

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: GSP 1331-1 Part A
 Product Use: Component of Epoxy.
 Effective Date: 8/20/05

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

Ingredients(s)	%(by wt.)	ACGIH TLV	CAS NO.
Epichlorohydrin – Bisphenol A	up to 80%	N/E	1675-54-3
Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxyethylene)]bis-	up to 10%	N/E	17557-23-2

Section 3 – Hazards Identification

Eye Contact	Product is moderately irritation to the eyes.
Skin Contact	Product is moderately irritating to the skin and may cause skin sensitization. Prolonged or repeated liquid contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis.
Inhalation	Product may cause respiratory tract irritation, However, because of its low volatility respiratory irritation is not likely unless the material is heated or mists are formed.
Ingestion	Harmful if swallowed
Signs and Symptoms	Irritation as noted above. Skin sensitization (allergy) may be evidenced by rashes, especially hives.
Aggravated Medical Conditions	Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product.

Section 4 – Emergency and First Aid Procedures

Eye Contact	Flush eyes with plenty of water for 15 minutes while holding eyelid open. Get medical attention.
Skin Contact	Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.
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. Have victim rinse mouth with water, then drink sips of water to remove taste from mouth. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.

Section 5 – Fire Fighting Measures

Flash Point: >200 F (closed cup)
UEL No Data
LEL No Data
Extinguishing Media Carbon dioxide, dry chemical and foam
Special Fire Fighting Procedures: Use self-contained breathing apparatus.

Section 6 – Accidental Release Measures

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

After Spillage Take up product with absorbent material and place in non-leaking containers. Sweep and scrape into container for proper disposal.

Waste Disposal In accordance with local, state and federal regulations and ordinances.

Section 7 – Handling and Storage

Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures. Handle in accordance with the potential hazard of the curing agent used.

Section 8 – Exposure Controls/Personal Protection

Respiratory Protection Avoid prolonged or repeated breathing of vapors. Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR 19140.134, use either a full-face, atmosphere-supplying respirator or an air-purifying respirator for organic vapors.

Protective Clothing Avoid contact with eyes. Wear chemical goggles if there is likelihood of contact with eyes. Avoid prolonged or repeated contact with skin. Wear chemical-resistant gloved and other clothing as required to minimize contact.

Additional Protective 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:.....Liquid
Color: Black
Vapor Pressure (mmHg at 21C (70F)):No Data
Vapor Density (Air = 1):.....No Data
Boiling Point:.....No Data
Melting Point:.....No Data

Section 10 – Stability and Reactivity

Stability	Stable
Conditions to Avoid	Excess heating over long time degrades the resin.
Incompatibility	Strong oxidizing agents, acids and bases.
Hazardous Decomposition Products	Carbon Monoxide and/or carbon dioxide.
Hazardous Polymerization	May occur
Conditions to Avoid	With excess of aliphatic amine curing agents.

Section 11 – Toxicology Information

This product has not been tested as a whole. Component data is presented from available sources.

Oral: No Data

Dermal: Expect to be > 2000 mg/kg

Inhalation: No Data

Section 12 – Ecological Information

No Data

Section 13 – Disposal Considerations

Waste Disposal: Comply with all Federal, State and Local Regulations.

Section 14 – Transportation Information

US DOT: Not Regulated

Section 15 – Regulatory Information

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.

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

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: GSP 1331-1 Part B
 Product Use: Epoxy Hardener
 Effective Date: 8/20/05

Manufactured by:
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 195 Arovista Ave.
 Brea, CA 92821
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Section 2 – Composition/Information on Ingredients

Ingredients(s)	%(by wt.)	CAS NO.	Exposure Limit
Fatty Acid Polyamides	up to 50%	68410-23-1	Not Established
Triethylenetetramine	up to 10%	112-24-3	Not Established
Formaldehyde Polymer with Toluene	up to 5%	25155-81-1	Not Established
Toluene	< 0.1%	108-88-3	188 mg/m3 ACGIH TWA

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.

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.

Additional 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	Beige - Amber
Odor	Ammonical
Boiling Point	Decomposes
Melting Point	Not Available
Solubility in Water	Slight
Specific Gravity	Not Established
Bulk Density	Not Established
Vapor Pressure	Not Established
Vapor Density	Not Established

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

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

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

California Prop. 65:**CAS NO. Chemical Name**

108-88-3 Toluene

Section 16 – Other Information

HMIS RATINGS: Health Flammability Reactivity

3 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

Title: Owner

Company: G.S. Polymers, Inc.

Date: 8/20/05