Y			
142	Office	Paint	drum/plastic	5	100	Y			
143	Gate	Sodium hydroxide based boiler addition	drum/plastic	55	50	N			
144	Office	Waste oil	drum/metal	55	30	N			
145	Office	Waste oil	drum/metal	55	30	N			
146	Office	Wood glue, virgin	drum/metal	55	100	N			
147	Office	Cyclohexamine based boiler addition	drum/plastic	55	100	N			
148	Office	Grease	drum/metal	30	50	N			
149	Office	Glue	drum/metal	55	100	Y			

* gallons unless otherwise noted

Chase Interiors

The attached Health and Safety Plan has been reviewed and found suitable for use by WESTON Technical Assistance Team personnel. Exceptions or comments are noted on the attached page.

4-1-94

Paul C. Potvin
TAT Region II Safety Officer
Roy F. WESTON Inc.