



Safety Data Sheet

GD 5-06131-4 Part A

Section 1. Identification

Product Identifier	GD 5-06131-4 Part A		
Synonyms	Low viscosity epoxy wash coat; 25843 Part A; 25843A		
Manufacturer Stock Numbers	25843A; 25843 Part A		
Recommended use	Low viscosity epoxy wash coat		
Uses advised against	N/A		
Manufacturer Contact			
Address	Resin Formulators 18027 Bishop Avenue Carson, CA, 90746 USA		
	Phone	Emergency Phone	Fax
	(310) 204-6159	(800) 424-9300 CHEMTREC	(310) 202-7247
	Email	Website	
	sales@evroberts.com	http://www.evroberts.com	

Section 2. Hazards Identification

Classification	ACUTE TOXICITY - DERMAL - Category 3 ACUTE TOXICITY - DERMAL - Category 4 ACUTE TOXICITY - INHALATION - Category 3 ACUTE TOXICITY - ORAL - Category 4 CARCINOGENICITY - Category 1B EYE DAMAGE/IRRITATION - Category 2B FLAMMABLE LIQUIDS - Category 3 GERM CELL MUTAGENICITY - Category 2 SKIN CORROSION/IRRITATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3 TOXIC TO REPRODUCTION - Category 2
Signal Word	Warning

Pictogram



Hazard Statements

Causes eye irritation
Causes severe skin burns and eye damage
Flammable liquid and vapor
Harmful if swallowed
Harmful in contact with skin
May cause cancer
May cause respiratory tract irritation
Suspected of causing genetic defects
Suspected of damaging fertility or the unborn child.
Toxic if inhaled
Toxic in contact with skin

Precautionary Statements

Response

If eye irritation persists: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If swallowed: Call a poison center or doctor immediately if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinguishing..
Rinse mouth.
Take off immediately all contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.

Prevention

Avoid breathing dust/fume/gas/mist/ vapors/spray.
Do not eat, drink or smoke when using this product.
Do not handle until all safety precautions have been read and understood.
Ground/bond container and receiving equipment.
Keep away from heat.
Keep container tightly closed.
Obtain special instructions before use.
Take precautionary measures against static discharge.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wash contaminated clothing and any open areas of skin with soap and water thoroughly after handling.
Wear protective Butyl Gloves, Face Shield, Eye Bath and Safety Shower.
Wear protective gloves/protective clothing/eye protection/face protection.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container to appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Disposal should be in accordance with local, state, provincial and national regulations. This material is not a hazardous waste under RCRA 40 CFR 261. Small quantities should be treated with a liquid decontaminate. The treated waste is not a hazardous material under RCRA 40 CFR 261. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways. Note: see section 1 for emergency contact information and section 13 for waste disposal

Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	
Form	Liquid
OSHA/HCS Status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200)
Emergency Overview	<p>WARNING: COMBUSTIBLE LIQUID AND VAPOR. MAY FORM EXPLOSIVE MIXTURES WITH AIR. TOXIC IF INHALED. HARMFUL IN CONTACT WITH SKIN OR IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.</p>
Potential Acute Health Effects	<p>Inhalation - Irritating to respiratory system. Toxic if inhaled</p> <p>Ingestion - Harmful if swallowed.</p> <p>Skin - Harmful in contact with skin. Severely irritating to the skin. May cause sensitization by skin contact.</p> <p>Eyes - Severely irritating to the eyes. Risk of serious damage to eyes.</p>
Potential Chronic Health Effects	Contains material that may cause target organ damage, based on animal data.
Carcinogenicity	No known significant effects or critical hazards
Mutagenicity	Contains material which may cause heritable genetic effects.
Teratogenicity	Contains material which may cause birth defects, based on animal data.
Developmental Effects	No known significant effects or critical hazards.
Fertility Effects	No known significant effects or critical hazards.
Target Organs	<p>Contains material which causes damage to the following organs: Blood, upper respiratory tract, skin, eyes, central nervous system (CNS).</p> <p>Review section 2 and 11 for any additional assessments.</p>
Over-Exposure Signs/Symptoms	<p>Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing</p> <p>Ingestion: No specific data</p> <p>Skin: Adverse symptoms may include the following: pain or irritation, watering, redness</p> <p>Eyes: Adverse symptoms may include the following: pain or irritation, watering, redness.</p> <p>Medical conditions aggravated by over-exposure: Pre-existing skin disorders and disorders involving any other target organs mentioned in this SDS as being at risk may be aggravated by over-exposure to this product.</p>

Section 3. Ingredients

CAS	Ingredient Name	Weight %
2426-08-6	Oxirane, (butoxymethyl)-	<5 %
25068-38-6	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane	70-100 %

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Eye	Immediately flush with plenty of clean running water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes lifting eyelids occasionally. Have eyes examined immediately and tested by medical personnel.
Skin	Immediately flush with large amounts of water for at least 15 minutes. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. Get prompt medical attention.
Inhalation	Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention.
Ingestion	Do not induce vomiting. The victim should drink several glasses of water to dilute the ingested substance. If vomiting occurs naturally, keep airway clear. Get medical attention. Never give anything by mouth if the victim is rapidly losing consciousness, or is unconscious or convulsing.
Protection of First Aid Personnel	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Note to Physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Extinguishing media: Use alcohol-resistant foam, carbon dioxide, dry chemical or water spray when fighting fires involving this material.
Unsuitable Extinguishing Media	Do not use water jet
Flammability of the product	Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
Special Exposure Hazards	Special Exposure Hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Hazardous Combustion Products	Carbon Oxides
Special Protective Equipment for Fire Fighters	Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Extinguishing Media	Suitable: Use dry chemical, CO ₂ , water spray (fog) or foam. Not Suitable: Do not use water jet.

Section 6. Accidental Release Measures

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8)
Environmental Precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)
Large Spills	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material (e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
Small Spills	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and Storage

Handling

Put on appropriate personal protective equipment (see section 8). Do not eat, drink or smoke when using this product. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Avoid breathing of dust created by cutting, sanding, grinding or machining. Avoid breathing of vapors or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion. Dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Follow US NFPA 30, "Flammable & Combustible Liquids Code", or other national, state and local codes on safe handling of flammable liquids. Train workers in the recognition and prevention of hazards associated with the storage, handling and transfer of flammable liquids in the plant. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

Store in an area designated for storage of flammable liquids (See NFPA 30 and OSHA 29 CFR 1910.106). Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	Oxirane, (butoxymethyl)-	N/A	N/A	N/A
	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane	N/A	N/A	N/A
<p>Personal Protective Equipment</p> <p>GLOVES</p> <p>CHEMICAL_GOGGLES</p> <p>FACE_SHIELD</p> <p>PROTECTIVE CLOTHING</p> <p>RUBBER_BOOTS</p> <p>VENTILATION</p> <p>Environmental Exposure Controls</p>	<p>Goggles, Gloves, Apron, Face Shield, Respirator, PROTECTIVE CLOTHING, RUBBER BOOTS, VENTILATION, CHEMICAL GOGGLES</p> <p>Neoprene, Nitrile-Butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use.</p> <p>Chemical Safety Goggles with Side Shields. Indirect Vented Goggles.</p> <p>Face Shield</p> <p>Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.</p> <p>Please wear rubber boots at all times</p> <p>Have proper ventilation</p> <p>Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.</p>			
<p>Recommended Monitoring Procedures</p>	<p>If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.</p>			
<p>Engineering Measures</p>	<p>Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.</p>			
<p>Hygiene Measures</p>	<p>Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.</p>			
<p>Respiratory</p>	<p>Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.</p>			
<p>Additional Information</p>	<p>INGREDIENT NAME: Oxirane, 2-(butoxymethyl)- OCCUPATIONAL EXPOSURE LIMITS: ACGIH TLV 8-hr TWA:3 ppm, OSHA PEL 8-hr TWA: 270 mg/m³ 50 ppm</p>			

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Yellow
Odor	N/A
Odor Threshold	N/A
Solubility	Negligible
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	N/A
Specific Gravity	N/A
Density lbs/Gal	1.13
Pounds per Cubic Foot	N/A
Flash Point	163°F (73°C)
FP Method	setaflash closed cup
Ph	N/A
Melting Point	N/A
Boiling Point	N/A
Boiling Range	N/A
LEL	N/A
UEL	N/A
Evaporation Rate	N/A
Flammability	2
Decomposition Temperature	N/A
Auto-ignition Temperature	N/A
Vapor Pressure	400 Pa @ 77° F (25°C) (Solvent)
Vapor Density	4.5

Section 10. Stability and Reactivity

Chemical Stability	Stable under recommended storage conditions
Hazardous Polymerization	Will not occur
Conditions to Avoid	Avoid heat, flames, sparks and other sources of ignition. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure - obtain special instructions before use.
Materials to Avoid	Strong acids, strong alkalis, aliphatic amines, strong oxidizing agents
Other Hazards	Reacts with considerable heat release with some curing agents. Heating this substance above 300 deg. F in the presence of air may cause slow oxidative decomposition; above 500 deg. F polymerization may occur. Some combinations of resins and curing agents can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants, fumes and vapors from the thermal and chemical decompositions vary widely in composition and toxicity.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposition products may include the following materials: carbon monoxide, aldehydes, acids.

Section 11. Toxicological Information

Acute Toxicity Data

4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer:

LD50 Oral - Rat - 30,000 mg/kg

LD50 Oral - Mouse - 20,000 mg/kg

LD50 Oral - Rabbit - 19.8 mg/kg

LD50 Dermal - Rat - >1,200 mg/kg

LD50 Dermal - Mouse >1,270 mg/kg

Oxirane, 2-(butoxymethyl):

LD50 Oral - Rat - 1,660 mg/kg

LD50 Oral - Mouse - 1,530 mg/kg

LC50 Inhalation - Rat - 1030 ppm/8 h

LD50 Dermal - Rat - >2,150 mg/kg

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Section 12. Ecological Information

Environmental effects

No known significant effects or critical hazards.

Other Adverse Effects

No known significant effects or critical hazards.

Section 13. Disposal

Disclaimer

The generation of waste should be avoided or minimized wherever possible.

Disclaimer Part 2

Disposal should be in accordance with local, state, provincial and national regulations. This material is not a hazardous waste under RCRA 40 CFR 261. Small quantities should be treated with a liquid decontaminate. The treated waste is not a hazardous material under RCRA 40 CFR 261. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

Disclaimer Part 3

Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

Section 14. Transport Information

UN Number N/A

UN Proper Shipping Name N/A

DOT Classification NOT REGULATED FOR THIS PRODUCT

Packing Group N/A

DOT NOT REGULATED This section is provided for general information only. The shipping description below may not represent requirements for all modes of transportation, packaging, shipping methods or locations outside of the United States.

FOR MORE COMPLETE TRANSPORTATION REGULATORY INFORMATION PLEASE REFER TO THE SHIPPING DOCUMENTS ACCOMPANYING THE SHIPMENT OF THIS PRODUCT.

DOT CLASSIFICATION - Not Regulated

The information provided herein may not include the impact of additional regulatory requirements (eg, for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/of marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

International Transport Regulations

Regulatory Information:
CFR, TDG, IMO/IMDG, and IATA are not regulated by D.O.T. for this product if in a container of 119 gallon capacity or less.

Section 15. Regulatory Information

HCS Classification	Combustible liquid, Toxic material, Irritating material, Sensitizing material, Target organ effects
U.S. Federal Regulations	SARA 311/312 CLASSIFICATION: Immediate (acute) health hazard. Delayed (chronic) health hazard, Fire hazard SARA 313 - SUPPLIER NOTIFICATION: This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372. None Required SARA 302 EXTREMELY HAZARDOUS SUBSTANCES: None required
State Regulations	Federal Regulations: None Listed State Regulations: None Listed International Regulations: None Listed Massachusetts RTK Substances - The following components are listed: Oxirane, 2-(butoxymethyl)- New Jersey RTK Hazardous Substances - The following components are listed: Oxirane, 2-(butoxymethyl)- Pennsylvania RTK Hazardous Substances - The following components are listed: Oxirane, 2-(butoxymethyl)-
Regulatory for Canada	California Prop. 65: WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm: Oxirane,(phenoxymethyl)- 122-60-1, Epichlorohydrin - 106-89-8 WHMIS (Canada) Class B-3: Combustible liquid with a flash point between 37.8 degrees C (100 degrees F) and 93.3 degrees C (200 degrees F) Class D-1B: Material causing immediate and serious toxic effects (Toxic) Class D-2A: Material causing other toxic effects (Very Toxic) Class D-2B: Material causing other toxic effects (Toxic)
International Regulations	Canadian Lists: Canadian NPRI: None required. Chemical Inventories: Europe inventory: All components are listed or exempted. Australia inventory (AICS): All components are listed or exempted China inventory (IECSC): All components are listed or exempted Japan inventory (ENCS): All components are listed or exempted Japan inventory (ISHL): Not determined. Korea inventory (KECI): All components are listed or exempted New Zealand Inventory of Chemicals (NZIoC): Not determined Philippines inventory (PICCS): All components are listed or exempted. Canada inventory: All components are listed or exempted United States inventory (TSCA 8b): All components are listed or exempted

Section 16. Other Information

Revision Date

3/19/2015

HMIS Rating (Not Regulated) The HMIS Rating for this product is:
Health: 2 Flammability: 2 Reactivity: 0

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

For Information Purposes Only - No Longer Regulated

Disclaimer

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 E.V. Roberts' product safety program. It is not intended to constitute performance information concerning the product. No warranty, expressed or implied, or 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. E.V. Roberts does not undertake to furnish advice on such matters.



Safety Data Sheet

GD 5-06131-4 Part B

Section 1. Identification

Product Identifier	GD 5-06131-4 Part B		
Synonyms	Curing Agent for Low Viscosity Epoxy Wash Coat; 25843 Part B; 25843B		
Manufacturer Stock Numbers	25843B		
Recommended use	Curing agent for low viscosity epoxy wash coat		
Uses advised against	Do not use water jet		
Manufacturer Contact			
Address	Resin Formulators 18027 Bishop Avenue Carson, CA, 90746 USA		
	Phone	Emergency Phone	Fax
	(310) 204-6159	(800) 424-9300 CHEMTREC	(310) 202-7247
	Email	Website	
	sales@evroberts.com	http://www.evroberts.com/evr_resin_formulators.php	

Section 2. Hazards Identification

Classification	ACUTE TOXICITY - DERMAL - Category 4 ACUTE TOXICITY - INHALATION - Category 4 ACUTE TOXICITY - ORAL - Category 4 EYE DAMAGE/IRRITATION - Category 1 SENSITIZATION - SKIN - Category 1 SKIN CORROSION/IRRITATION - Category 1A
Signal Word	Danger

Pictogram



Hazard Statements

Causes serious eye damage
Causes severe skin burns and eye damage
Harmful if inhaled
Harmful if swallowed
Harmful in contact with skin
May cause an allergic skin reaction

Precautionary Statements

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If on skin: Material is CORROSIVE! Wash with plenty of soap and water. Remove all contaminated clothing and shoes and launder well before reuse. Dispose of shoes that have this chemical on them.
If skin irritation or rash occurs: Get medical advice/attention.
If swallowed: Call a poison center or doctor immediately
If swallowed: Rinse mouth. Do NOT induce vomiting.
Immediately call a poison center or doctor if feeling lightheaded or dizzy and remove person to fresh air outside
Rinse mouth.
Take off immediately all contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.

Prevention

Contaminated work clothing must not be allowed out of the workplace.
Do not breathe mist or vapors..
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wash with soap and water thoroughly after handling
Wear eye protection/face protection.
Wear protective Butyl Gloves, Face Shield, Eye Bath and Safety Shower.
Wear protective gloves/protective clothing/eye protection/face protection.

Storage

Store locked up.

Disposal

Incinerate liquid; landfill or incinerate contaminated diking material in accordance with local, state, and federal regulations.

Ingredients of unknown toxicity

0%

Hazards not Otherwise Classified

Emergency Overview

CORROSIVE!! Causes severe eye and skin burns and possible allergic skin reaction. Vapor irritating to eyes, skin and nasal mucous membranes. Harmful if swallowed.

Primary Route of Entry
Potential Health Effects

Dermal, Inhalation
Vapor or mist can cause severe irritation to the nose and throat. Substance can be corrosive to eyes and causes permanent, irreversible eye injury. Substance can be corrosive to skin and cause chemical burns. Substance will cause burning and swelling of mouth, throat and abdomen on ingestion

Chronic

Prolonged or repeated exposure may cause liver damage. Also, repeated

overexposure can cause allergic reaction

Section 3. Ingredients

CAS	Ingredient Name	Weight %
140-31-8	1-Piperazineethanamine	1-5 %
112-57-2	1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-	1-5 %
111-41-1	Ethanol, 2-[(2-aminoethyl)amino]-	1-5 %
112-24-3	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-	60-100 %

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Ingestion	If swallowed, do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention
Skin	Remove contaminated clothing and shoes. Wash skin with soap and water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Eye	Immediately flush eyes with plenty of water for 15 minutes. If irritation persists, continue flushing and obtain medical attention immediately
Notes To Physician	Allergic dermatitis or respiratory response in susceptible individuals may be delayed. It may appear after weeks or even months of frequent and prolonged contact.
Medical Conditions Aggravated by Exposure	Allergy, eczema, eye or respiratory conditions.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Use alcohol-resistant foam, carbon dioxide, dry chemical or water spray when fighting fires involving this material. Use self-contained breathing apparatus and full protective clothing (Bunker Gear).
Unsuitable Extinguishing Media	Do not use a solid stream of water. A solid stream of water can spread fire.
Hazardous Combustion Products	Decomposition and combustion products may be toxic.
Flash Point	298 Degrees F (148 Degrees C)
Flash Point Method Used	PMCC

Section 6. Accidental Release Measures

Accidental Release Measures	Evacuate the spill area. Wear full protective equipment. Dike and absorb spill with inert material (sand, earth, etc.). Transfer to containers suitable for disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Thoroughly launder clothing before reuse. Keep spills and runoffs out of municipal sewers and open bodies of water. If spilled on a porous surface, ground contamination must be considered.
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Section 7. Handling and Storage

Signal Word	CORROSIVE
Precautions	Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks, and flames. Wear splash goggles and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.
Other Handling Information	In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Avoid contact with eyes and prolonged or repeated skin contact. Do not inhale mists. Use with adequate ventilation. For industrial use only.
Storage Information	STORAGE TEMPERATURE: 35 deg C, Maximum. Do not store near food or feed. Corrosive to copper and brass on long term storage.
Additional Information	PLEASE READ TECHNICAL DATA SHEET BEFORE HANDLING THE PRODUCT. KEEP OUT OF THE REACH OF CHILDREN. FOR INDUSTRIAL USE ONLY.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	1-Piperazineethanamine	N/A	N/A	N/A
	1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-	N/A	N/A	N/A
	Ethanol, 2-[(2-aminoethyl)amino]-	N/A	N/A	N/A
	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-	N/A	N/A	N/A
<p>Personal Protective Equipment</p> <p>Engineering Controls</p>	<p>Goggles, Gloves, Apron, Face Shield, Respirator, CHEMICAL GOGGLES, PROTECTIVE CLOTHING, RUBBER BOOTS, VENTILATION</p> <p>Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. Follow guidelines in the ACGIH publication "Industrial Ventilation".</p>			
Eye/Face Protection	<p>Face shield and safety glasses with side shields. If there is a potential for splashing or spraying of product, use full face protection and have safety showers and eye wash stations available. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).</p>			
Respiratory Protection	<p>Wear risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)</p>			
Skin Protection	<p>The following protective materials are recommended. Gloves - neoprene, nitrile-butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.</p>			
Prevention of Swallowing	<p>Do not eat, drink, or smoke when using this product. Wash exposed areas thoroughly with soap and water.</p>			
Protective Clothing	<p>Avoid contact with eyes. Wear safety goggles as appropriate. Wear chemical resistant clothing as required to minimize contact</p>			
Hygiene Measures	<p>Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.</p>			

Section 9. Physical and Chemical Properties

Physical State	Low Viscosity Liquid
Color	Faint Yellow
Odor	Mild ammoniacal
Odor Threshold	N/A
Solubility	Appreciable
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	~100 cps
Specific Gravity	0.98
Density lbs/Gal	N/A
Pounds per Cubic Foot	N/A
Flash Point	298°F (148° C)
FP Method	PMCC
Ph	N/A
Melting Point	-31°F (-35°C)
Boiling Point	>464°F (>240°C) Decomposition
Boiling Range	N/A
LEL	N/A
UEL	N/A
Evaporation Rate	<0.1 (Butyl Acetate=1)
Flammability	1
Decomposition Temperature	>464°F (240° C)
Auto-ignition Temperature	N/A
Vapor Pressure	<0.01 mm Hg at 20°C(68°F)
Vapor Density	N/A

Section 10. Stability and Reactivity

Chemical Stability	Stable under recommended storage conditions
Conditions to Avoid	Avoid high temperatures. Avoid flames and contact with strong oxidizing agents.
Incompatibilities	Oxidizing agents, acids, aldehydes, ketones, epoxides, acrylates, and organic halides.
Hazardous Decomposition Products	Nitrogen Oxides, Carbon Monoxide, Carbon Dioxide
Hazardous Polymerization	Will not occur

Section 11. Toxicological Information

Acute Oral Effects (LD50)	LD50 (Rat) 2500 - 4340 mg/kg (peroral) triethylenetetramine
Acute Dermal Toxicity (LD50)	LD50 (Rabbit) 550-800 mg/kg (percutaneous) triethylenetetramine
Skin Sensitization	Sensitizer. May cause allergic reaction.
Skin Contact	Corrosive. Causes burns.
Eye Contact	Corrosive. Causes burns.

Section 12. Ecological Information

Ecological Information	No data
Ecotoxicological Information	None Listed
Environmental/Chemical Fate	None Listed

Section 13. Disposal

Disposal	Incinerate liquid in approved equipment. Landfill or incinerate contaminated material in accordance with local, state and federal regulations.
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Section 14. Transport Information

UN Number 2259
UN Proper Shipping Name Triethylenetetramine
DOT Classification 8
Packing Group II
Transport Information DOT (US): Non-Bulk
UN Number: UN 2259
Class: 8
Packing Group: II
Proper Shipping Name: Triethylenetetramine
Label: Corrosive

IMDG: Non-Bulk
UN Number: UN 2259
Class: 8
Packing Group: II
Proper Shipping Name: Triethylenetetramine
Label: Corrosive

TDG: Non-Bulk
UN Number: UN 2259
Class: 8
Packing Group: II
Proper Shipping Name: Triethylenetetramine
Label: Corrosive

IATA: Non-Bulk
UN Number: UN 2259
Class: 8
Packing Group: II
Proper Shipping Name: Triethylenetetramine
Label: Corrosive

Section 15. Regulatory Information

U.S. Federal Regulations

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)

This Safety Data Sheet (SDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA):

This product is not considered to be a P or U listed hazardous waste under RCRA (40 CFR 261).

SARA TITLE III: Section 304 - CERCLA: Not Listed

SARA TITLE III: Section 311/312 Hazard Communication Standard (HCS):
Immediate (acute) health hazard. Delayed (chronic) health hazard,

SARA TITLE III: Section 313 Toxic Chemical List (TCL):

This product does not contain a toxic chemical for routine annual Toxic Chemical Release Reporting under Sec. 313 (40 CFR 372)

TSCA SECTION 8 (b): - Inventory Status:

Chemical components comply with TSCA regulations.

TSCA SECTION 12 (b) - Expert Notification:

This product does not contain any chemicals subject to Section 12(b) export notification.

International Regulations

Australia Inventory Status (AICS): This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

Canada Inventory Status: All components included on the Domestic Substances List (DSL)

Canadian WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. D2A, D2B, E

Europe Inventory Status (EINECS): All components are included (or exempted) in the EINECS master inventory.

Japan Inventory Status This product contains only chemicals currently listed on the Japanese Ministry of International Trade and Industry List of Existing and New Chemical Substances.

State Regulations

California Prop. 65: This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

Pennsylvania Right To Know: The following is required composition information:

Chemical Name: 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-

Common Name: Triethylenetetramine

CAS Number: 112-24-3

Comment: Hazardous Substance

Chemical Name: ETHANOL, 2-[(2-AMINOETHYL)AMINO]-

Common Name: ETHANOL, 2-[(2-AMINOETHYL)AMINO]-

CAS Number: 111-41-1

Comment: Hazardous Substance

Chemical Name: 1-Piperazineethanamine
Common Name: Aminoethylpiperazine
CAS Number: 140-31-8
Comment: Hazardous Substance

Chemical Name: 1,2-Ethanediamine, N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-
Common Name: Tetraethylenepentamine
CAS Number: 112-57-2
Comment: Hazardous Substance

Section 16. Other Information

Revision Date 4/3/2015

HMIS Rating (Not Regulated) The HMIS Rating for this product is:
Health: 3 Flammability: 1 Reactivity: 1

For Information Purposes Only - No Longer Regulated

Disclaimer

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 E.V. Roberts' product safety program. It is not intended to constitute performance information concerning the product. No warranty, expressed or implied, or 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. E.V. Roberts does not undertake to furnish advice on such matters.