

**Welcome to
Hastings Plastics
Material Safety Data Sheets for Polyester Products**

<u>GEL COAT</u>	<u>HAPOL 10-04-1</u>
<u>CLEAR CASTING RESIN</u>	<u>HAPOL 1300-1E UV</u>
<u>CLEAR MASS CASTING RESIN</u>	<u>HAPOL 1300-1L</u>

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You can print the data by selecting the sheets you want and printing that selection.

HASTINGS PLASTICS COMPANY

1704 Colorado Ave. Santa Monica, CA 90404 310-829-3449 FAX 310-828-6820

MATERIAL SAFETY
DATA SHEET
HAPOL 10-4-1
Revised 08/28/01
Replaces 03/06/01

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HAPOL 10-4-1

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT INFORMATION AND SALES	- (310)829-3449
EMERGENCY PHONE NO.	- (800)424-9300
PRODUCT NAME	- Hapol 10-4-1
CHEMICAL FAMILY AND	- Polyester Gel Coat
DOT SHIPPING NAME	- Paint Related Materials - UN 1263
DOT HAZARD CLASS	- Flammable Liquid
HMIS:	
Flammability	- 3
Health	- 2
Reactivity	- 2
Person Protective Equipment	- X

SECTION II - HAZARDOUS INGREDIENTS

<u>COMPONENTS</u>	<u>CAS #</u>	<u>EXPOSURE LIMITS</u>	<u>CONCENTRATION BY WEIGHT %</u>	<u>VAPOR PRESSURE</u>
STYRENE MONOMER	100-42-5	ACGIH (US, 1994) Skin TWA: 20 ppm ACGIH (US, 1994) Skin STEL: 40 ppm OSHA (US, 1989) CEIL : 200 ppm NIOSH (US, 1994) TWA: 50 ppm NIOSH (US, 1994) STEL: 100 ppm	30-40	1.3 kPa (9.5 mmHg) (@ 20°C)
METHYL METHACRYLATE	80-62-6	ACGIH (US, 1996) TWA: 100 ppm OSHA (US, 1989) TWA: 100 ppm NIOSH (US, 1994) TWA: 100 ppm	4-8	3.9 kPa (29 mmHg) (@ 20°C)
TALC	14807-96-6	ACGIH (US, 1996) TWA: 2 mg/m ³ OSHA (US, 1989) Notes: Respirable TWA: 2 mg/m ³ NIOSH (US, 1994) Notes Respirable TWA: 2 mg/m ³	13-20	Not Available
HYDROXYLATED SILICON DIOXIDE	112926-00-8	ACGIH (US, 1994) TWA: 10 mg/m ³ OSHA (US, 1989) TWA: 6 mg/m ³	1.5-4	Not Available

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR	- Liquid
BOILING POINT	- Lowest known value is 101°C (214°F, Methyl Methacrylate) Weighted Average: 124.07°C (255.3°F)
VAPOR PRESSURE	- The highest known value is 29 mmHg (@ 20°C, Methyl Methacrylate) Weighted Average: 12.14 mmHg @ 20°C
VAPOR DENSITY (AIR =1)	- The highest known value is 4 (Styrene Monomer) Weighted Average: 4 (Air=1)
WEIGHT PER GALLON	- N/A
SOLUBILITY IN WATER %	- Partially soluble in cold water
PERCENT VOLATILE	- N/A
EVAPORATION RATE	- The highest known value is 1 (Methyl Methacrylate) Weighted Average: 0.56 compared to Butyl Acetate

pH	- N/A
MOLECULAR WEIGHT	- Not Applicable
MOLECULAR FORMULA	- Not Applicable
MELTING POINT	- May start to solidify at -30.9997°C (-23.8°F) based on data for : Styrene Monomer. Weighted Average: -32.92°C (-27.3°F)
DENSITY	- Weighted Average: 0.91 g/cm ³
SPECIFIC GRAVITY	- Weighted Average: 1.17 (Water=1)

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT TTC	- Closed Cup: 31°C (88°F)
AUTOIGNITION TEMP	- The lowest known value is 421°C (789.8°F, Methyl Methacrylate)

EXTINGUISHING MEDIA:

In case of fire, use water spray (fog), foam, dry chemical, or CO₂. Use foam or all purpose dry chemicals to extinguish.

FIRE-FIGHTING PROCEDURES:

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

FIRE AND EXPLOSION HAZARDS:

Flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Fire may produce poisonous or irritating gas, fumes or vapor. Excessive heat may trigger polymerization of confined material. Containers may explode in heat or fire. Styrene vapors are uninhibited and may form polymers in vents or flame arresters of storage tanks, resulting in stoppage of vents. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus, with full face mask and full protective equipment.

HAZARDOUS DECOMPOSITION PRODUCTS:

These products are Carbon Oxides (CO, CO₂). Some metallic oxides.

SECTION V - HEALTH HAZARD DATA**EFFECTS OF OVEREXPOSURE:**

EYES: Moderately irritating to the eyes

SKIN: May cause sensitization by skin contact. Moderately irritating to the skin.

INGESTION: Practically non-toxic if swallowed.

INHALATION: Harmful by inhalation. Possible risk of irreversible effects.

EFFECTS OF REPEATED EXPOSURE:

Contains material which causes damage to the following organs: lungs, liver, skin, eyes, central nervous system (CNS), eye, lens or cornea.

Classified 2B (Possible for human) by IARC [STYRENE MONOMER]. Classified A4 (Not classifiable for human or animal) by ACGIH [STYRENE MONOMER]

ADDITIONAL TOXICITY INFORMATION:

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

PHYSICAL/CHEMICAL HAZARDS:

Flammable

PRIMARY HAZARDS AND CRITICAL EFFECTS:

WARNING!

CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, LIVER, SKIN, EYES, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

FLAMMABLE LIQUID AND VAPOR.

VAPOR MAY CAUSE FLASH FIRE.

MAY BE HARMFUL IF INHALED.

MAY CAUSE EYE AND SKIN IRRITATION.

MAY CAUSE ALLERGIC SKIN REACTION.

POSSIBLE CANCER HAZARD.

CONTAINS MATERIAL WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA.

SECTION VI - EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:

Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

SKIN CONTACT:

Wash with soap and water. Remove contaminated clothing and shoes. If irritation persists, seek medical attention.

INHALATION:

Remove to fresh air. If not breathing, administer artificial respiration and seek medical attention.

INGESTION:

wash out mouth and water if person conscious. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician. Seek immediate medical attention.

SECTION VII - PERSONAL PROTECTION INFORMATION

EYE PROTECTION:

Safety goggles are considered minimum protection.

HAND PROTECTION:

Use chemical resistant, impervious gloves.

RESPIRATORY PROTECTION:

Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator. If necessary be sure to use a MSHA/NIOSH approved respirator or equivalent.

SKIN AND BODY:

Wear appropriate protective clothing to prevent skin contact.

ENGINEERING CONTROLS:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit values.

SECTION VIII - REACTIVITY DATA

STABILITY

- Stable

HAZARDOUS DECOMPOSITION PRODUCTS

- The products of degradation are less toxic than the product itself.

HAZARDOUS POLYMERIZATION

- Yes

- CONDITIONS / MATERIALS TO AVOID
- Reactive with oxidizing agents, acids. Slightly reactive to reactive with alkalis, moisture. The product may undergo hazardous decomposition, condensation or polymerization, it may react violently with water to emit toxic gases or it may become self-reactive under conditions of shock or increase in temperature or pressure.

SECTION IX - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Follow all fire fighting procedures. Do not touch or walk through spilled material. If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways.

WASTE DISPOSAL:

Waste must be disposed of in accordance with Federal, State, and Local Environmental Control Regulations.

For further information, contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346 or 202-382-3000).

SECTION X - SPECIAL PRECAUTIONS AND STORAGE DATA

HANDLING:

Risk of cancer depends on duration and level of exposure. Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

STORAGE:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
Use original container.

SECTION XI - TRANSPORTATION INFORMATION

UNITED STATES:

Shipping Description	-	Not Available
Packaging Instruction	-	Not Available
Special Provisions	-	Not Available
Remarks	-	Not Available

CANADA:

Shipping Description	-	Not Available
Regulated Limit	-	Not Available
Consumer Commodity	-	Not Available
Limited Quantity	-	Not Available
Special Provisions	-	Not Available
Remarks	-	Not Available

SECTION XII - REGULATORY INFORMATION

EU REGULATIONS:

Hazard Symbol	-	Xn
Risk Phrases	-	R10- Flammable R20- Harmful by inhalation R36/38- Irritating to eyes and skin R40- Possible risks of irreversible effects R43- May cause sensitization by skin contact

Safety Phrases

- S2- Keep out of reach of children
- S36- Wear suitable protective clothing
- S46- If swallowed, seek medical advice immediately and show this container or label.
- S64- If swallowed, rinse mouth with water (only if person is conscious).

US REGULATIONS:

Federal and State

- California Prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: COBALT; CRYSTALLINE SILICA

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material: COBALT ALKANOATE 0.112%; STYRENE MONOMER 36.1582%; METHYL METHACRYLATE 4.6001%

Cercla: Hazardous substances: STYRENE MONOMER: 1000 lbs (453.6 kg); METHYL METACRYLATE

HMIS (USA)

Health	2
Fire Hazard	3
Reactivity	2
Personal Protection	X

CANADIAN REGULATIONS:

WHMIS

- CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F)
- CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC)
- CLASS D-2A: Material causing other toxic effects (VERY TOXIC)
- CLASS F: Dangerously reactive material

Canadian NPRI -

Canadian NPRI: STYRENE MONOMER 36.1582%; METHYL METHACRYLATE 4.6001%

Provincial

- No products were found

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim liability for any use of this material. Information contained herein is believed to be true and accurate but all statements are made without warranty, express or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use and the suitability of the material for the user's purpose.

HASTINGS PLASTICS COMPANY

1704 Colorado Ave. Santa Monica, CA 90404 310-829-3449 FAX 310-828-6820

PRODUCT DATA
MSDS 1300-1E UV
*REVISED 5/20/99
REPLACES 2/11/94

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HAPOL 1300-1E UV

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT INFORMATION AND SALES	- (310) 829-3449
EMERGENCY PHONE NO.	- (800) 424-9300
PRODUCT NAME	- Hapol 1300-IE UV
PRODUCT CLASS	- Unsaturated Polyester
DOT SHIPPING NAME	- Resin Solution - UN 1866
DOT HAZARD CLASS	- Flammable Liquid

SECTION II - HAZARDOUS INGREDIENTS

<u>COMPONENTS</u>	<u>CAS #</u>	<u>%</u>	<u>EXPOSURE LIMITS</u>
STYRENE MONOMER	100-42-5	35	50ppm
POLYESTER RESIN	Proprietary	67	None Assigned

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR	- Water White Liquid - Pungent Odor
BOILING POINT	- 295°F
VAPOR DENSITY	- Heavier than Air
SPECIFIC GRAVITY	- 1.10 - 1.20
PERCENT VOLATILE	- 31 - 35
EVAPORATION RATE	- Slower than n-Butyl Acetate
V.O.C. CONTENT GRAMS PER LITERS	- < 60 GRAMS
C.A.S. NUMBER	- MIXTURE
HMS RATING	- HEALTH-2 FIRE-3 REACTIVITY-1

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT	- 89°F
FLAMMABILITY CLASS	- 1C
LEL	- 1.1

EXTINGUISHING MEDIA - Water spray, foam, dry chemical, carbon dioxide or any Class B extinguishing agent.

FIRE-FIGHTING PROCEDURES - Firefighters and others exposed to vapors or products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

UNUSUAL FIRE AND EXPLOSION HAZARDS - At elevated temperatures, such as in a fire, polymerization may take place. If polymerization takes place in a closed container, there is the possibility of violent rupture of the container. Product vapors may form an explosive mixture in the air.

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL - OSHA PEL and ACGIH TLV for styrene are both 50ppm for an 8-hour Time Weighted Average (TWA). The OSHA and ACGIH Short Term Exposure Level (STEL) are 100ppm for a 15-minute period. Exposure to styrene may exceed the STEL during a 15-minute period (no ceiling for brief exposures), however the average for a single STEL period must not exceed 100ppm.

EFFECTS OF OVEREXPOSURE

SKIN - Prolonged or frequent contact may cause defatting and dryness of the skin with resultant irritation and possible dermatitis. Styrene may be absorbed through the skin in toxic amounts.

EYES - May cause irritation. Liquid splashes may result in more serious injuries. May cause lachrymation (tears). Moderately irritating. Direct contact may cause corneal lesions. Contact with heated material may cause thermal burns.

INHALATION - Vapors may cause mucous membrane irritation and upper respiratory tract discomfort. High concentrations may result in headache, nausea, insensibility and other central nervous system effects. Repeated exposure to high concentrations may cause liver and kidney damage.

INGESTION - May cause gastrointestinal disturbances, pain and discomfort. Symptoms may include irritation, nausea, vomiting and diarrhea. Exposure may cause symptoms similar to those listed under "Inhalation".

FIRST AID PROCEDURES:

INGESTION - DO NOT induce vomiting because of danger of aspirating liquid into lungs. If spontaneous vomiting occurs, monitor for breathing difficulty. Keep affected person warm and at rest. Get immediate medical attention.

SKIN CONTACT - Wash area of contact thoroughly with soap and water. Remove contaminated clothing immediately. Place contaminated clothing in closed container for storage until laundered or discarded. Get medical attention if irritation persists.

EYE CONTACT - Flush immediately with large amounts of water for 15 minutes. Get medical attention if irritation persists.

INHALATION - Remove affected person from source of exposure. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, give oxygen. Keep affected person warm and at rest. Get immediate medical attention.

PRIMARY ROUTES OF ENTRY - Inhalation and Skin Absorption.

CARCINOGENICITY - The International Agency for Research on Cancer (IARC) has classified styrene as possibly carcinogenic to humans (class 2B). The IRAC 2B classification is not based on significant new evidence that styrene might be a carcinogen, but revised IRAC classification scheme and new data on styrene oxide.

SECTION VI - REACTIVITY DATA

STABILITY	- Stable
HAZARDOUS POLYMERIZATION	- May occur
INCOMPATIBILITY	- Strong acids and oxidizing agents.
HAZARDOUS REACTIONS	- Heat and direct sunlight.
DECOMPOSITION PRODUCTS	- Thermal decomposition products may be hazardous. May cause the emission of irritating, acrid fumes.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Ventilate area. Absorb spill with an absorbent material such as sawdust, vermiculite or sand and place in a closed container. If large spill, dike the area to prevent this material from entering water systems or sewers. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. This material contains the following ingredients which, if spilled or released in quantities equal to or greater than the Reportable Quality (RQ), are subject to the reporting requirements of

CERCLA and/or SARA (40 CFR Parts 302 & 355): Styrene Monomer RQ Value - 1000 lbs.

WASTE DISPOSAL - This material has been tested and found to have a flash point below 140° F. If discarded, this material and containers should be treated as hazardous wastes based on the characteristic of ignitability as defined under the federal RCRA regulations (40 CFR 261). Disposal of this material and its container, requires compliance with applicable labeling, packaging, and record keeping standards. Extreme care should be taken to ensure that it is disposed of only in a facility permitted for disposal of hazardous wastes. For further information, contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA hotline (800) 424-9346 or (202) 382-3000.

ADDITIONAL ENVIRONMENTAL REGULATORY INFORMATION - There may be specific regulations at the local, regional or state level that pertain to this material.

SECTION VIII - PERSONAL PROTECTION INFORMATION

EYE PROTECTION - Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses when working with this substance. Have eye baths readily available where eye contact can occur.

SKIN PROTECTION - Wear impervious gloves and protective clothing to prevent skin contact. suggested protective materials are: Polyvinyl Alcohol, Polyethylene and Viton. Provide safety showers at any location where skin contact can occur.

RESPIRATORY PROTECTION - Use NIOSH or MSHA approved equipment when airborne exposure limits are exceeded. NIOSH/MSHA approved breathing equipment may be required for non-routine and emergency use. Ventilation may be used to control or reduce airborne concentrations.

SPECIAL PRECAUTIONS/SUPPLEMENTAL INFORMATION - Avoid storage above 100°F. Avoid prolonged or repeated skin contact. Avoid inhalation of heated vapors or spray mists. Store in tightly closed containers in cool, dry, isolated, well ventilated area away from heat, sources of ignition and incompatibles. Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

OTHER PRECAUTIONS - Avoid improper addition of promoter and/or catalyst. The promoter and catalyst used with this product should **NEVER** be mixed together apart from the resin. Add promoter and catalyst to resin one product at a time.

SUPPLEMENTAL INFORMATION - SCAQMD Rule 1162 establishes specific process, control, housekeeping, and record keeping requirements for fabrication operations using polyester resin materials. It is the responsibility of the fabricator to ensure compliance with these requirements.

SARA STATUS - One or more of the chemical substances listed in Section II of this MSDS is subject to the reporting requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR 372. [See Section II for percentage of ingredient(s): Styrene monomer (100-42-5)]

This material has been categorized as having the following hazard(s) as defined by SARA Title III Regulations (40 CFR 370): acute, chronic, fire, reactive.

TRANSPORTATION REQUIREMENTS

D.O.T. HAZARD CLASS (49 CFR 172.101) - Flammable Liquid

D.O.T. PROPER SHIPPING (49 CFR 172.101) - Resin Solution, Flammable Liquid

D.O.T. LABELS REQUIRED (49 CFR 172.101) - Flammable Liquid

D.O.T. PLACARDS REQUIRED - Flammable Liquid

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim liability for any use of this material. Information contained herein is believed to be true and accurate but all statements are made without warranty, express or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use and the suitability of the material for the user's purpose.

Prepared By: Joe Morales

F#170-21A

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HAPOL 1300-1L

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
EMERGENCY PHONE NUMBER	- (800) 424-9300
PRODUCT NAME	- Hapol 1300-1L
CHEMICAL FAMILY	- Unsaturated Polyester Resin in Styrene
CHEMICAL NAME	- Monomer
DOT SHIPPING NAME	- Resin Solution - UN 1866
DOT HAZARD CLASS	- Flammable Liquid
HMIS	- Lammability - 3 Health - 2 Reactivity - 1

SECTION II - HAZARDOUS INGREDIENTS

<u>COMPONENTS</u>	<u>CAS #</u>	<u>%</u>	<u>EXPOSURE LIMITS REFERENCE</u>
STYRENE MONOMER	100-42-5	23 - 35	100ppm PEL; 200ppm CL; 600ppm/5min./3 hour PEAK (OSHA 1978) 50ppm TLV; STEL (ACGIH 1984-85)
100ppm UNSATURATED POLYESTER RESIN (PREPOLYMER)	Mixture	65 - 77	N/A
SILICON DIOXIDE (amorphous)	7631-86-9	0.0 - 1.5	0 mg/m ³ (total) TLV (ACGIH 1988-1989)6 mg/m ³ PEL (OSHA)

Health Hazards: Orally - slightly toxic. May cause gastrointestinal disturbances. Skin - slightly to moderately irritating. Eye - slightly to moderately irritating. Inhalation - may cause irritation. Repeated or prolonged breathing of particles of respirable size may cause inflammation of the lung, chest pain, difficult breathing and possible fibrotic change--pneumoconiosis.

DIALLYL PNTHALATE MONOMER	131-17-9	0.0 - 1.2	None established
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Health Hazards: Vapors may be irritating to eyes and respiratory tract. Repeated or prolonged exposure at high concentrations may cause lung irritation and possible lung congestion and liver damage.

Remaining components not determined hazardous and/or hazardous components present at less than 1.0% (0.1%for carcinogens).	Mixture	Trace	N/A
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SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR	- Colorless-yellow, refractive oily liquid: sweet aromatic odor
BOILING POINT	- 293 °F
VAPOR PRESSURE	- 5.00 MM HG @ 20 C (MAXIMUM)
VAPOR DENSITY (AIR =1)	- 3.6 (Styrene)
SPECIFIC GRAVITY	- 1.12
SOLUBILITY IN WATER %	- Slight
PERCENT VOLATILE By Volume	- 23 - 35
EVAPORATION RATE (H2O=1)	- <1
V.O.C. Content	- < 60 grams per liter

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT	- 87 - 95 °F
AUTOIGNITION TEMP.	- °F 914 (°C 490)
FLAMMABILITY LIMITS (in air % By Volume)	- Lower 1.1 Upper 6.1
FLAMMABILITY CLASS	- 1C

FIRE-FIGHTING PROCEDURES - Use dry chemical, all purpose or polar type AFFF foam or water spray to extinguish fire. Water or foam may cause frothing, with further application leading to boil over. Foam may have limited effectiveness on three dimensional fires. Use water spray to cool fire-exposed containers, structures and to protect personnel. Use water to flush spills away from sources of ignition. Do not flush down public sewers.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Fire may produce poisonous or irritating gas, fumes or vapor. Excessive heat may trigger polymerization of confined material. Containers may explode in heat or fire. Styrene vapors are uninhibited and may form polymers in vents or flame arresters of storage tanks, resulting in stoppage of vents. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus, with full face mask and full protective equipment.

PRODUCT HAZARD SUMMARY

HEALTH - CAUTION - May be harmful if swallowed or inhaled. May be irritating to the skin, eyes and respiratory tract. May cause allergic skin reaction. Heated material may cause thermal burns.

FIRE - Warning: Flammable Liquid and vapor.

REACTIVITY - Caution: Unstable at high temperatures.

SECTION V - HEALTH HAZARD DATA

INGESTION - Moderately toxic. May cause gastronomic disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. Exposure may cause symptoms similar to those listed under "Inhalation".

EYE - Moderately irritating. Direct contact may cause corneal lesions. Contact with heated material may cause thermal burns.

SKIN - Moderately irritating. Repeated or prolonged skin contact may cause reddening, inflammation or blistering. May cause allergic reactions in some individuals. Contact with heated material may cause thermal burns. Exposure may cause symptoms similar to those listed under "Inhalation".

INHALATION - Slightly toxic. May cause respiratory tract irritation. May cause harmful central nervous system effects. Effects may include drowsiness, impaired balance, nausea vomiting, loss of appetite and general weakness "Styrene sickness". May also cause blood changes and liver damage. The disagreeable odor and irritation of this material makes inhalation of acutely toxic concentrations unlikely.

SPECIAL TOXIC EFFECTS - This product contains styrene. The International Agency for Research on Cancer (IARC), in its review of a large body of literature, has determined that "the data are inadequate to evaluate the carcinogenicity of styrene in humans" and that there is "limited evidence for the carcinogenicity of styrene in animals." May cause adverse reproductive effects, based on tests with animals. Mutagenic in bacterial and mammalian test systems. Styrene has been reported to cause hearing loss in laboratory animals at concentrations several times the occupational exposure limits. Pre-existing medical conditions which may be aggravated by exposure include, but are not limited to, chronic respiratory and skin disease and central nervous system disorders.

NOTE: This product has not been tested as a whole for all potential health effects. It may have other health hazards related to its components.

PERMISSIBLE EXPOSURE LEVEL - OSHA Exposure limits for styrene (29 CFR 1910.1000 Z-2) : 50 ppm 8-Hour Time Weighted Average (TWA). 100 ppm 15-Minute Short Term Exposure Level (STEL).

Exposures may exceed STEL during the 15-minute period (no ceiling for brief exposures) - but overall STEL must not exceed 100ppm, nor can 8-hour TWA exceed 50 ppm. ACGIH Exposure limits for styrene: 50 ppm 8-hour TWA. 100 ppm STEL during a 15-minute period. There should be at least 60 minutes between successive exposures at the STEL.

Pre-existing medical conditions which may be aggravated by exposure include, but are not limited to, chronic respiratory and skin disease and central nervous system disorders.

FIRST AID PROCEDURES:

INGESTION - DO NOT INDUCE VOMITING BECAUSE OF DANGER OF ASPIRATING LIQUID INTO LUNGS. If spontaneous vomiting occurs, monitor for breathing difficulty. Keep affected person warm and at rest. Get immediate medical attention.

SKIN CONTACT - Wash area of contact thoroughly with soap and water. Remove contaminated clothing immediately. Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Get medical attention if irritation persists.

EYE CONTACT - Flush immediately with large amounts of water for at least 15 minutes. Eye lids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

INHALATION - Remove affected person from source of exposure. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, give oxygen. Keep affected person warm and at rest. Get immediate medical attention.

PRIMARY ROUTES OF ENTRY - Inhalation and Skin Absorption.

CARCINOGENICITY - The International Agency for Research on Cancer (IARC) has classified styrene as possibly carcinogenic to humans (class 2B).

The IRAC 2B classification is not based on significant new evidence that styrene might be a carcinogen, but revised IRAC classification scheme and new data on styrene oxide.

SECTION VI - REACTIVITY DATA

STABILITY - Stable under normal conditions of use. Avoid contact with strong oxidizers.

HAZARDOUS POLYMERIZATION - May occur

INCOMPATIBILITY - Strong acids and oxidizing agents.

HAZARDOUS REACTIONS DECOMPOSITION PRODUCTS - Thermal decomposition products may be hazardous. Reacts vigorously with oxidizing agents.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Ventilate area. absorb spill with an absorbent material such as sawdust, vermiculite or sand and place in a closed container. If large spill, dike the area to prevent this material from entering water systems or sewers. If your facility or operation has an "Oil or Hazardous substance Contingency Plan", activate its procedures. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material.

EMERGENCY ACTION - Keep unnecessary people away. Stay upwind, keep out of low areas. Isolate hazard area and deny entry. (Also see Personal Protection Information section). Isolate for 1/2

mile in all directions if tank or tank car is involved in fire. No flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Use water spray to reduce vapors. Small

spills take up with sand or other non combustible absorbent material or other sorbent known to be compatible, then flush area with water. Large spills dike far ahead of spill for later disposal.

NOTIFICATION - THE REPORTABLE QUANTITY FOR THIS MATERIAL IS 1,000 POUNDS, BASED ON 100% STYRENE MONOMER.

Any spill or other release, or substantial threat of release, of this material to the air, water, or land (unless entirely contained in the work place) equal to or in excess of the reportable quantity must be reported immediately to the National Response Center (800)-424-8802 as required by U.S Federal Law. Failure to report may result in substantial civil and criminal penalties.

WASTE DISPOSAL - Polyester resins , when discarded or disposed of, are not specifically listed as a hazardous waste in federal regulations. Polyester resin in the liquid state is a hazardous waste it exhibits the characteristics of ignitability (40CFR261). Completely polymerized, fully-cured polyester resin solids are non-hazardous solid wastes. Disposal of this material and its container, requires compliance with applicable labeling, packaging, and record keeping standards. Extreme care should be taken to ensure that it is disposed of only in a facility permitted for disposal of hazardous wastes. For further information, contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346 or 202-382-3000).

ADDITIONAL ENVIRONMENTAL REGULATORY INFORMATION - There may be specific regulations at the local, regional or state level that pertain to this material.

SPECIAL PRECAUTIONS/SUPPLEMENTAL INFORMATION HANDLING/STORING - Avoid storage above 100 Deg F. Avoid prolonged or repeated skin contact. Avoid inhalation of heated vapors or spray mists. Store in tightly closed containers in cool, dry, isolated, well ventilated area away from heat, sources of ignition and incompatibles. Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

OTHER PRECAUTIONS - Avoid improper addition of promoter and/or catalyst. A promoter and catalyst used with this product should always be mixed separately with the product and must never be mixed together.

SECTION IX - PERSONAL PROTECTION INFORMATION

EYE PROTECTION - Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses when working with this substance. Have eye baths readily available where eye contact can occur.

SKIN PROTECTION - Wear impervious gloves and protective clothing to prevent skin contact. suggested protective materials are: Polyvinyl Alcohol, Polyethylene and Viton. Provide safety showers at any location where skin contact can occur.

RESPIRATORY PROTECTION - Use NIOSH or MSHA approved equipment when airborne exposure limits are exceeded. NIOSH/MSHA approved breathing equipment may be required for non-routine and emergency use. Ventilation may be used to control or reduce airborne concentrations.

SUPPLEMENTAL INFORMATION

Listed below are the hazard categories for the Superfund Amendments and Reauthorization Act (SARA) Section 311/312 (40 CFR 370):

IMMEDIATE HAZARD:X **DELAYED HAZARD:**X **FIRE HAZARD:**X **PRESSURE HAZARD:** **REACTIVITY HAZARD:**X

The product contains the following toxic chemical(s) subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372):

<u>COMPONENT</u>	<u>CAS #</u>	<u>PERCENT</u>
Styrene Monomer	100-42-5	35

TRANSPORTATION REQUIREMENTS

D.O.T. HAZARD CLASS (49 CFR 172.101) - Flammable Liquid
D.O.T. PROPER SHIPPING NAME (49 CFR 172.101) - Resin Solution, Flammable Liquid
D.O.T. LABELS REQUIRED - (49 CFR 172.101) Flammable Liquid
D.O.T. PLACARDS REQUIRED - Flammable Liquid
UN/NA CODE - UN 1866

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim liability for any use of this material. Information contained herein is believed to be true and accurate but all statements are made without warranty, express or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use and the suitability of the material for the user's purpose.

Prepared By: Joe Morales

F#170-21A