

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: GSP 1345A
Product Use: Epoxy Resin
Effective Date: 5/23/05

Manufactured by:
G.S. Polymers, Inc.
195 Arovista Ave.
Brea, CA 92821
(714) 672-0567 Fax: (714) 672-0987

In an emergency call CHEMTREC @ 800-424-9300

Section 2 – Composition/Information on Ingredients

Hazardous Ingredients(s)	%(by wt.)	OSHA (ACGIH) TLV	CAS NO.
Epoxy Resin (Diglycidyl Ether of Bis-Phenol A)	up to 75%	N/E	25068-38-6

Section 3 – Hazards Identification

Primary Route(s) of Entry: Eyes, Dermal

Warning! Causes allergic skin reactions. May cause eye irritation.

Additional Hazards:

Cutting or grinding of cured material may release nuisance dust and may present a respiratory hazard. Avoid breathing dust. Respiratory irritation may occur

Read the entire MSDS for a more thorough evaluation of the hazards.

Section 4 – First Aid Measures

Eyes: For eye contact, immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water.

Skin: For skin contact, wash with large amounts of running water, and soap, if available, for 15 minutes. Remove contaminated clothing and shoes. Get immediate medical attention. Discard or decontaminate clothing before re-use and destroy contaminated shoes.

Inhalation: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion:	If swallowed, give at least 3-4 glasses of water but do not induce vomiting. If vomiting occurs, give water again. Do not give anything by mouth to an unconscious or convulsing person. Get medical attention. Have physician determine whether vomiting or stomach evacuation is necessary.
Overexposure Effects:	Irritation, sensitization and dermatitis.
Medical Conditions Aggravated by Exposure:	Allergy, eczema or skin conditions.
Additional Information:	Promptly remove wet contaminated non-impervious clothing. Wash before reuse.

Section 5 – Fire Fighting Measures

Flash Point:	490 F (254 C) Epoxy Resin; Closed Cup
Extinguishing Media:	Carbon Dioxide, foam, dry chemical, water spray.
Fire Fighting Equipment:	Use self-contained breathing apparatus.
Fire and Explosion Hazards:	Decomposition and combustion products may be toxic.

Section 6 – Accidental Release Measures

For major spills call Chemtrec (800) 424-9300.

Spill or Leak Procedures: Avoid all personal contact. Take up with absorbent material. Shovel into closable containers. Flush contaminated area with water.

Section 7 – Handling and Storage

Handling Precautions:

Avoid contact with eyes, skin and clothing. Avoid breathing vapor, mist or spray. Use only with good ventilation. Individuals should wash thoroughly after handling. For industrial use only.

Storage:

Store in cool, dry area in sealed containers. Keep containers closed to prevent moisture absorption and contamination.

Section 8 – Exposure Controls/Personal Protection

Personal Protective

Equipment:	Wear appropriate equipment to prevent eye or skin contact. Use of barrier cream recommended.
Eye Protection:	Wear splash resistant safety goggles.
Skin Protection:	Wear impervious gloves.
Ventilation:	Good general mechanical ventilation and local exhaust.
Respirators:	Organic chemical cartridge respirator, if needed.
Hygienic Practices:	Wash hands before eating, smoking or using toilet facilities. Do not smoke in any chemical handling and storage area. Food or beverages should not be consumed near where this product is stored.

 Section 9 – Chemical and Physical Properties

Physical Form	Viscous Liquid
Color:	Black
Odor	Slight
Boiling Point	> 392 F (200 C)
Decomposition Temperature	> 392 F (200 C)
Viscosity	N/E
Solubility in Water	Slightly Soluable
Specific Gravity	1.72
Bulk Density	14.34 lbs/gal
Vapor Pressure	N/E

N/E = Not Established

 Section 10 – Stability and Reactivity

Stability:	This is a stable material.
Hazardous Polymerization:	Will not occur.
Incompatibilities:	Strong oxidizing agents.
Instability Conditions:	Avoid strong acids or bases in bulk and elevated temperatures
Decomposition Products:	Carbon monoxide, carbon dioxide, aldehydes.

 Section 11 – Toxicology Information

This product has not been tested as a whole. Available component data is provided below.

TOXICITY DATA FOR: Epoxy Resin
Acute Toxicity:

Oral LD50:	> 5000 mg/kg (Rat)
Dermal LD50:	> 6000 mg/kg (Rabbit)
Eye Effects:	Slight irritation (Rabbit)
Skin Effects:	Moderate irritation (Rabbit)
Teratogenicity:	No adverse effects on embryonic or fetal development were observed.

Mutagenicity:

Ames Test:	both positive and negative results
Hamster Bone Marrow Cytogenetics (in vivo):	negative
Mouse Spermatocytes Cytogenetics (in vivo):	negative
Micronucleus Test (in vivo):	negative
Mouse Dominant Lethal Test:	negative
Alkylation of DNA:	positive
Human Mononucleated WBC (in vitro):	negative
Host Mediated Assay:	negative

Sub-Chronic:

(Rat) No observable effect at highest level studied (1000 mg/kg/day for 28 days) in oral feeding study.

Chronic Toxicity:

2-Year Dermal Study in Mice: no treatment related effects.

2-Year Skin Painting Studies:

A C3HF/BD Mice:	no increased tumor incidence.
B C57BL/6BD Mice:	slight increase in epidermal localized carcinomas at high dose.
C C3H Mice:	no tumors.

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 this 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, IARC (International Agency for Research on Cancer) has concluded in 1988 that DGE BPA is not classified as a carcinogen.

Section 12 – Ecological Information

This product has not been tested as a whole. Available component data is provided below.

ECOLOGICAL DATA FOR: Epoxy Resin

Biodegradability: (Modified Sturm method): ~12%

Fish Toxicity:

Rainbow Trout 96 hr): LC50 1.5 mg/l

Zebra Fish (96 hr): LC50 2.4 mg/l

Invertebrate Toxicity: Daphnia Toxicity (24 hr): EC50 3.6 mg/l.

Section 13 – Disposal Considerations

Waste Disposal Method: Dispose in accordance with federal, state and local regulations.

Section 14 – Transportation Information

Department of Transportation: Not Regulated

Section 15 – Regulatory Information

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This product is considered to be a hazardous chemical under the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

SARA Title III: Section 313: None

TSCA Section 8(b) – Inventory Status: Chemical component listed on TSCA Inventory

TSCA Section 12(b) – Export Notification: This product contains chemicals which are regulated by TSCA 12(b) Regulation and it is required that proper export notification shall be sent to EPA prior to shipping out of the United States America.

CAS Number: 1675-54-3

Chemical Name: Bisphenol A Diglycidyl Ether

State Regulations:

New Jersey Right-to-Know: The following is required composition information:

CAS Number: 25068-38-6

Chemical Name: Phenol, 4,4'-(1-methylethylidene) bis-, polymer with (chloromethyl)oxirane

Pennsylvania Right-to-Know: The following is required composition information:

CAS Number: 25068-38-6

Chemical Name: Phenol, 4,4'-(1-methylethylidene) bis-, polymer with (chloromethyl)oxirane

Common Name: Bisphenol A Epoxy Resin

Comment: Not on Pennsylvania Hazardous Substance List.

State Regulations:

California Proposition 65: component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the “Safe Drinking Water and Toxic Enforcement Act of 1986

Benzene, Toluene

Section 16 – Other Information

HMIS RATINGS:	Health	Flammability	Reactivity
	2	1	0

0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of G.S. Polymers’ product safety program. It is not intended to constitute performance information concerning the product. No Express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. G.S. Polymers does not undertake to furnish advice on such matters.

Prepared by Gerald Salladin _____ Date _____

Title: Owner

Company: G.S. Polymers, Inc.

Rev Date: 5/24/05

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: GSP 1345B
 Product Use: Epoxy Hardener
 Effective Date: 5/23/05

Manufactured by:
 G.S. Polymers, Inc.
 195 Arovista Ave.
 Brea, CA 92821
 (714) 672-0567 Fax: (714) 672-0987

In an emergency call CHEMTREC @ 800-424-9300

Section 2 – Composition/Information on Ingredients

Hazardous Ingredients(s)	%(by wt.)	CAS NO.	Exposure Limit
Fatty Acid Polyamides	< 50	68410-23-1	Not Established
Trethylenetetramine	< 10	112-24-3	Not Established

Section 3 – Hazards Identification

Eye Contact: Product may be extremely irritating to the eyes and may cause severe damage including blindness. Vapors may be irritating.

Skin Contact: Product may be mildly irritating to the skin. Product may cause skin sensitization.

Inhalation: Mists or vapors may produce severe respiratory irritation.

Ingestion: Not expected to be a relevant route of exposure, however, product may produce irritation of mouth and throat and the gastrointestinal tract.

Aggravated Medical Conditions:

Preexisting skin, eye and respiratory disorders may be aggravated by exposure to this product.

Additional Hazards:

Cutting or grinding of cured material may release nuisance dust and may present a respiratory hazard. Avoid breathing dust. Respiratory irritation may occur.

Section 4 – First Aid Measures

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Rinse continuously with water while on way to get medical attention.

Skin Contact: Remove contaminated clothing or shoes, wipe excess from skin and flush with plenty of water for at least 15 minutes. Use soap if available or follow by washing with soap and water. Do not reuse clothing until thoroughly cleaned. Get medical attention.

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

Ingestion: Do not induce vomiting. Give one glass of water unless victim is drowsy, convulsing or unconscious. Seek medical attention.

Section 5 – Fire Fighting Measures

Flash Point: >428 F (220 C) TEPA

Extinguishing Media: Use water fog, “Alcohol” foam, dry chemical or CO2. Do not use a direct stream of water. Product will float. Water of foam may cause frothing which can be violent, especially sprayed into containers of hot or burning liquid.

Fire Fighting Procedures: Material will not burn unless preheated. Do not enter confined fire space with out full bunker gear (Helmet with face shield, bunkercoats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

Fire and Explosion Hazards: Delayed lung damage (pulmonary edema) can be experienced after exposure to combustion products, sometimes hours after the exposure. Nitrogen oxides and nitrogen containing organic compounds may be released upon combustion.

Section 6 – Accidental Release Measures

For major spills call Chemtrec (800) 424-9300.

Spills or Leak: Use cautious judgement when cleaning up large spills. See Fire (Section 5) and Ecological (Section 12) Warnings. Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum tucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; dispose of properly. Flush area with water to remove trace residue. For small spills: Take up with an absorbent material and dispose of properly.

Section 7 – Handling and Storage

Handling Precautions:

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well ventilated work space. When handling, do not eat, drink, or smoke.

Storage:

Keep away from acids, oxidizers. Keep in cool, dry ventilated storage and in closed containers. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store in reactive metal containers.

Other Precautions:

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA). Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Cancer-causing nitrosamines could be formed.

Section 8 – Exposure Controls/Personal Protection

Eye Protection: Splash proof eye goggles. In emergency use eye goggles with a full face shield.

Hand Protection: Neoprene rubber gloves. Impermeable gloves. Polyvinyl chloride gloves.

Respirators: Avoid breathing vapor/mists. Use NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR 1910.134, use either a full-face, atmosphere-supplying respirator or an air-purifying respirator for organic vapors. Avoid breathing vapors breathing vapors which may be produced under some conditions such as heating or applications of uncured material in large surface areas (eg, flooring and painting). Avoid breathing aerosols and mists which may be formed by various methods or applications.

- Protective Clothing:** Do not get in eyes. Wear chemical goggles if there is potential contact with eyes. Avoid contact with skin and clothing. Wear chemical-resistant gloves and protective clothing.
- Addition Measures:** Use ventilation as required to control vapor concentrations. Eye wash fountains and safety showers should be available for emergency use.

Section 9 – Chemical and Physical Properties

Physical Form	Viscous Liquid
Color	White
Odor	Ammonical
Boiling Point	Decomposes
Melting Point	Not Available
Solubility in Water	Slight
Specific Gravity	1.5
Bulk Density	12.54 lbs./gal
Vapor Pressure	Negligible @ 20 deg C
Vapor Density	> 1 (Air = 1)

Section 10 – Stability and Reactivity

- Stability:** This is a stable material.
- Incompatibilities:** Avoid contact with strong oxidizing agents. Reaction with epoxy resins can produce considerable heat.
- Decomposition Products:** Nitrogen oxides, carbon monoxide and unidentified organic compounds (some containing nitrogen) may be formed during thermal or oxidative decomposition of combustion.
- Hazardous Polymerization:** Will not occur.

Section 11 – Toxicology Information

This product has not been tested as a whole. Available component data is provided below.

Toxicology:

- Acute Oral LD50: >5000 mg/kg (Rat)
- Acute Dermal LD50: > 8000 mg/kg (Rabbit)
- Acute Inhalation LD50: No Data

Additional Information:

Triethylenetetramine (TETA) has been found to be a direct acting mutagen in the Ames assay. It gave positive results with and without activation. TETA was fetotoxic and teratogenic when fed to rats at 0.83% and 1.67% of diet. When applied dermally to the skin of pregnant guinea pigs, there was a 90% abortion rate or death of fetus with secondary to copper deficiency, resulting from the chelating activity of TETA.

Section 12 – Ecological Information

This product has not been tested as a whole. Available component data is provided below.

Triethylenetetramine is resistant to biodegradation in biological waste water treatment plants. It could be toxic to the biomass in a treatment plant and could be toxic to fish.

Section 13 – Disposal Considerations

Waste Disposal Method: Dispose in accordance with federal, state and local regulations.

Section 14 – Transportation Information

DOT Non-Bulk Shipping Name: Not Regulated

ICAO/IATA Shipping Data: Not Regulated

Section 15 – Regulatory Information

State Regulations:

California Proposition 65: component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the “Safe Drinking Water and Toxic Enforcement Act of 1986

Benzene, Toluene

Section 16 – Other Information

HMIS RATINGS: Health Flammability Reactivity
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