

## SAFETY DATA SHEET

**SECTION 1: Identification**

1.1 GHS product identifier: ET05 A  
1.2 Other means of identification: Epoxy Resin  
1.3 Recommended use of the chemical and restrictions on use: N/A  
1.4 Supplier's details:  
Aerospace Composite Products  
78 Lindbergh Ave  
Livermore CA 94551  
INFORMATION PHONE NUMBER: 925-443-5900

1.5 Emergency phone number: 682-232-4788

**SECTION 2.0: Hazard(s) identification**

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

2.1 Classification of the substance or mixture:

Health  
Skin Corrosion/Irritation, Category 2  
Eye Damage/Irritation, Category 2  
Skin Sensitizer, Category 1

2.2 GHS label elements:



Signal word: Warning

Hazard statements:

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

Precautionary statements:

Prevention:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection/face protection.

Response:

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container in accordance with local, regional and international regulations.

Supplemental information: No Additional Information

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) - Annex III. Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

2.3 Other hazards which do not result in classification: N/A

2.4 Hazards Material Information System (United States):

Health	2
Flammability	1
Physical Hazard	0

Hazard Codes: 0=Chronic Hazard 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

### SECTION 3: Composition/information on ingredients

Chemical Identity.	CAS No	Concentration
Phenol-Formaldehyde Polymer Glycidyl Ether	28064-14-4	5-95%
Phenol, 4,4'-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane	25085-99-8	5-95%
Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-	17557-23-2	5-95%

### SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures:

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

Inhalation: Move effected persons to fresh air; if effects occur, consult a physician.

Skin Contact: Continued and thorough washing in flowing water for at least 15 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Destroy contaminated leather items.

Eye Contact: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

Ingestion: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by a physician or medical personnel. Do not give anything by mouth to an unconscious person. Note to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

4.2 Most Important symptoms/effects, acute and delayed:

Signs and Symptoms of Exposure (Acute Effects): Contact with eyes may cause mild irritation and discomfort. Contact with skin causes irritation, redness and discomfort which is transient. Inhalation of mists may cause irritation in the respiratory tract. Inhalation of vapors from heated materials may cause irritation in the respiratory tract. Coughing and chest pain may result. Signs and Symptoms of Exposure (Possible Longer Term Effects): Repeated and/or prolonged exposure may cause allergic reaction/sensitization. Repeated and/or prolonged exposures may result in: adverse skin effects (such as rash, irritation or corrosion). Medical Conditions Generally Aggravated by Exposure: Skin disorders and Allergies Carcinogens under OSHA, ACGIH, NTP, IARC, Other: This product contains no known or suspected carcinogens in concentrations of 0.1 percent or greater.

4.3 Indication of immediate medical attention and special treatment needed, if necessary: N/A

## **SECTION 5: Fire-fighting measures**

5.1 Suitable extinguishing media:

Water fog or fine spray. Carbon dioxide. Alcohol resistant foam. Dry chemical fire extinguishers.

5.2 Specific hazards arising from the chemical:

Flash point is Not Determined. May generate toxic or irritating combustion products. Sudden reaction and fire may occur if product is mixed with an oxidizing agent.

5.3 Special protective actions for fire-fighters:

Wear positive-pressure self-contained breathing apparatus and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves.)

## **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures:

Wear adequate personal protective equipment; see Section 8-EXPOSURE CONTROLS/PERSONAL PROTECTION.

6.2 Methods and materials for containment and clean up:

Large spills: Contain with dike. Pump into suitable and properly labeled containers.

Small spills: Dilute with water and recover or use non-combustible absorbent material/sand and shovel into appropriate containers.

## **SECTION 7: Handling and storage**

7.1 Precautions for safe handling:

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well-ventilated workspace. When handling, do not eat, drink, or smoke. Other Precautions: Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA).

7.2 Conditions for safe storage, including any incompatibilities: Keep away from: oxidizers. Keep in cool, dry, ventilated storage areas and in closed containers.

## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

Component	CAS No.	Exposure Limits	Source
Phenol-Formaldehyde Polymer Glycidyl Ether	28064-14-4	> 2000 mg/kg oral rat	ACGIH
Phenol, 4,4'-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane	25085-99-8	11,400 mg/kg oral rat	ACGIH
Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-	17557-23-2	4,500 mg/kg oral rat	ACGIH

8.2 Appropriate engineering controls: No specific controls needed.

8.3 Individual protection measures, such as personal protective equipment:

Eye Protection: Chemical safety glasses. A full-face shield and vapor respirator is recommended for operations involving spraying or other operations placing this material under pressurized conditions.

Hand Protection: Neoprene rubber gloves. Impermeable gloves. Nitrile rubber gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.

Respiratory Protection: Not required under normal conditions and in a well-ventilated workplace. At elevated temperatures, a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors may be appropriate. Protective Clothing: Long sleeved clothing.

Work and Hygienic Practices: Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet.

Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

## SECTION 9: Physical and chemical properties

9.1 Appearance (physical state, color, etc.): Clear Amber

9.2 Odor: Epoxy Odor

9.3 Odor threshold: N/A

9.4 pH: Not Determined

9.5 Melting point/freezing point: Not Determined

9.6 Initial boiling point and boiling range: Not Determined

9.7 Flash Point: Not Determined

9.8 Evaporation rate: N/A

9.9 Flammability (solid, gas): N/A

9.10 Upper/lower flammability or explosive limits: LFL-Not Determined; UFL-Not Determined

9.11 Vapor pressure: Not Determined

9.12 Vapor Density: N/A

9.13 Relative density(Specific Gravity): 1.15 - 1.20

9.14 Solubility(ies): Liquid Components are Not Readily Soluble in Water

9.15 Partition coefficient; n-octanol/water: N/A

9.16 Auto-ignition temperature: >300°C

9.17 Decomposition temperature: N/A

9.18 Viscosity: N/A

9.19 % Volatile (VOC): 0g/L

## SECTION 10: Stability and reactivity

10.1 Reactivity: N/A

10.2 Chemical stability: Stable

10.3 Possibility of hazardous reactions: Will not occur

10.4 Conditions to avoid: N/A

10.5 Incompatible materials: Avoid strong acids, bases, and oxidizing agents. Avoid contact with amines

10.6 Hazardous decomposition products: Carbon Monoxide in a fire. Carbon Dioxide in a fire. Irritating and toxic fumes at elevated temperatures.

## SECTION 11: Toxicological information

11.1 Likely routes of exposure: Eye Contact, Skin Contact, Ingestion.

11.2 Symptoms related to the physical, chemical and toxicological characteristics:

Ingestion: This material has a low potential for toxic effects due to ingestion.

Skin Contact: Prolonged or widespread skin contact is not likely to cause toxic effects.

Irritation:

Skin: Skin contact has caused allergic skin reactions in certain sensitized individuals.

Eyes: May cause slight temporary eye irritation with local redness. Mechanical irritation possible due to solid filler materials.

Inhalation: May cause allergic respiratory response upon exposure to heated vapors.

11.3 Delayed and immediate effects and also chronic effects from short and long term exposure:

Carcinogen: This material contains no known or suspected carcinogens.

Mutagen: This material contains no known or suspected mutagens.

Reproductive Hazard: This material contains no materials known or suspected to cause reproductive hazards.

11.4 Numerical measures of toxicity:

This finished product has not been tested to determine individual toxicological/ecological limits. Individual components of this mixture have been independently tested by the raw material manufacturers and any known results have been presented below. The results for the individual components may not be representative of the toxicity of this finished product.

Ingredient Name	CAS No.	Test	Result	Route	Species
Phenol-Formaldehyde Polymer Glycidyl Ether	28064-14-4	LD50	> 2000 mg/kg	Oral	Rat
		LD50	> 2100 mg/kg	Dermal	Rabbit
Phenol, 4,4'-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane	25085-99-8	LD50	11,400 mg/kg 2000 mg/kg	Oral Dermal	Rat Rabbit
Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-	17557-23-2	LD50	4,500 mg/kg	Oral	Rat
		LD50	> 2,100 mg/kg	Dermal	Rabbit

## SECTION 12: Ecological information

12.1 Ecotoxicity:

No ecological testing has been conducted on this product.

12.2 Persistence and degradability:

This material contains components that show little or no evidence of biodegradability. Caution should be taken to prevent release to the environment. See Section 13 for further information.

Degradation: Based on the stringent OECD test guidelines, this material cannot be considered as readily

biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

12.3 Bioaccumulative potential: N/A

12.4 Mobility in soil: N/A

12.5 Other adverse effects: N/A

### **SECTION 13: Disposal considerations**

13.1 Disposal methods:

Preferred method of disposal includes incineration under controlled conditions in accordance with all local and national laws and regulations. The generation of waste should be avoided or minimized wherever possible. Untreated material is not suitable for disposal. Waste, even small quantities, should never be poured down drains, sewers or watercourses. Waste must be disposed of in accordance with federal, state and local environmental control regulations. This material, when properly mixed and cured with its hardener component at the proper mix ratio, may be safely landfilled. Contaminated packaging: Empty containers can only be disposed of when the remaining product adhering to the container walls has been removed. Hazard warning labels should be removed from the container only after it has been properly emptied.

### **SECTION 14: Transport information**

14.1 UN number: Not Regulated

14.2 UN proper shipping name: Liquid Plastic, NOI

14.3 Transport hazard class(es): Not Regulated

14.4 Packing group, if applicable: Not Regulated

14.5 Environmental hazards: N/A

14.6 Transport in bulk: N/A

14.7 Special precautions for user: N/A

Notes: For surface shipments within the United States: Not regulated

### **SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations:

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Acute health hazard. Chronic health hazard

313 REPORTABLE INGREDIENTS: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: None

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: For this/these chemicals, release of more than the Reportable Quantity to the environment in a 24-hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675): None

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: This product or its components are listed in or exempt from the TSCA inventory requirements.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) 29 CFR1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA.

CALIFORNIA PROPOSITION 65: This product contains chemical(s) which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): None

OSHA HAZARD COMM. RULE: The contents of the SDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200

Canada

WHMIS (Canada)

Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists Canadian NPRI: None required.

## **SECTION 16: Other information**

Users Responsibility/Disclaimer of Liability:

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK. END OF DATA SHEET

## SAFETY DATA SHEET

**SECTION 1: Identification**

GHS product identifier: ET05 B

Other means of identification: Epoxy Curing Agent

Recommended use of the chemical and restrictions on use: N/A

Supplier's details:

Aerospace Composite Products

78 Lindbergh Ave

Livermore CA 94551

INFORMATION PHONE NUMBER: 925-443-5900

Emergency phone number: 682-232-4788

**SECTION 2 Hazard(s) identification**

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the substance or mixture:

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral Category 4

Acute toxicity, Dermal Category 4

Skin corrosion Category 1B

Serious eye damage Category 1

Skin sensitization - Category 1

Specific target organ toxicity - repeated exposure - Oral Category 2

GHS label elements:

Pictogram:



Signal word: Danger



**Hazard statements:**

H302 + H312 Harmful if swallowed or in contact with skin

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373a May cause damage to organs through prolonged or repeated exposure if swallowed.

**Precautionary statements:****Prevention:**

P260:Do not breathe dust/fume/gas/mist/vapours/spray.

P264:Wash hands thoroughly after handling.

P280:Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P301+P330+P331 :IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 :IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 :Immediately call a POISON CENTRE or doctor/physician.

P333+P313 :If skin irritation or rash occurs: Get medical advice/attention.

P363 :Wash contaminated clothing before reuse.

**Disposal :**

P501 Dispose of contents/container in accordance with local, regional and international regulations.

**Supplemental information:**

Hazards not otherwise classified

Corrosive

Severe eye irritant.

Severe respiratory irritant.

Severe skin irritant.

May cause sensitization by skin contact.

Possible Cancer Hazard

Contains material which may cause cancer based on animal data.

Harmful if swallowed.

Harmful in contact with skin.

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) - Annex III.

Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

Other hazards which do not result in classification: N/A

### **SECTION 3: Composition/information on ingredients**

Substances

<b>Chemical Identity.</b>	<b>CAS No</b>	<b>Concentration</b>
Methylenebis(cyclohexyl)amine, 4,4'-	1761-71-3	> 50%
Diethyltoluenediamine	68479-98-1	< 50%

### **SECTION 4: First-aid measures**

**General advice :** Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

**Eye contact :** Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour.

**Skin contact :** Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Flush immediately with copious amounts of water. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately.

**Ingestion :** Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.

**Inhalation :** If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

**Most important symptoms/effects - acute and delayed :** Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Eye disease. Skin disorders and Allergies. Asthma. Liver disorders

**Immediate Medical Attention and Special Treatment**

Treatment : NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

**SECTION 5: Fire-fighting measures**

Suitable extinguishing media:

Alcohol-resistant foam., Carbon dioxide (CO<sub>2</sub>)., Dry chemical., Dry sand., Limestone powder.

Specific hazards arising from the chemical:

Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NO<sub>x</sub>) is to be expected. Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

Special protective actions for fire-fighters:

Wear positive-pressure self-contained breathing apparatus and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves.)

Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**SECTION 6: Accidental release measures**

Personal precautions, protective equipment and emergency procedures:

Use self-contained breathing apparatus and chemically protective clothing.

Evacuate personnel to safe areas.

Environmental precautions : Use appropriate containment to avoid environmental contamination. Do not allow spill to enter into sewers or waterways. Construct a dike to prevent spreading.

Methods and materials for containment and clean up: Approach suspected leak areas with caution. Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of according to Federal, State and local governmental regulations.

Reference to other sections

Additional advice : Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

## **SECTION 7: Handling and storage**

Precautions for safe handling:

Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Use personal protective equipment. When using, do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities: Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.

## **SECTION 8: Exposure controls / personal protection**

Appropriate engineering controls:

Provide readily accessible eye wash stations and safety showers.

Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Individual protection measures, such as personal protective equipment:

Eye Protection: Tightly fitting chemical safety glasses. Wear chemical goggles; face shield (if splashing is possible).

Hand Protection: Neoprene rubber gloves. Impermeable gloves. Nitrile rubber gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.

Respiratory Protection: Not required under normal conditions and in a well-ventilated workplace. At elevated temperatures, a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors may be appropriate.

Protective Clothing: Impervious clothing. Long sleeve shirts and trousers without cuffs.

Work and Hygienic Practices: Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet.

Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/

puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

#### Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.

If the product contaminates rivers and lakes or drains inform respective authorities.

### **SECTION 9: Physical and chemical properties**

Information on basic physical and chemical properties

Appearance : Liquid. Amber.

Odor : Irritating.

Odor threshold : No data available.

pH : Alkaline.

Melting point/range : No data available.

Boiling point/range : > 572 °F (> 300 °C)

Flash point : > 219 °F (> 103.89 °C)

Evaporation rate : No data available.

Flammability (solid, gas) : Not applicable.

Upper/lower explosion/flammability limit : Not applicable.

Vapor pressure : < 10.34 mmHg at 70 °F (21 °C)

Water solubility : Slightly soluble.

Relative vapor density : Not applicable.

Relative density : 1 (water = 1)

Partition coefficient (noctanol/water) : No data available.

Auto-ignition temperature : No data available.

Decomposition temperature : No data available.

Viscosity : No data available.

Molecular Weight : No data available.

Density : 62.428 lb/ft<sup>3</sup> (1 g/cm<sup>3</sup>) at 70 °F (21 °C)

#### Other information

This safety data sheet only contains information relating to safety and does not replace any product information or product specification.

### **SECTION 10: Stability and reactivity**

Reactivity: Stable under normal conditions.

Chemical Stability : Stable under normal conditions.

Possibility of hazardous reactions: Will not occur

Conditions to avoid : Keep away from heat, sparks, flame and other ignition sources.

Incompatible materials: Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposition products may include the following materials: Nitric acid, Ammonia, Nitrogen oxides (NO<sub>x</sub>). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide, Carbon dioxide (CO<sub>2</sub>).

## **SECTION 11: Toxicological information**

Information on toxicological effects

Likely routes of exposure

Effects on Eye : Causes eye burns. May cause blindness. Severe eye irritation.

Effects on Skin : Causes skin burns. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Harmful in contact with skin.

Inhalation Effects : Harmful if inhaled and may cause delayed lung injury. Can cause severe eye, skin and respiratory tract burns. Risk of serious damage to the lungs (by inhalation). May cause nose, throat, and lung irritation. Inhalation of aerosol may cause irritation to the upper respiratory tract. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Ingestion Effects : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. Harmful if swallowed.

Symptoms : Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Eye disease., Skin disorders and Allergies., Asthma., Liver disorders.

Acute toxicity

Acute Oral Toxicity : LD50 : > 500 mg/kg Species : Rat.

Inhalation : No data is available on the product itself.

Inhalation - Components

Diethyltoluenediamine LC50 (1 h) : > 2.45 mg/l Species : Rat.

Acute Dermal Toxicity : LD50 : > 1,000 mg/kg Species : Rabbit.

Skin corrosion/irritation : Severe skin irritation.

Serious eye damage/eye irritation : Severe eye irritation.

Sensitization. : May cause sensitization by skin contact. May cause sensitization of susceptible persons by skin contact.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure): No data available.

Aspiration hazard : No data available.

Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage., May cause allergic skin reaction., Cancer suspect agent. Eye disease., Skin disorders and Allergies., Asthma., Liver disorders.

A two-year feeding study in rats indicated diethyltoluenediamine (DETDA) causes pancreatic effects. The no-effect level for pancreatic toxicity in male rats dosed for two years was 35 ppm; for females the no-effect level was 70. Evidence for thyroid hyperplasia or hypertrophy was found in high-dose males and females. In this lifetime feeding study there was also evidence of carcinomas in the liver.

## SECTION 12: Ecological Information

Ecotoxicity effects

Aquatic toxicity : No data is available on the product itself.

Toxicity to fish - Components

Methylenebiscyclohexanamine, 4,4'-	LC0 (96 h) : 46 mg/l	Species : Golden orfe (Leuciscus idus).
Methylenebiscyclohexanamine, 4,4'-	LC50 (96 h) : > 100 mg/l	Species : Golden orfe (Leuciscus idus).
Diethyltoluenediamine	LC50 (48 h) : 194 mg/l	Species : Golden orfe (Leuciscus idus).

## Toxicity to daphnia - Components

Methylenebiscyclohexanamine, 4,4'- EC50 (48 h) : 6.84 mg/l Species : Daphnia magna.

Diethyltoluenediamine EC50 (48 h) : 0.5 mg/l Species : Daphnia magna.

## Toxicity to algae - Components

Methylenebiscyclohexanamine, 4,4'- EC50 (72 h) : 140 - 200 mg/l Species : Algae.

Toxicity to other organisms : No data available.

## Toxicity to other organisms - Components

Diethyltoluenediamine : see user defined free text (24 h): 170 mg/l Species : Pseudomonas putida.

## Persistence and degradability

Biodegradability : No data is available on the product itself.

Mobility : No data available.

Bioaccumulation : No data is available on the product itself.

**SECTION 13: Disposal considerations**

## Disposal methods:

Waste from residues / unused products: The product should not be allowed to enter drains, water courses or the soil; dispose of this material and its container in a safe way. Contact supplier if guidance is required.

Contaminated packaging: Dispose of container and unused contents in accordance with federal, state, and local requirements.

**SECTION 14: Transport information**

## USDOT

Hazard class: 8

Packing group: II

ID number: UN 2735

Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Methylenebiscyclohexanamine)

## IMDG

Hazard class: 8

Packing group: II

ID number: UN 2735

Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Methylenebiscyclohexanamine)



IATA/ICAO

Hazard class: 8

Packing group: II

ID number: UN 2735

Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-Methylenebiscyclohexanamine)

## SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations:

Toxic Substance Control Act (TSCA) 12(b) Component(s):  
Diethyltoluenediamine

U.S. Federal regulations:

SARA 311/312 Classification

Chronic Health Hazard Acute Health 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.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

## SECTION 16: Other information

Hazards Material Information System (United States):

Health	3
Flammability	1
Physical Hazard	0

Hazard Codes: 0=Chronic Hazard 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

**Users Responsibility/Disclaimer of Liability:**

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