Welcome to
Hastings Plastics
Material Safety Data Sheets for Epoxy Resins

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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

PRODUCT DATA
MSDS HAPEX 1200-34
COMP B
*REPLACED 3/11/98
REPLACED 3/18/93

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HAPEX 1200-34 COMPONENT B
STONE BOND PAVING SYSTEM

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	-	HASTINGS PLASTICS COMPANY
EMERGENCY PHONE NUMBER	-	(310) 829-3449
CHEMICAL FAMILY	-	Epoxy Resin Hardener
TRADENAME	-	Hapex
FORMULA	-	Proprietary

SECTION II - HAZARDOUS INGREDIENTS

PERMISSABLE EXPOSURE CONCENTRATION	-	Not established
COMPONENTS	-	100% resin solids.

SECTION III - PHYSICAL DATA

APPEARANCE, COLOR & ODOR	-	Transparent, amber-colored liquid, moderate amine odor.
BOILING POINT (^{O}F.)	-	N/A.
VAPOR PRESSURE (mm Hg.)	-	N/A.
VAPOR DENSITY (Air = 1)	-	N/A.
SPECIFIC GRAVITY (H_2O=1)	-	0.98
SOLUBILITY IN WATER	-	Slightly soluble.
PERCENT VOLATILE (By Volume)	-	0
EVAPORATION RATE	-	N/A.

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT, ^{0}F	-	200^{0}F (SFCC) LEL N/A.
EXTINGUISHING MEDIA	-	Carbon dioxide, dry chemical, foam.
FLAMMABILITY CLASS	-	Class 3B.
SPECIAL FIRE FIGHTING PROCEDURES	-	Firefighters should wear self-contained breathing apparatus to avoid inhalation of smoke or vapors.
UNUSUAL FIRE AND EXPLOSION HAZARDS	-	Isolate from heat, electrical equipment, sparks, and open flames. Closed containers may rupture when exposed to extreme heat.

(over)

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

VAPOR	-	Irritating to eyes, nose and throat. Excess exposure may result in headache, dizziness, and nausea. Defatting to skin.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION	-	Provide fresh air and rest.
SKIN	-	Wash affected area with soap and water.
INGESTION	-	DO NOT induce vomiting. Drink one or two glasses of water to dilute. See a physician.
EYES	-	Flush with running water for 15 minutes.

SECTION VI - REACTIVITY DATA

STABILITY	-	Stable.
CONDITIONS TO AVOID	-	Warm storage, ignition sources.
INCOMPATIBILITY (Materials To Avoid)	-	Avoid strong, oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS	-	Smoke, toxic vapors, fumes.
HAZARDOUS POLYMERIZATION	-	Will not occur.
CONDITIONS TO AVOID	-	Exothermic reaction with epoxy resin.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Ventilate area. Remove all sources of ignition. Spread absorbent material and place in a closed container. Wear protective equipment during cleanup.

WASTE DISPOSAL METHOD:
Incinerate in an approved incinerator or dispose of in a chemical dump in accordance with local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	-	Should be worn to avoid breathing spray mist, heated vapors, or if TLV is exceeded.
VENTILATION	-	Local exhaust and general ventilation recommended.
PROTECTIVE GLOVES	-	Chemical resistant plastic or rubber.
EYE PROTECTION	-	Chemical goggles.
PROTECTIVE EQUIPMENT	-	Safety shower. Eye wash fountain.

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SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Avoid prolonged or repeated inhalation of heated vapors or spray mist. Keep away from heat or open flames.

OTHER PRECAUTIONS:
Avoid prolonged or repeated skin contact.

SECTION X - SHIPPING INFORMATION

DOT SHIPPING NAME - Not regulated by DOT.
DOT HAZARD CLASS - None.

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#170-21AS

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PRODUCT DATA
MSDS HAPEX 1200-34
COMP A
*REVISED 3/11/98
REPLACED 8/17/88

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HAPEX 1200-34 COMPONENT A
STONE BOND PAVING SYSTEM

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	-HASTINGS PLASTICS COMPANY
EMERGENCY PHONE NUUMBER	- (310) 829-3449
CHEMICAL FAMILY	-Epoxy Resin
TRADE NAME	-Hapex 1200-34

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	CAS #	%	EXPOSURE LIMIT
EPOXY RESIN	--------	87	N/A
BUTYL GLYCIDYL ETHER	2426-08-6	13	25 PPM

SECTION III - PHYSICAL DATA

APPEARANCE, COLOR & ODOR	-	Straw colored liquid, aromatic odor.
BOILING POINT	-	N/A.
VAPOR DENSITY (Air = 1)	-	Non volatile.
SPECIFIC GRAVITY	-	1.13
PERCENT VOLATILE	-	0 %
EVAPORATION RATE	-	Non volatile.

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT, ^{0}F	-	>157 ^{0}F
LEL	-	N/A.
FLAMMABILITY CLASS	-	3A
EXTINGUISHING MEDIA	-	Foam, carbon dioxide, dry chemical, or fog.
SPECIAL FIRE FIGHTING PROCEDURES	-	Firefighters should wear goggles and self-contained breathing apparatus to avoid inhalation of smoke or vapors.
UNUSUAL FIRE AND EXPLOSION HAZARDS	-	None known.

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL:
The OSHA Permissible Exposure Limit (PEL) and the ACGIH TLV for Butyl Glycidyl Ether is 25 ppm for an 8-hour Time Weighted Average (TWA).

EFFECTS OF OVEREXPOSURE:

INHALATION	-	Nasal irritation, central nervous system depression lung injury.
EYE CONTACT	-	Mild to moderate irritation, possible minor temporary corneal injury.

(over)

SKIN CONTACT	-	Mild irritation. May be a skin sensitizer.
SKIN ABSORPTION	-	Not likely to be absorbed in toxic amounts.
FIRST AID:		
EYES	-	Flush with plenty of water and get medical attention.
SKIN	-	Promptly wipe clean with paper or cloths and wash with soap and water. Remove and wash any contaminated clothing before reuse.
INHALATION	-	If ill effects occur remove person to fresh air, keep that person warm and quiet, and get medical attention promptly.
INGESTION	-	Not likely a problem. If large amounts are swallowed, promptly induce vomiting and get medical attention.
PRIMARY ROUTE(S) OF ENTRY	-	Inhalation, ingestion, skin and eye contact.
CARCINOGENICITY	-	This product does not contain 0.1% or more of any substance which is listed as a carcinogen by NTP , IARC or OSHA.

SECTION VI - REACTIVITY DATA

STABILITY	-	Stable.
HAZARDOUS POLYMERIZATION	-	Will not occur.
INCOMPATIBILITY	-	Strong oxidizers, acids, and bases and epoxy hardeners under uncontrolled conditions.
CONDITIONS TO AVOID	-	Heat and warm storage.
HAZARDOUS DECOMPOSITION PRODUCTS	-	Carbon monoxide, carbon dioxide, smoke. Other possible products unknown.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Ventilate area. Absorb spill with suitable absorbent material and place into a closed container. For large spills, dike area and pump into closed container. Prevent this material from entering waterways. Wear protective equipment during clean up.

WASTE DISPOSAL METHOD:
At this time, this material or its containers would not be considered hazardous wastes as defined under the federal RCRA regulations (40 CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current federal, state, and local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	-	Should be worn to avoid breathing spray mist heated vapors or if TLV is exceeded.
VENTILATION	-	Local exhaust and general ventilation recommended.
PROTECTIVE GLOVES	-	Chemical resistant plastic or rubber.
EYE PROTECTION	-	Chemical goggles.
PROTECTIVE EQUIPMENT	-	As required to prevent wetting skin or clothing.

(next page)

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes.

OTHER PRECAUTIONS:
Wear protective equipment.

SECTION X - SUPPLEMENTAL INFORMATION

REGULATORY INFORMATION:

NONE

SARA HAZARD CLASSIFICATION:

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

SARA SECTION 313 LISTED INGREDIENTS:

This material does not contain any substance which is subject to the reporting requirements of 40 CFR 372.

DOT PROPER SHIPPING NAME:

Combustible liquid, n.o.s. (Butyl glycidyl ether)
(if packaged in quantities greater than 110 gallons)

UN NUMBER:

NA1993

DOT HAZARD CLASS:

Combustible liquid

DISCLAIMER OF LIABILITY

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PRODUCT DATA
MSDS 1200A
*Revised 05/29/09
Replaces 4/19/99

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HAPEX 1200A

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT SALES	- (310) 829-3449
EMERGENCY PHONE NUMBER	- (800) 424-9300
PRODUCT NAME	- Hapex 1200A
PRODUCT CODE NUMBER	- 1200A
CHEMICAL FAMILY	- Epoxy Resin
CHEMICAL NAME	- Modified Diethyl Ether of Bisphanol A
FORMULA	- Proprietary
D.O.T. CLASSIFICATION	- Not regulated

HMIS Rating: Health - 2 Fire - 1 Reactivity - 0

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	CAS #	%	TLV (units)
BISPHENOL A DIGLYCIDYL ETHER	25085-99-8	70-78	Not Established
O - CRESYL GLYCIDYL ETHER	26447-14-3	20-25	Not Established

CARCINOGENICITY: This chemical is not considered to be carcinogenic.

HAZARD STATEMENT: This material safety data sheet has been prepared in compliance with Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.This product is considered to be a hazardous chemical under that standard.

SECTION III - PHYSICAL DATA

APPEARANCE AND COLOR	-	Straw colored liquid.
ODOR	-	Mild aromatic odor.
BOILING POINT	-	N/A
VAPOR PRESSURE	-	N/A.
VAPOR DENSITY	-	Nonvolatile
SOLUBILITY IN WATER	-	Nil.
PERCENT VOLATILE (By Volume)	-	0
EVAPORATION RATE	-	N/A.
SPECIFIC GRAVITY	-	1.14 - 1.19

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT ^{0}F (Method Used)	-	>200 closed cup
FLAMMABLE LIMITS(In Air % LEL)	-	N/A.
EXTINGUISHING MEDIA	-	Foam, carbon dioxide, dry chemical, water spray.

(Over)

SPECIAL FIRE FIGHTING PROCEDURES - Firefighters should wear goggles and self-contained breathing apparatus to avoid inhalation of smoke vapors

UNUSUAL FIRE AND EXPLOSION HAZARDS - Decomposition and combustion products may be toxic.

SECTION V - HEALTH EFFECTS DATA

THRESHOLD LIMIT VALUE - None assigned

OVEREXPOSURE-CHRONIC: Mice receiving skin applications of the Diglycidyl Ether of Bisphenol A or essentially identical resins for two years have yielded very limited evidence of weak carcinogenicity. The published report on this study concludes that the resin product "is not a systemic carcinogen when applied to the skin of CF 1 mice" and the tumor data "was of no biological importance". Based on all available data, IRAC (International Agency For Research On Cancer) has concluded in 1988 that DGEBPA is not classified as a carcinogen.

EFFECTS OF OVEREXPOSURE:

EYES - Mild to moderate irritation, possible minor temporary corneal injury.
SKIN - Not likely to be absorbed in toxic amounts.
INHALATION - May cause nasal irritation, central nervous system depression or lung injury.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Allergy, Eczema, Dermatitis

EMERGENCY & FIRST AID PROCEDURES:

EYE CONTACT - Flush with water. Get medical attention if necessary.
SKIN CONTACT - Wash with soap and water. Remove and wash contaminated clothing.
INHALATION - If ill effects occur remove person to fresh air, keep that person warm and quiet and get medical attention promptly.
INGESTION - If conscious, give large quantities of water. get immediate medical attention.
OTHER Promptly remove wet contaminated clothing. Wash before reuse.

PRIMARY ROUTE(S) OF EXPOSURE

ORAL LD50 - (RAT) >5,000 mg/kg
DERMAL LD50 - (RAT) >2100 mg/kg
SKIN IRRITATION - (RABBIT) Mild Irritation
EYE IRRITATION - (RABBIT) None
SENSITIZATION - (GUINEA PIG) Sensitizer
INHALATION LC50 - (RAT) 6.1 mg/L for a 4 hour exposure; toxic by inhalation (minor ingredient)

CARCINOGENICITY:
This product does not contain 0.1% or more of any substance which is listed as carcinogen by NTP, IARC or OSHA.

SECTION VI - REACTIVITY DATA

STABILITY - Stable.
HAZARDOUS POLYMERIZATION - Will not occur.
INCOMPATIBILITY - Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS - Carbon monoxide, carbon dioxide, aldehydes.
CONDITIONS TO AVOID - Elevated temperatures, strong acids & bases in bulk.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Ventilated area. Absorb spill with suitable absorbent material and place into a closed container. For large spills, dike area and pump

into closed containers. Prevent this material from entering waterways. Wear protective equipment during cleanup.

WASTE DISPOSAL METHOD:
At this time, this material or its containers would not be considered hazardous wastes as defined under the federal RCRA regulations (40 CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current Federal, State, and Local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION - Use NIOSH approved respirator suitable for organic vapors, if required.
VENTILATION - Local exhaust and general ventilation recommended
PROTECTIVE GLOVES - Rubber or polyethylene.
EYE PROTECTION - Safety glasses with side shields.
OTHER PROTECTIVE EQUIPMENT - Protective equipment to avoid personal contact.

SECTION IX - SPECIAL PRECAUTIONS & STORAGE DATA

HMIS CODE - HEALTH: 2 FIRE: 1 REACTIVITY: 0

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING :
This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes. Store in tightly closed containers in cool, dry area. Wash thoroughly after handling.

SECTION X - SUPPLEMENTAL INFORMATION

REGULATORY INFORMATION: None

SARA HAZARD CLASSIFICATION: This material has been categorized as having the following hazard(s) as defined by SARA Title III regulations (40 CFR 370): acute

SARA SECTION 313 LISTED INGREDIENTS: This material does not contain any substance which is subject to the reporting requirements of 40 CFR 372.

DOT PROPER SHIPPING NAME: Not regulated by DOT

UN NUMBER: None

RCRA STATUS: Not a hazardous waste under RCRA (40 CFR 261)

CERCLA STATUS: Not listed

TSCA INVENTORY STATUS: Chemical components listed on TSCA inventory.

NEW JERSEY RIGHT TO KNOW LABELING INFORMATION - This product contains the following :

CHEMICAL NAME	CAS NUMBER
Phenol, 4-4'-(1-Methylethylidene) Bis-, Polymer with (Chloromethyl)Oxirane	25068-38-6
Oxirane, {(Methylphenoxy)Methyl}	26447-14-3

PENNSYLVANIA RIGHT TO KNOW ACT - The following is required composition information:

(Over)

HAPEX 1200A MATERIAL SAFETY DATA SHEET PAGE 10 OF 46

I. CHEMICAL NAME: Phenol, 4-4'-(1-Methylethylidene) Polymer with (Chloromethyl)oxirane
CAS NUMBER: 25068-38-6
COMMON NAME: Bisphenol A Epoxy Resin
COMMENTS: Not on Pennsylvania Hazardous Substance List

II. CHEMICAL NAME	CAS NUMBER
Oxirane, {(Methylphenoxy)Methyl}	26447-14-3
COMMON NAME	**COMMENTS**
Cresyl Glycidyl Ether	Not on Pennsylvania Hazardous Substance List

HAZARDOUS PRODUCTS INFORMATION ACT - This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS	CAS NUMBER	AMOUNT %w/w
Reaction product of epichlorohydrin & bisphenol A	25085-99-8	70 - 78%

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No Changes at this time

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PRODUCT DATA
MSDS 1201 Hardener
*Revised 05/27/03
Replaces 4/15/99

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HAPEX 1201 HARDENER

S7ECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT SALES AND INFORMATION	- (310) 829-3449
EMERGENCY PHONE NUMBER	- (800) 424-9300
PRODUCT NAME	- HAPEX 1201 HARDENER
CHEMICAL NAME	- Aliphatic Amin Adduct
CHEMICAL FAMILY	- Epoxy Resin Hardener
FORMULA	- Proprietary

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	%	CAS #	PEL
MODIFIED POLYAINES	90	PROPRIETARY	N/A
PHENOL	10	108-95-2	5 ppm ACGIH
FORMALDEHYDE	2	50-00-0	1 ppm ACGIH

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR	- Light colored liquid.
BOILING POINT (°F)	- N/A.
VAPOR PRESSURE (mm HG)	- Less than .01
VAPOR DENSITY (Air=1)	- Heavier than air.
SPECIFIC GRAVITY (H_20=1)	- 1.08
SOLUBILITY IN WATER	- Slightly soluble.
PERCENT VOLATILE (By Volume (%))	- 0
EVAPORATION RATE (Ethyl Ether = 1)	- Slower than n-Butyl Acetate
V.O.C. CONTENT	- 0

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT °F (Method Used) - >200 °F (SFCC)
LOWER EXPLOSION LIMIT - 1.5%.
FLAMMABILITY CLASS. - Class 3B.
EXTINGUISHING MEDIA - Carbon dioxide, dry chemical, foam.
SPECIAL FIRE FIGHTING PROCEDURES - Firefighters should wear self contained breathing apparatus to avoid inhalation of smoke or vapors.
UNUSUAL FIRE AND EXPLOSION HAZARDS - None known. Closed containers may rupture when exposed to extreme heat.

(over)

SECTION V - HEALTH EFFECTS DATA

PERMISSIBLE EXPOSURE LEVEL: The OSHA PEL and the ACGHI TLV for phenol is currently set at 5 ppm for an 8-hour TWA. OSHA has established a 1 ppm PEL for formaldehyde as as 8-hour time weighted average (TWA) and a 2 ppm 15-minute short term exposure limit (STEL). OSHA has also set 0.5 ppm as an action level for formaldehyde. See OSHA regulation at 21 CFR 1910.1048 for information on workplace requirements if these levels are exceeded. The ACGHI TLV for formaldehyde is 1 ppm for an 8-hour TWA.
EFFECTS OF OVEREXPOSURE: Repeated or prolonged skin contact with this formaldehyde - containing material may cause an allergic skin reaction (i.e. sensitization) in some individuals.

INHALATION - May cause nasal irritation, central nervous system depression or lung injury.
EYE CONTACT - This product may contain alkaline materials that can cause chemical burns to the eyes. Eye damage may be irreversible.
SKIN CONTACT - May be corrosive or highly irritation to skin. Repeated contact may cause sensitization and/or dermatitis.
SKIN ABSORPTION - No specific information is available; however, this material may contain aliphatic amines which may be absorbed through the skin.
Phenol has a marked corrosive effect upon any tissue. Overexposure to phenol can cause headaches, nausea, dizziness, labored breathing, shock and convulsions.

EMERGENCY & FIRST AID PROCEDURES:
INHALATION - If ill effects occur remove person to fresh air, keep that person warm and quiet and get medical attention promptly.
SKIN - Promptly wipe clean with paper or cloths and wash with soap and water. Remove and wash any contaminated clothing before reuse.
INGESTION - Not likely a problem. If large amounts are swallowed get medical attention immediately.
EYES - Flush with plenty of water and get medical attention.

PRIMARY ROUTE(S) OF ENTRY - Inhalation, ingestion, skin and eye contact. Phenol may be absorbed through the skin.
CARCINOGENICITY - Formaldehyde is listed as a potential carcinogen by the National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC).

SECTION VI - REACTIVITY DATA

STABILITY - Stable.
CONDITIONS TO AVOID - Heat, warm storage and ignition sources.
HAZARDOUS POLYMERIZATION - Will not occur.
INCOMPATIBILITY (Material To Avoid) - Strong oxidizers, acids, bases and epoxy resins under uncontrolled conditions.
HAZARDOUS DECOMPOSITION PRODUCTS - Carbon monoxide, carbon dioxide, smoke. Other possible products unknown

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Ventilate area. Absorb spill with suitable absorbent material and place into a closed container. For large spills, dike area and pump into closed containers. Prevent this material from entering waterways. Wear protective equipment during cleanup. This material contains the following ingredients which, if spilled or released in quantities equal to or greater than the Reportable quantity (RQ), are subject to the reporting requirements of CERCLA and/or SARA (40 CFR Parts 302 & 355):PHENOL RQ Value = 1000 lbs & FORMALDEHYDE RQ Value = 100 lbs

(next page)

WASTE DISPOSAL METHOD: At this time, this material or its containers would not be considered hazardous wastes as defined under the federal RCRA regulations (49CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in a approved facility in accordance with current federal, state, and local regulations.
For further information, contact your state or local waste agency or the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346 or 202-382-3000).

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION - Should be worn to avoid breathing spray mist, heated vapors or if TLV is exceeded.
VENTILATION - Local exhaust and general ventilation recommended.
PROTECTIVE GLOVES - Chemical resistant plastic or rubber.
EYE PROTECTION - Chemical goggles.
OTHER PROTECTIVE EQUIPMENT - As required to prevent wetting skin or clothing.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING: This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes.

OTHER PRECAUTIONS: Wear protective equipment.

SECTION X - SUPPLEMENTAL INFORMATION

REGULATORY INFORMATION: None.
Formaldehyde is listed by the state of California as a substance known to cause cancer. The California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) Requires that clear reasonable warning be given before exposing any person to formaldehyde.

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

SARA SECTION 313 LISTED INGREDIENTS: The following ingredients in this material are subject to the reporting requirements of section 313 of SARA and 40 CFR 372 [see section II for percentage of ingredients(s)]:
PHENOL (108-95-2)
FORMALDEHYDE (50-00-0)

SECTION XI - SHIPPING INFORMATION

D.O.T. SHIPPING NAME - POLYAMINE, LIQUID,CORROSIVE LIQUID N.O.S. (PHENOL)
D.O.T. HAZARD CLASS - 8,Corrosive material. II
D.O.T. I.D. NUMBER - UN 2735

(OVER)

DISCLAIMER OF LIABILITY

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PRODUCT DATA
MSDS 1208
*Revised 4/22/99
Replaces 8/14/97

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HAPEX 1208

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	-	HASTINGS PLASTICS COMPANY
PRODUCT INFO\SALES	-	(310) 829-3449
EMERGENCY PHONE NUMBER	-	24 HOURS (800) 424-9300
PRODUCT NAME	-	Hapex 1208
PRODUCT CODE NUMBER	-	Hapex 1208
CHEMICAL FAMILY	-	Epoxy Resin
CHEMICAL NAME	-	Modified Bisphanol A Diglycidyl Ether
FORMULA	-	Proprietary
D.O.T. CLASSIFICATION	-	Not regulated

HMIS Rating: Health - 2 Fire - 1 Reactivity - 0

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	CAS #	%	TLV (units)	PEL
BISPHENOL A DIGLYCIDYL ETHER	25085-99-8	78-85	Not Established	Not Established
SILICA AMORPHOUS, FUMED, CRYST.-FREE	112945-52-5	8-10	Not Established	Not Established
FELDSPAR	14808-60-7	8-10	0.1mg/m³	0.1mg/m³

Feldspar, as reported on this Company's MSDS is an anhydrous, inorganic, naturally occurring igneous mineral rock (sodium, potassium calcium, aluminum silicate) devoid of any asbestos minerals or acicular particles. These products contain crystalline silica, as quartz up to 13% dry weight. It is non-flammable and non-toxic and does not begin to fuse until 1950°F (1065°C).

CARCINOGENICITY: IARC Monograph Volume 42, 1987 concludes that "there is limited evidence for the carcinogenicity of crystalline silica to humans." IARC classification 2A. The NTP, in the Sixth Annual Report on Carcinogens, 1991, has added crystalline silica to its list of substances that are "reasonably anticipated to be carcinogens".

HAZARD STATEMENT: This material safety data sheet has been prepared in compliance with Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.This product is considered to be a hazardous chemical under that standard.

(over)

SECTION III - PHYSICAL DATA

APPEARANCE AND COLOR	-	Translucent Cloudy Paste
ODOR	-	Mild aromatic odor.
BOILING POINT	-	N/A
VAPOR PRESSURE	-	N/A.
VAPOR DENSITY	-	Nonvolatile
SOLUBILITY IN WATER	-	Nil.
PERCENT VOLATILE (By Volume)	-	0
EVAPORATION RATE	-	N/A.
SPECIFIC GRAVITY	-	1.14 - 1.19

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT ^{0}F (Method Used)	-	>200 closed cup
FLAMMABLE LIMITS (In Air % LEL)	-	N/A.
EXTINGUISHING MEDIA	-	Foam, carbon dioxide, dry chemical, water spray.
SPECIAL FIRE FIGHTING PROCEDURES	-	Firefighters should wear goggles and self-contained breathing apparatus to avoid inhalation of smoke vapors
UNUSUAL FIRE AND EXPLOSION HAZARDS	-	Decomposition and combustion products may be toxic.

SECTION V - HEALTH EFFECTS DATA

THRESHOLD LIMIT VALUE: This product contains crystalline silica which may cause delayed respiratory disease (silicosis) if inhaled over a prolonged period of time.

OVEREXPOSURE-CHRONIC: Mice receiving skin applications of the Diglycidyl Ether of Bisphenol A or essentially identical resins for two years have yielded very limited evidence of weak carcinogenicity. The published report on this study concludes that the resin product "is not a systemic carcinogen when applied to the skin of CF 1 mice" and the tumor data "was of no biological importance". Based on all available data, IRAC (International Agency For Research On Cancer) has concluded in 1988 that DGEBPA is not classified as a carcinogen.

EFFECTS OF OVEREXPOSURE:

EYES	-	Mild to moderate irritation, possible minor temporary corneal injury.
SKIN	-	Not likely to be absorbed in toxic amounts.
INHALATION	-	May cause nasal irritation, central nervous system depression or lung injury.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Allergy, Eczema, Dermatitis

EMERGENCY & FIRST AID PROCEDURES:

EYE CONTACT	-	Flush with water. Get medical attention if necessary
SKIN CONTACT	-	Wash with soap and water. Remove and wash contaminated clothing.

(nextpage)

INHALATION	-	If ill effects occur remove person to fresh air, keep that person warm and quiet and get medical attention promptly.

INGESTION	-	If conscious, give large quantities of water. Get immediate medical attention.
OTHER		Promptly remove wet contaminated clothing. Wash before reuse.
PRIMARY ROUTE(S) OF EXPOSURE		
ORAL LD50	-	(RAT) >5,000 mg/kg
DERMAL LD50	-	(RAT) >2100 mg/kg
SKIN IRRITATION	-	(RABBIT) Mild Irritation
EYE IRRITATION	-	(RABBIT) None
SENSITIZATION	-	(GUINEA PIG) Sensitizer
INHALATION LC50	-	(RAT) 6.1 mg/L for a 4 hour exposure; toxic by inhalation (minor ingredient)

CARCINOGENICITY:
This product does not contain 0.1% or more of any substance which is listed as carcinogen by NTP, IARC or OSHA.

SECTION VI - REACTIVITY DATA

STABILITY	-	Stable.
HAZARDOUS POLYMERIZATION	-	Will not occur.
INCOMPATIBILITY	-	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS	-	Carbon monoxide, carbon dioxide, aldehydes.
CONDITIONS TO AVOID	-	Elevated temperatures, strong acids & bases in bulk.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Ventilated area. Absorb spill with suitable absorbent material and place into a closed container. For large spills, dike area and pump into closed containers. Prevent this material from entering waterways. Wear protective equipment during cleanup.

WASTE DISPOSAL METHOD:
At this time, this material or its containers would not be considered hazardous wastes as defined under the federal RCRA regulations (40 CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current Federal, State, and Local regulations.

COMMUNITY RIGHT TO KNOW:
Feldspar is regulated under EPCRA (SARA Title III). Reports should be made as required by this Act. California's Proposition 65 lists crystalline silica as a carcinogen.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	-	Use NIOSH approved respirator suitable for organic vapors, if required.
VENTILATION	-	Local exhaust and general ventilation recommended
PROTECTIVE GLOVES	-	Rubber or polyethylene.
EYE PROTECTION	-	Safety glasses with side shields.
OTHER PROTECTIVE EQUIPMENT	-	Protective equipment to avoid personal contact.

(over)

SECTION IX - SPECIAL PRECAUTIONS & STORAGE DATA

HMIS CODE - HEALTH: 2 FIRE: 1 REACTIVITY: 0

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes. Store in tightly closed containers in cool, dry area. Wash thoroughly after handling.

SECTION X - SUPPLEMENTAL INFORMATION
REGULATORY INFORMATION: None

SARA HAZARD CLASSIFICATION: This material has been categorized as having the following hazard(s) as defined by SARA Title III regulations (40 CFR 370): acute

SARA SECTION 313 LISTED INGREDIENTS: This material does not contain any substance which is subject to the reporting requirements of 40 CFR 372.

DOT PROPER SHIPPING NAME: Not regulated by DOT

UN NUMBER: None

RCRA STATUS: Not a hazardous waste under RCRA (40 CFR 261)

CERCLA STATUS: Not listed

TSCA INVENTORY STATUS: Chemical components listed on TSCA inventory.

NEW JERSEY RIGHT TO KNOW LABELING INFORMATION - This product contains the following :

I. CHEMICAL NAME	CAS NUMBER
Phenol, 4-4'-(1-Methylethylidene) Bis-, Polymer with (Chloromethyl)Oxirane	25068-38-6
Oxirane, {(Methylphenoxy)Methyl}	26447-14-3

PENNSYLVANIA RIGHT TO KNOW ACT - The following is required composition information:

I. CHEMICAL NAME	CAS NUMBER
Phenol, 4-4'-(1-Methylethylidene) Polymer with (Chloromethyl)oxirane	25068-38-6

COMMON NAME	COMMENTS
Bisphenol A Epoxy Resin	Not on Pennsylvania Hazardous Substance List

II. CHEMICAL NAME	CAS NUMBER
Oxirane, {(Methylphenoxy)Methyl}	26447-14-3

COMMON NAME	COMMENTS
Cresyl Glycidyl Ether	Not on Pennsylvania Hazardous Substance List

(nextpage)

HAZARDOUS PRODUCTS INFORMATION ACT - This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS	CAS NUMBER	AMOUNT %w/w
Reaction product of epichlorohydrin & bisphenol A	25085-99-8	70 - 78%

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

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

PRODUCT DATA
MSDS 1210-14
*Revised 11/28/98
Replaces 12/09/96

BACK TO INDEX

HAPEX 1210-14

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	-	HASTINGS PLASTICS COMPANY
PRODUCT INFO/SALES	-	(310) 829-3449
EMERGENCY PHONE NUMBER	-	(800) 424-9300
PRODUCT NAME	-	Hapex 1210-14
PRODUCT CODE NUMBER	-	1210-14
CHEMICAL FAMILY	-	2,2'Dimaminodiethylamine
CHEMICAL NAME	-	Mixture of M-Diaminobenzene and Bis-(2-Aminoethyl)Amine
SYNONYMS	-	Ethylamines and Aromatic Amines

HMIS: HEALTH - 3 FLAMMABILITY - 1 REACTIVITY - 0

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	%	ACGIH TWA(ppm)	ACGIH TLV(units)	OSHA TWA (ppm)	CAS #
1,2-Ethanediamine,N-(2-aminoethyl)	49 - 50	1 ppm	1 mg/m3	1 ppm	111-40-0
Benzenediamine	49 - 50		N/E		108-45-2
Aminoethylpiperazine	0.1 - 1.0		N/E		140-31-8

SECTION III - PHYSICAL DATA

APPEARANCE, COLOR & ODOR	-	Dark amber liquid. Ammoniacal odor.
MELT POINT-FREEZE POINT	-	Not available.
BOILING POINT	-	473˚F.
VAPOR PRESSURE at 20˚C	-	0.051
VAPOR DENSITY (Air = 1)	-	3.60
SPECIFIC GRAVITY (H_20=1)	-	1.045
SOLUBILITY IN WATER (at 25˚C)	-	67% by weight at given temperature.
EVAPORATION RATE (Butyl Acetate = 1)	-	<.51

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT	-	208˚F Pensky-Martens closed cup ASTM D 93 225˚F Cleveland open cup ASTM D 92
AUTOIGNITION TEMP	-	1040˚F
AUTODECOMPOSITION TEMP	-	N/A
FLAMMABLE LIMITS IN AIR	-	Lower: N/A Upper: N/A
EXTINGUISHING MEDIA	-	Apply alcohol-type or all-purpose-type foams by manufactures recommended techniques for large fires. Use CO_2 or dry chemical media for small fires.

(Over)

SPECIAL FIRE FIGHTING PROCEDURES: Isolate hazard and evacuate area. Stay upwind and avoid smoke and fumes. Use water spray to cool tanks and reduce vapors. CAUTION: Contact between water and molten material ,may cause spattering. If smoke and fumes cannot be avoided, wear full protective clothing with hood and breathing air supply. Run-off from fire control may cause pollution.

UNUSUAL FIRE AND EXPLOSION HAZARD: May produce a floating fire hazard and extreme fire conditions.

SECTION V - HEALTH EFFECTS DATA

TOXICITY: Inhalation 4-hour: 3.2 mg/L in rats. Skin absorption ALD: 1500 mg/kg in rabbits. Oral: 450 mg/kg in rats.

The compound is a skin and eye irritant and is a skin sensitizer in tests with laboratory animals. Toxic effects described in animals from short exposures by inhalation, ingestion, or skin contact include liver effects and kidney effects. Tests in animals demonstrate no carcinogenic activity. While mutagenicity tests have yielded inconsistent results, the weight of evidence indicates that m-Phenylenediamine in mutagenic in cultured bacterial and mammalian cells. Tests in some animals indicate that the compound may have embryotoxic activity.

Human health effects of overexposure by eye or skin contact may include eye irritation with discomfort, tearing, or blurring of vision; skin irritation with discomfort or rash; or allergic skin rashes. The compound has been infrequently associated with skin sensitization in humans. Overexposure by inhalation, skin absorption, or ingestion may cause abnormal liver function as detected by laboratory tests.

EXPOSURE LIMITS:

OSHA (TWA)	1.0000 ppm	4.0000 mg/m3
ACGIH (TWA)	1.0000 ppm	4.2000 mg/m3

m-Phenylenediamine
PEL (OSHA) - none established
TLV (ACGIH) - 0.1 mg/m3, 8hr TWA, A4

CARCINOGENICITY: Not listed as a carcinogen by IARC, OSHA, NTP, or ACGIH.

EFFECTS OF ACUTE OVEREXPOSURE:

SWALLOWING - Moderately toxic. May cause burns of mouth and throat, abdominal pain, nausea, vomiting, and diarrhea, dizziness, weakness, thirst collapse and possible coma. The nature and severity of these signs and symptoms will be dependent on the amount swallowed. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

SKIN ABSORPTION - Prolonged or repeated exposure may result in the absorption of harmful amounts of material.

INHALATION - Vapors are irritating and may cause excessive tear formation, burning sensation of the nose and throat, coughing, wheezing shortness of breath, nausea and vomiting. Extremely high vapor concentrations may cause lung damage. Some individuals may develop asthma. (See "Other Effects of Overexposure").

SKIN CONTACT - Causes severe local redness, swelling and chemical burns.

(next page)

EYE CONTACT - Causes moderate to severe conjunctival irritation, corneal injury and iritis. Corneal injury may be marked, extensive, and if not promptly treated, may possibly lead to permanent impairment of vision.

EFFECTS OF REPEATED OVEREXPOSURE - Repeated exposure to high concentrations of vapor may cause injury to liver, kidney, and respiratory tract.

OTHER EFFECTS OF OVEREXPOSURE - Inhalation of ethyleneamines may cause sensitization of the respiratory tract, and the development of an asthmatic reaction on further exposure. There may be some susceptible* individuals who develop long-term hyperactive airways, asthma and other respiratory injury following exposure to extremely low concentrations of ethyleneamines, even below the irritation threshold. Other respiratory irritants may produce a reaction in individuals whose airways have become hyperactive.*Since there are no definitive screening methods available to identify susceptible individuals, we suggest that people with asthma, or other long-standing respiratory conditions (for example, chronic bronchitis, emphysema, etc.) should be protected from any potential exposure to ethyleneamines.

- Skin contact may cause sensitization and an allergic skin reaction.
- Cross-sensitization may also occur by skin contact with this material and other amines.

EMERGENCY & FIRST AID PROCEDURES:
SWALLOWING - If patient is fully conscious, give two glasses of water or milk at once. Do not induce vomiting. Obtain medical attention without delay.

SKIN - Remove contaminated clothing, discard shoes and flush skin with plenty of water. Obtain medical attention. Wash clothes before wearing again. Discard shoes.

INHALATION - Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Obtain medical attention.

EYE - Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention, preferably an ophthalmologist, promptly.

NOTES TO PHYSICIAN:
There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Due to the corrosive nature of the material, swallowing may lead to severe ulceration and inflammation of the upper alimentary tract with hemorrhage and fluid loss. Also, perforation of the esophagus or stomach may occur, leading to mediastinitis or peritonitis and the resultant complications. Due to the severely corrosive nature of the material, any aspiration during vomiting could result in severe lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. However, the acute peroral systemic toxicity of the material indicates that evacuation of the stomach contents should be undertaken at the earliest possible time by means carrying the least likelihood for aspiration (e.g. the use of gastric lavage with endotracheal intubation).

SECTION VI - REACTIVITY DATA

STABILITY - Stable.
HAZARDOUS POLYMERIZATION - Will not occur.
INCOMPATIBILITY
(Materials To Avoid) - Avoid contamination with mineral or organic acids, oxidizing materials, aldehydes, ketones, and organic halides.
HAZARDOUS DECOMPOSITION PRODUCTS - Burning can produce carbon monoxide and/or carbon dioxide and oxides of nitrogen. Vigorous heating above ambient temperatures can produce ethylenediamine, diethylenetriamine, other volatile amines and ammonia.

(over)

CONDITIONS TO AVOID - Some decomposition can occur upon vigorous heating; e.g., application of high-pressure steam or flame.

SECTION VII - SPILL OR LEAK PROCEDURES

TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Wear suitable protective equipment. Avoid contact with liquid and vapors!

SPILLS - Small spills could be flushed with large amounts of water. This product is resistant to biodegradation in a biological wastewater treatment plant. A large spill could be toxic to the biomass in a treatment plant or could be toxic to fish. Therefore, avoid discharge to sewers or to natural waters.

Disposal - Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION - Positive pressure supplied air respirator equipped with a full face piece should be used during any operation where there is potential for release of this product to workplace air.

VENTILATION - This product should be confined within closed equipment, in which case general (mechanical) room ventilation should be satisfactory. Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.

PROTECTIVE GLOVES - Butyl or Neoprene.

EYE PROTECTION - Monogoggles.

PROTECTIVE EQUIPMENT - Eye bath, safety shower, and chemical apron.

SECTION IX - SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING & STORING:

DANGER! Causes eye and skin burns.
Harmful and corrosive if swallowed.
Harmful if inhaled or absorbed through skin.
May cause asthma with possible long-term lung damage.
May cause allergic skin reaction.
Cross-sensitation to other amines may occur.
Combustible.
Aspiration may cause lung damage.
May cause liver, kidney and respiratory system damage.

Do not get in eyes, on skin or on clothing.
Do not swallow.
Avoid breathing vapor.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

(next page)

OTHER PRECAUTIONS:
WARNING: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operation temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors".

SECTION X - REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:
The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response of release of quantities of Hazardous Substances Equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4 .
Components present in this product at a level which could require reporting under this statute are: NONE

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312) .
Components present in this product at a level which could require reporting under this statute are: NONE

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDS that are copied and distributed for this material.
Components present in this product at a level which could require reporting under this statute are: NON

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65: This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

MASSACHUSETTS Right-To-Know: Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.
Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (=>1%)

CHEMICAL	CAS #	UPPER BOUND CONCENTRATION %
1,2-Ethanediamine, N-(2-aminoethyl)	111-40-0	49 - 50
N-Aminoethylpiperazine	140-31-8	.5 - .6

PENNSYLVANIA Right-To-Know: Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.
Components present in this product at a level which could require reporting under the statute are:

(over)

HAZARDOUS SUBSTANCES (=>1%) UPPER BOUND

CHEMICAL	CAS#	CONCENTRATION %
1,2-Ethanediamine, N-(2-aminoethyl)	111-40-0	49 - 50
N-Aminoethylpiperazine	140-31-8	.5 - .6

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS: The ingredients of this product are on the TSCA inventory.
CALIFORNIA SCAQMD RULE 443.1 VOC'S: Not presently available.

SECTION XI - SHIPPING INFORMATION

D.O.T. SHIPPING NAME: Corrosive liquid N.O.S. (Mixture of Ethylamines and M-Diaminobenzene)
D.O.T. ID #: UN 1760.
D.O.T. HAZARD CLASS - Corrosive material. PG III
D.O.T. LABEL REQUIRED - Corrosive.

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

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

PRODUCT DATA
MSDS 1210-33
*Revised 5/5/99
Replaced 8/9/88

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HAPEX 1210-33

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT SALES & INFORMATION	- (310) 829-3449
EMERGENCY PHONE NUMBER	- (800) 424-9300
CHEMICAL FAMILY	- Epoxy Resin Hardener
TRADE NAME	- Hapex 1210-33
FORMULA	- Proprietary
HMIS RATING	- Health - 2 Fire - 1 Reactivity - 1

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	CAS#	MAXIMUM%	EXPOSURE LIMITS
Modified Polyamines	Proprietary	100	Not established

SECTION III - PHYSICAL DATA

APPEARANCE, COLOR & ODOR	- Transparent, straw colored liquid, Amine odor.
BOILING POINT (˚F)	- 430˚
VAPOR DENSITY (Air = 1)	- Nonvolatile.
SPECIFIC GRAVITY	- 0.96
PERCENT VOLATILE (By Volume)	- 0
EVAPORATION RATE	- Nonvolatile.

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT	- >200 ˚F (SFCC).
EXTINGUISHING MEDIA	- Carbon dioxide, dry chemical, foam or fog.
FLAMMABILITY CLASS.	- Class 3B.
LEL	- N/A.
SPECIAL FIRE FIGHTING PROCEDURES	- Firefighters should wear goggles and self-contained breathing apparatus to avoid inhalation of smoke or vapors.
UNUSUAL FIRE AND EXPLOSION HAZARDS	- None known

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
INHALATION - May Cause nasal irritation, central nervous system depression or lung injury.
EYE CONTACT - This product may contain alkaline materials that can cause chemical burns to the eyes. Eye damage may be irreversible.
SKIN CONTACT - May be corrosive or highly irritating to skin. Repeated contact may cause sensitization and or dermatitis.
SKIN ABSORPTION - No specified information is available, however, this material may contain aliphatic amines which may be absorbed through the skin. (over)
PRIMARY ROUTE(S) OF ENTRY - Inhalation, ingestion, skin and eye contact.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION - If ill effects occur, relocate person to fresh air. Keep person warm and quiet then get immediate medical attention.
SKIN - Promptly wipe clean with paper or cloths and wash with soap and water. Remove and wash any contaminated clothing before reuse.
INGESTION - Not likely a problem. If large amounts are ingested, get immediate medical attention.
EYES - Flush with plenty of water and get medical attention.

TOXICOLOGICAL INFORMATION - This material does not contain 0.1% or more of any substance which is listed as a carcinogan by NTP, IARC or OSHA.

SECTION VI - REACTIVITY DATA

STABILITY - Stable.
CONDITIONS TO AVOID - Heat and warm storage.
HAZARDOUS DECOMPOSITION - Carbon monixide, carbon dioxide and smoke. Other possible products unknown.
HAZARDOUS POLYMERIZATION - Will not occur.
INCOMPATIBILITY - Strong Oxidizers, acids, bases and epoxy resins under uncontrolled conditions.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Ventilate area. Absorb spill with suitable absorbent material and place into a closed container. For large spills, dike area and pump into closed containers. Prevent this material from untering water ways. Wear protective equipment during clean up.
WASTE DISPOSAL METHOD: At this time, this material or its containers would not be considered hazardous wastes as defined under the federal RCRA regulations (40 CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current federal, state and local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION - Should be worn to avoid breathing spray mist or heated vapors.
VENTILATION - Local exhaust and general ventilation recommended.
PROTECTIVE GLOVES - Chemical resistant plastic or rubber.
EYE PROTECTION - Chemical goggles.
OTHER PROTECTIVE EQUIPMENT - As required to prevent wetting skin or clothing.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING: This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes.

OTHER PRECAUTIONS: Wear protective equipment.

(next page)

SECTION X - SUPPLEMENTAL INFORMATION

REHULATORY INFORMATION:
SARA & WHMIS HAZARD CLASSIFICATION - This material has been categorized as having the following hazards as defined by SARA Title III regulations (40 CFR 370) acute.
CANADIAN WHMIS CLASSIFICATION: D2B, E
SARA SECTION LISTED INGREDIENTS: This material does not contain any substance which is subject to the reporting requirements or 40 CFR 372.
D.O.T. PROPER SHIPPING NAME - Polyamines, Liquid, Corrosive, N.O.S. (Nonylphenol, Aminoethylpiperazine), S, UN2735, III.

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

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

PRODUCT DATA
MSDS 1214A
*Revised 03/23/09
Replaces 4/16/99

BACK TO INDEX

HAPEX 1214A

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT INFORMATION & SALES	- (310) 829-3449
EMERGENCY PHONE NUMBER	- (800) 424-9300
PRODUCT NAME	- Hapex 1214A
PRODUCT CODE NUMBER	- 1214A
CHEMICAL FAMILY	- Epoxy Resin
CHEMICAL NAME	- Modified Bispnenol A Diglycidyl Ether
FORMULA	- Proprietary

D.O.T. CLASSIFICATION - Not regulated
HMIS: HEALTH - 2 FLAMMABLITY - 1 REACTIVITY - 2

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	%	CAS #	TLV (units)
ALUMINUM	30 - 35	7429-90-5	15.5
IRON	.05-.08	7439-89-6	15.5
SILICON	.01-.02	7440-21-3	15.5
BISPHENOL A DIGLYCIDYL ETHER	25 - 30	25085-99-8	Not established
0-CRESYL GLYCIDYL ETHER	7 - 12	26447-14-3	Not established

SECTION III - PHYSICAL DATA

APPEARANCE AND COLOR	- Gray-colored viscous liquid.
ODOR	- Mild aromatic odor.
BOILING POINT	- None.
VAPOR PRESSURE	- N/A.
VAPOR DENSITY	- N/A.
SOLUBILITY IN WATER	- Nil.
PERCENT VOLATILE (By Volume)	- 0
EVAPORATION RATE	- N/A.
SPECIFIC GRAVITY	- 1.7 - 1.8

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT - >200 ˚F
FLAMMABLE LIMITS (In Air % LEL) - Minimum Explosive concentration in air 40 mg/L.
EXTINGUISHING MEDIA - Foam, CO_2.
SPECIAL FIRE FIGHTING PROCEDURES - Use extreme care to prevent a dust cloud formation. Use gentle surface application of Class D extinguishing agent or dry inert granular material (e.g. sand) to cover and ring the burning powder. Do not use fire extingushers rated for Class A, B, or C fires. Do not use water or halogenated fire extinguishing agents. Do not disturb the burning powder or cause mixing of the agent with the burning powder. Do not disturb the powder until completely cool.

(over)

UNUSUAL FIRE AND EXPLOSION HAZARDS - Aluminum powder may be explosive when dispersed in air. Even a minor dust cloud can explode violently.

SECTION V - HEALTH EFFECTS DATA

THRESHOLD LIMIT VALUE - LD_{50} for rats: greater than 2000 mg/kg.

EFFECTS OF OVEREXPOSURE:
EYES - Mild to moderate irritation, possible minor temporary corneal injury.
SKIN - Mild irritation. May be a skin sensitizer.
INHALATION - May cause nasal irritation, central nervous system depression or lung injury.

EMERGENCY & FIRST AID PROCEDURES:
EYE CONTACT - Flush with water. Get medical attention if necessary.
SKIN CONTACT - Wash with soap and water. Remove and wash contaminated clothing before reuse.
INHALATION - If ill effects occur remove person to fresh air, keep that person warm and quiet and get medical attention if necessary.
INGESTION - Induce vomiting and consult a physician.

PRIMARY ROUTE(S) OF
ENTRY - Inhalation, ingestion, skin and eye contact.
CARCINOGENICITY - This product does not contain 0.1% or more of any substance which is listed as carcinogen by NTP, IARC, or OSHA.

SECTION VI - REACTIVITY DATA

With water - Generates hydrogen and heat slowly. Water/aluminum powder mixtures may be especially hazardous when confined.
With heat - Oxidizes at a rate dependent on temperature.
With strong oxidizers - Violent reaction with much heat generated.
With halogenated compounds - Many halogenated hydrocarbons, including halogenated fire extinguishing agents, can react violently with finely divided aluminum.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Ventilate area. Absorb spill with suitable Broadcast absorbent materials, soak up resin and discard.

WASTE DISPOSAL METHOD: Burn in adequate incinerator or bury in approved landfill.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION - None usually necessary under most industrial operating conditions.
MECHANICAL - Good general ventilation usually adequate.
PROTECTIVE GLOVES - Rubber or polyethylene.
EYE PROTECTION - Safety glasses with side shields.
OTHER PROTECTIVE EQUIPMENT - Clean long leg and long sleeve clothing.

SECTION IX - SPECIAL PRECAUTIONS & STORAGE DATA

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Practice good housekeeping to avoid all skin contact and to avoid breathing vapors, especially those generated when material is heated.

(next page)

SECTION X - REGULATORY INFORMATION

All electrical equipment must be suitable for use in hazardous atmospheres involving aluminum powder in accordance with 28 CFR 1910.307. The National Electrical Code, NFPA 70, contains guidelines for determining the type and design of equipment and installation which will meet this requirement.

STATUS ON SUBSTANCE LISTS:
The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response of release of quantities of Hazardous Substances Equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are:
*** None ***

Superfund Amendments and Reauthorization
Act of 1986 (SARA) Title III
requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are:
**Aluminum (fume/dust)
This material fits the EPA Hazard Category definitions of Reactive and Sudden Release of Pressure Hazards.

Superfund Amendments and Reauthorization
Act of 1986 (SARA) Title III
requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:
**Aluminum (fume/dust)

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

MASSACHUSETTS Right-to-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (=>1%)

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION %
ALUMINUM	7429-90-5	30 - 35
BISPHENOL A DIGLYCIDYL ETHER	25085-99-8	25 - 30
0-CRESYL GLYCIDYL ETHER	26447-14-3	7 - 12

(over)

PENNSYLVANIA Right-to-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (=>1%)
UPPER BOUND

CHEMICAL	CAS NUMBER	CONCENTRATION %
ALUMINUM	7429-90-5	30 - 35
BISPHENOL A DIGLYCIDYL ETHER	25085-99-8	25 - 30
0-CRESYL GLYCIDYL ETHER	26447-14-3	7 - 12

Toxic Substances Control Act(TSCA) STATUS:
The ingredients of this product are on the TSCA inventory.

CALIFORNIA SCAQMD RULE 443.1 VOC'S:
Not presently available

SECTION XI - SHIPPING INFORMATION

D.O.T. SHIPPING NAME - Plastic Materials, Liquid (Modified Bispnenol A diglycdyl ether)
D.O.T. ID # - N/A
D.O.T. HAZARD CLASS. - N/A
D.O.T. LABEL REQUIRED - N/A

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.

No Changes at this time
Prepared By: Joe Morales

F#170-21A

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

PRODUCT DATA
MSDS 1221
*Revised 12/16/98
Replaces 01/04/94

BACK TO INDEX

HAPEX 1221 HARDENER

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	-	HASTINGS PLASTICS COMPANY
PRODUCT INFO/SALES	-	(310) 829-3449
EMERGENCY PHONE NUMBER	-	(800) 424-9300
CHEMICAL NAME	-	Triethylenetetramine
CHEMICAL FAMILY	-	Ethyleneamines
FORMULA	-	Not Applicable
CAS NUMBER	-	112-24-3
CAS NAME	-	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-
PRODUCT NAME	-	Hapex 1221
MOLECULAR WEIGHT	-	Not Applicable
N.F.P.A.	-	HEALTH - 3 FIRE - 1 REACTIVITY - 0

SECTION II - HAZARDOUS INGREDIENTS(% w/w, unless otherwise noted)

COMPONENTS	%	TLV (units)	Hazard
TRIETHYLENETETRAMINE (CAS # 112-24-3)	70	None established	See section V
N,N'bis(2-aminoethyl)piperazine (CAS # 6531-38-0)	13	None established	See section V
PIPERAZINYLETHYL-ETHYLENEDIAMINE (CAS # 24028-46-4)	12	None established	See section V
TRIS(aminoethyl)AMINE (CAS# 4097-89-6)	5	None established	See section V

(Total triethylenetetramine components 98-100%)

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed.

SECTION III - PHYSICAL DATA

ODOR	-	Amine odor.
BOILING POINT	-	>482 °F, 250 °C
VAPOR PRESSURE	-	less than 1 mmHg @ 20 °C
VAPOR DENSITY (Air = 1)	-	5.04
SPECIFIC GRAVITY (H_20=1)	-	0.973-0.981 @ 25 ° / 25 °C
APPEARANCE	-	Light, straw colored liquid.
SOLUBILITY IN WATER	-	mixes completely

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT	-	245 °F, 118 °C
METHOD USED	-	Pensky - Martens closed cup ASTM D 93.
FLAMMABLE LIMITS	-	LFL: 1.1% @ 18 °VC UFL: >6.4% @ 185 °C

(over)

EXTINGUISHING MEDIA - Water fog, alcohol foam, CO2, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES - Do not direct a solid stream of water or foam into hot, burning pools; this may cause splattering and increase fire in-= tensity. Use protective clothing, eye protection and self-contained breathing apparatus.
*USE FULL PROTECTIVE CLOTHING. WILL BURN UNDER THE RIGHT CONDITIONS OF HEAT AND OXYGEN SUPPLY.

SECTION V - HEALTH HAZARD DATA

EXPOSURE LIMIT(S) - None established by ACGIH or OSHA.
EFFECTS OF SINGLE OVEREXPOSURE:
SWALLOWING - Single dose oral toxicity is low. Ingestion may cause gastrointestinal irritation or ulceration. may cause burns of mouth and throat.
SKIN ABSORPTION - A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD50 for skin absorption in rabbits is 800 mg/kg.
INHALATION - May cause respiratory sensitization in susceptible individuals. Excessive exposure may cause irritation to the upper respiratory tract.
SKIN CONTACT - Short single exposure may cause severe skin burns. Has caused allergic reactions in humans.
EYE CONTACT - May cause pain. May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.
INGESTION - Single dose oral toxicity is low. The LD50 for rats is 4340 mg/kg. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat.
CANCER INFORMATION - Did not cause cancer in long-term animals studies.

TERATOLOGY-BIRTH DEFECTS - Laboratory animals that were fed exaggerated doses of triethylenetetrammine showed adverse fetal effects that were believed to be associated with an observed copper deficiency. Exposures having no effect on the mother should have no effect on the fetus.
MUTAGENICITY (EFFECTS ON GENETIC MATERIAL) - Results of in vitro ('test tube') mutagenicity tests have been positive.
EFFECTS OF REPEATED OVEREXPOSURE - Repeated exposure to high concentration of vapor may cause injury to liver, kidney, and respiratory tract.
SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION: Repeated oral exposures may cause kidney liver changes. Contains one or more components which have exhibited evidence for weak mutagenic activity in standard in vitro test systems.
These components and materials of closely-related chemical structure did not exhibit carcinogenic potential in lifetime mouse skin-painting studies. Contains triethylenetetramine which has caused embryofetal toxicity and fetal malformations when fed to rats. Similar effects were not seen in studies in which this material was applied to the skin of rabbits, a more relevant route of exposure in the industrial workplace. These effects are believed to be secondary copper deficiency, resulting from the chelating activity of the chemical. The relevance of these findings to humans is unknown.
OTHER EFFECTS OF OVEREXPOSURE: Inhalation of ethyleneamines may cause sensitization of the respiratory tract, and the development of an asthmatic reaction on further exposure. There may be some susceptible* individuals who develop long-term hyperactive airways, asthma and other respiratory injury following exposure to extremely low concentrations of ethyleneamines, even below the irritation threshold. Other respiratory irritants may produce a reaction in individuals whose airways have become hyperactive.
*Since there are no definite screening methods available to identify susceptible individuals, we suggest that people with asthma, or other long-standing respiratory conditions (for example, chronic bronchitis, emphysema, etc.) should be protected from any potential exposure to ethyleneamines. Skin contact may cause sensitization and an allergic skin reaction. Cross-sensitization may also occur by skin contact with this material and other amines.

(next page)

HAPEX 1221 HARDENER REPLACES 1/4/94 PAGE 36 OF 46

EMERGENCY & FIRST AID PROCEDURES:
INGESTION - Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.
SKIN - Immediately flush thoroughly with water for at least 15 minutes while removing contaminated clothing and shoes. Obtain medical attention without delay. Wash clothing before reuse. Destroy contaminated shoes and other leather items or articles which cannot be decontaminated.
INHALATION - Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Obtain medical attention.
EYES - Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative.
NOTES TO PHYSICIAN: May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagoscopic control. If burn is present, treat as thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient. Excessive exposure may aggravate preexisting asthma.

SECTION VI - REACTIVITY DATA
STABILITY (Conditions to avoid) - Can auto ignite in air at approx.. 561 Degrees F (294 ˚C)
HAZARDOUS POLYMERIZATION - Will not occur.
INCOMPATIBILITY (Materials To Avoid) - Acid, oxidizing material, halogenated organic compounds, aldehydes, ketone and acrylates. Mixture with these materials will result in a temperature and/or pressure increase.
HAZARDOUS DECOMPOSITION PRODUCTS - Nitrogen oxides when burned.

SECTION VII - SPILL OR LEAK PROCEDURES
ACTION TO TAKE FOR SPILLS/LEAKS: Use proper protective equipment
LARGE SPILL - Dike and pump into appropriate containers.
SMALL SPILL - Dilute with water and recover or use noncombustible absorbent material/sand and shovel into suitable containers. DO NOT USE SAWDUST, WOOD CHIPS OR OTHER CELLULOSIC MATERIALS TO ABSORB THE SPILL.
DISPOSAL - Large quantities could be recovered. Otherwise, incinerate in accordance with local, state, and federal regulations. DO NOT PUMP INTO SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER.

SECTION VIII - SPECIAL PROTECTION INFORMATION
EXPOSURE GUIDELINES - None established.
RESPIRATORY PROTECTION - Use an approved full-face air-purifying respirator
VENTILATION - General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled in closed equipment. Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.
SKIN PROTECTION - Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Wear a face-respirator, to protect face and eyes when there is any likelihood of splashes. Safety shower should be located in immediate work area. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.
EYE PROTECTION - Use chemical goggles. Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator, to protect face and eyes when there is any likelihood of splashes. Eye wash fountain should be located in immediate work area.
PROTECTIVE EQUIPMENT - Eye bath, safety shower, and chemical apron.

(over)

SECTION IX - SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING & STORING:
DANGER! Causes eye and skin burns. Harmful and corrosive if swallowed. Harmful if inhaled or absorbed through skin. May cause asthma with possible long-term lung damage. May cause allergic skin reaction. Cross-sensitation to other amines may occur. Combustible. Aspiration may cause lung damage. May cause liver, kidney and respiratory system damage. Do not get in eyes, on skin or on clothing. Do not swallow. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS: WARNING: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "auto ignition" or "ignition" temperature values cannot be treated as safe operation temperatures in chemical processes without analysis of the actual process conditions.

Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors".

SECTION X - REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:
The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response of release of quantities of Hazardous Substances Equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: *** None ***

Superfund Amendments and Re-authorization
Act of 1986 (SARA) Title III

requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).
Components present in this product at a level which could require reporting under the statute are: *** None ***

Superfund Amendments and Re-authorization
Act of 1986 (SARA) Title III

requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDS that are copied and distributed for this material.
Components present in this product at a level which could require reporting under the statute are: *** None ***

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

MASSACHUSETTS Right-to-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.
Components present in this product at a level which could require reporting under the statute are:

(next page)

HAZARDOUS SUBSTANCES (=>1%)

CHEMICAL	UPPER BOUND CAS NUMBER	CONCENTRATION %
Triethylenetetramine	112-24-3	99.0
Aminoethylethanolamine	111-41-1	1.6
N-Aminoethylpiperazine	140-31-8	1.5

PENNSYLVANIA Right-to-Know, Substance List (MSL) Hazardous Substances and` Extraordinarily Hazardous Substances on the MSL must be identified when present in products.
Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (=>1%)

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION %
Triethylenetetramine	112-24-3	99.0
Aminoethylethanolamine	111-41-1	1.6
N-Aminoethylpiperazine	140-31-8	1.5

Toxic Substances Control Act(TSCA) STATUS: The ingredients of this product are on the TSCA inventory.
CALIFORNIA SCAQMD RULE 443.1 VOC'S: Not presently available

SECTION XI - SHIPPING INFORMATION

D.O.T. SHIPPING NAME - Triethylene tetramine (mixture)
D.O.T. ID # - UN 2259 PGII
D.O.T. HAZARD CLASS. - Class 8
D.O.T. LABEL REQUIRED - Corrosive.

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

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

PRODUCT DATA
MSDS 1225
*Revised 4/16/99
Replaces 3/17/93

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HAPEX 1225

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	- HASTINGS PLASTICS COMPANY
PRODUCT SALES & INFPORMATION	- (310) 829-3449
EMERGENCY PHONE NUMBER	- (800) 424-9300
PRODUCT NAME	- Hapex 1225
PRODUCT CODE NUMBER	- 1225
CHEMICAL FAMILY	- Epoxy Resin
CHEMICAL NAME	- Modified Diethyl Ether of Bisphanol A

FORMULA - Proprietary
D.O.T. CLASSIFICATION - Not regulated

SECTION II - HAZARDOUS INGREDIENTS

COMPONENTS	CAS #	TLV (units)
O-CRESYL GLYCIDYL ETHER	26447-14-3	Not established
BISPHENOL A DIGLYCIDYL ETHER RESIN	25068-38-6	Not established

SECTION III - PHYSICAL DATA

APPEARANCE AND COLOR	- Black-colored liquid.
ODOR	- Mild aromatic odor.
BOILING POINT	- None.
VAPOR PRESSURE	- N/A.
VAPOR DENSITY	- N/A.
SOLUBILITY IN WATER	- Nil.
PERCENT VOLATILE (By Volume)	- 0
EVAPORATION RATE	- N/A.

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT ^{0}F (Method Used)	- Greater than 200. (Pensky Martin Closed Cup).
FLAMMABLE LIMITS (In Air % LEL)	- N/A.
EXTINGUISHING MEDIA	- Foam, CO_2.
SPECIAL FIRE FIGHTING PROCEDURES	- None.
UNUSUAL FIRE AND EXPLOSION HAZARDS	- None.

(OVER)

SECTION V - HEALTH EFFECTS DATA

THRESHOLD LIMIT VALUE - LD_{50} for rats: greater than 2000 mg/kg.

EFFECTS OF OVEREXPOSURE:
EYES - Minor transient irritation. No corneal injury likely.
SKIN - Only minor irritation. May be a skin sensitizer.
INHALATION- None likely unless heated to high temperatures.

EMERGENCY & FIRST AID PROCEDURES:
EYE CONTACT - Flush with water. Get medical attention if necessary.
SKIN CONTACT - Wash with soap and water. Remove and wash contaminated clothing.
INHALATION - Remove to fresh air. Get medical attention if necessary.
INGESTION - Induce vomiting and consult a physician.

SECTION VI - REACTIVITY DATA

STABILITY - Stable under normal conditions.
HAZARDOUS POLYMERIZATION - May occur.
INCOMPATIBILITY - Acid, base.
HAZARDOUS DECOMPOSITION PRODUCTS - Unknown.
CONDITIONS TO AVOID - With amine compounds under uncontrolled conditions.

SECTION VII - SPILL OR LEAK PROCEDURE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Broadcast absorbent materials, soak up resin and discard.

WASTE DISPOSAL METHOD: Burn in adequate incinerator or bury in approved landfill.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION - None usually necessary under most industrial operating conditions.
MECHANICAL - Good general ventilation usually adequate.
PROTECTIVE GLOVES - Rubber or polyethylene.
EYE PROTECTION - Safety glasses with side shields.
OTHER PROTECTIVE EQUIPMENT - Clean long leg and long sleeve clothing.

SECTION IX - SPECIAL PRECAUTIONS & STORAGE DATA

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Practice good housekeeping to avoid all skin contact and to avoid breathing vapors, especially those generated when material is heated.

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

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

PRODUCT DATA
MSDS HAPEX 1226
*Revised 10/15/98
Replaced 10/14/93

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HAPEX 1226

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	-	HASTINGS PLASTICS COMPANY
EMERGENCY PHONE NUMBER	-	(800) 424-9300
PRODUCT SALES AND INFO	-	(310) 829-3449
CHEMICAL FAMILY	-	Epoxy Resin Hardener
TRADENAME	-	Hapex
FORMULA	-	Proprietary
PRODUCTS CLASS	-	Aliphatic Amidoamine

HMIS RATING Health-2 Fire-1 Reactivity-1

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	CAS#	MAX CONTENT	EXPOSURE LIMITS
Modified Polyamines	Proprietary	90.0 %	None assigned
Tetraethylenepentamine	112-57-2	15.0 %ή	1.0 ppm

Additional information on tetraethylenepentamine is listed on Section V of this data sheet.

SECTION III - PHYSICAL DATA

APPEARANCE, COLOR & ODOR	-	Transparent, amber-colored liquid, moderate amine odor.
BOILING POINT (^{O}F.)	-	N/A.
VAPOR DENSITY (Air = 1)	-	Nonvolatile
SPECIFIC GRAVITY (H_2O=1)	-	0.98
PERCENT VOLATILE (By Volume)	-	0
EVAPORATION RATE	-	Nonvolatile

SECTION IV - FIRE AND HAZARD EXPLOSION DATA

FLASH POINT, ˚F	-	200 F LEL N/A.
EXTINGUISHING MEDIA	-	Carbon dioxide, dry chemical, foam and fog.
FLAMMABILITY CLASS	-	Class 3B.
SPECIAL FIRE FIGHTING PROCEDURES	-	Firefighters should wear goggles and self-contained breathing Apparatus to avoid inhalation of smoke or vapors.

(over)

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL:

- Tetraethylenepentamine (TEPA) as reported here is a complex mixture of TEPA and other ethleneamines. Some of these amines include triethylenetetramine (CAS# 112-24-3) and diethylenetramine (CAS # 111-40-0). The OSHA PEL and the AOGIH TLV for diethylenetramine is 1 ppm for an 8-hour TWA with a skin hazard notation.

EFFECTS OF OVEREXPOSURE:

INHALATION - May cause nasal irritation, central nervous system depression or lung injury.

EYE CONTACT - This product may contain alkaline materials that can cause chemical burns to the eyes. Eye damage maybe irreversible.

SKIN CONTACT - Maybe corrosive or highly irritating to skin. Repeated contact may cause sensitization and/or dermatitis.

SKIN ABSORPTION - No specific information is available; however, this material may contain aliphatic amines which maybe absorbed through the skin.

EMERGENCY AND FIRST AID PROCEDURES:

EYES - Flush with plenty of water and get medical attention.

SKIN - Promptly wipe clean with paper or cloths and wash with soap and water. Remove and wash any contaminated clothing before reuse.

INHALATION - If ill effects occur relocate the person to fresh air, keep that person warm and quiet, and get medical attention promptly.

INGESTION - Not likely a problem. If large amounts are swallowed, get immediate medical attention.

PRIMARY ROUTE(S) OF ENTRY:

Inhalation, ingestion, skin and eye contact.

TOXICOLOGICAL INFORMATION:

This material does not contain 0.1% or more of any substance which is listed as a carcinogen by NTP, IARC or OSHA.

TETRAETHYLENEPENTAMINE: LD50 (DRML/RABBIT) 660 MG/KG.

SECTION VI - REACTIVITY DATA

STABILITY	- Stable.
CONDITIONS TO AVOID	- Warm storage, ignition sources.
INCOMPATIBILITY (Materials to Avoid)	- Strong oxidizing agents, acids, bases and epoxy resin under uncontrolled conditions.
HAZARDOUS DECOMPOSITION PRODUCTS	- Carbon monoxide, carbon dioxide, smoke. Other possible products unknown.
HAZARDOUS POLYMERIZATION	- Will does not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Ventilate area. Absorb spills with suitable absorbent material and place into a closed container. For large spills, dike area and pump into a closed container. Prevent this material from entering waterways. Wear protective equipment during cleanup.

WASTE DISPOSAL METHOD:
At this time, this material or its container would not be considered hazardous wastes as defined under the federal RCRA regulations (40 CFR 261) if discarded. Care should be taken to ensure that the material or its containers are disposed of in an approved facility in accordance with current federal, state, and local regulations.

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

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	-	Should be worn to avoid breathing spray mist, heated vapors, or if TLV is exceeded.
VENTILATION	-	Local exhaust and general ventilation recommended.
PROTECTIVE GLOVES	-	Chemical resistant plastic or rubber.
EYE PROTECTION	-	Chemical goggles.
PROTECTIVE EQUIPMENT	-	As required to prevent skin or clothing contact.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes.

OTHER PRECAUTIONS:
Wear proper protective equipment.

SECTION X - SUPPLEMENTAL INFORMATION

REGULATORY INFORMATION: NONE
SARA & WHMIS HAZARD CLASSIFICATION: This material has been categorized as having the following hazard(s) as defined by SARA Title III regulations (40 CFR 370): acute.

CANADIAN WHMIS CLASSIFICATION: D1B,E

SARA SECTION 313 LISTED INGREDIENTS: This material does not contain any substance which is subject to the reporting requirements of 40 CFR 372.

DOT SHIPPING NAME: Not regulated by DOT-HMR

(over)

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

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