

SAFETY DATA SHEET
Electrostatic Discharge System (ESD)

Version 2.0
Revision Date: 01/01/2021

SDS Number A00210
Printed Date: 01/01/2021

1. PRODUCE AND COMPANY IDENTIFICATION

Product Name : Tera-Gem III ESD – ‘A’ Side
Product Use Description : Liquid Resin
Manufacture : Tera-Lite, Inc.
1631 S. 10th St
San Jose, CA 95112
Telephone : 1-408-288-8655 (Corporate – Non Emergency)
1-800-325-0671 Emergency
Email Address : teralite@ix.netcom.com

2. HAZARDS IDENTIFICATION

OSHA/HCS Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Classifications : Skin Irritation – Category 2
SERIOUS EYE DAMAGE / EYE IRRITATION – Category 2A
Skin Sensitization – Category 1
AQUATIC HAZARD (ACUTE) – Category 3
AQUATIC HAZARD (LONG-TERM) – Category 2

GHS Label Elements
Hazard Pictograms/Symbols :



Signal Word : Warning

Hazard Statement : H319 – Causes serious eye irritation.
H315 – Causes skin irritation.

H317 – May cause an allergic skin reaction
H341 – Suspected of causing genetic defects
H411 – Toxic to aquatic life with long lasting effects.

Precautionary Statements: P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P273 – Avoid release to the environment.
P261 – Avoid breathing vapor.
P264 – Wash hands thoroughly after handling.
P272 – Contaminated work clothing should not be allowed out of the workplace.
P391 – Collect spillage
P302 / P350 – IF ON SKIN – Gently wash with plenty of soap and water.
P362 – Take off contaminated clothing and wash before reuse
P332 – If skin irritation or rash occurs: Get medical attention.
P305 / P351 / P338 – IF IN EYES – Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 – If eye irritation persists: Get medical attention.
P501 – Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	% Concentration
Bishphenol A Epoxy Resin	25068-38-6	70 -80
Butylphenyl glycidyl ether	3101-60-8	5 - 10
Cresyl glycidyl ether, ortho	2210-79-9	5 – 8
Talc	14807-96-6	10-15
Titanium Dioxide	13463-67-7	5-10
Pigments		5-10
Any concentration shown as a range is to protect confidentiality or is due to batch variation.		

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth to mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce

vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye Contact:	Causes serious eye irritation.
Inhalation:	No known significant effects or critical hazards
Skin contact:	Causes skin irritation. May cause an allergic skin reaction.
Ingestion:	Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye Contact:	Adverse symptoms may include the following: Pain or irritation, watering, redness.
Inhalation:	No specific data.
Skin contact:	Adverse symptoms may include the following: irritation, redness.
Ingestion:	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

First Aiders Protection: No action shall be taken involving any personal risk or without suitable training. 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.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media : Use an extinguishing agent suitable for the surrounding fire

Unsuitable Extinguishing Media : None Known.

Specific Hazards : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous Thermal Decomposition Products : Decomposition products may include the following: Carbon Dioxide, Carbon Monoxide, Halogenated Compounds

Special Protective Actions for Fire Fighters : 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.

Special Protective Equipment For Fire Fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions,
Protective Equipment &
Evacuate Emergency Procedures

: No action shall be taken involving any personal risk or without suitable training. surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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). Water polluting material. May be harmful to the environment if released in large quantities, Collect spillage.

Methods and Materials for
Cleaning up

: 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 the collect spillage with non-combustible, absorbent material (sand, earth, vermiculite diatomaceous earth) and place in container for disposal according to local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Protective Measures

: Put on appropriate personal protective equipment. Persons with a history of skin sensitization problem should be not employed in any process in which this project is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container.

Conditions for safe storage

: Store between 2 to 40 degrees C (35.6 to 104 degrees F). Store in original container protected from direct sunlight in a dry, cool and well ventilated area. Keep container tightly closed and sealed until use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Advise on General Occupational
Hygiene

: Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking, smoking. Remove contaminated clothing and protective equipment before entering eating areas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual Protection Measures

Hygiene Measures	: Wash hands, forearms and face after handling chemical products, before eating, smoking, and using the lavatory and at the end of the work period. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/Face Protection	: Chemical safety glasses / splash goggles.
Hand Protection	: Chemical resistant, impervious gloves with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Neoprene gloves, Nitrile rubber, Neoprene, Polyvinyl Chloride (PVC).
Skin and Body Protection	: Long Sleeve shirts and trousers without cuffs, appropriate footwear. Personal Protection Equipment for the body should be selected based on the task being performed and risks involved.
Respiratory Protection:	: Wear appropriate respirator when ventilation is inadequate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: Liquid
Color	: Various Colors
Odor	: Slight
Odor Threshold	: No data available
pH	: 7
Melting /Freezing Point	: No data available
Boiling/Condensation	: >200 degrees C (>392 degrees F)
Flash Point	: >200 degrees C (>392 degrees F)
Evaporation Rate	: No data available
Flammability (solid,gas)	: No data available
Lower /Upper Explosive	
Flammability Limit	: No data available
Vapor Pressure	: <0.000075 mmHg at room temperature
Vapor Density	: No data available
Relative Density	: No data available
Solubility in Water	: Insoluble
Partition coefficient (n-octanol/water)	: No data available
Auto-ignition temp	: No data available
Decomposition temp	: > 200 degrees C / > 392 degrees F
Density	: 1.15 to 1.2 g/cm ³ (77 degrees F)
Viscosity	: Dynamic (room temperature): 7000 to 9000 mPa.s (7000 to 9000 cP)

10. STABILITY AND REACTIVITY

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical Stability	: The product is stable under normal conditions.
Conditions to avoid	: No specific data.
Materials to avoid	: Oxidizing agents

Hazardous Decomposition

Products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product/ingredient Name	Test	Endpoint	Species	Results
Bisphenol A Epoxy Resin	-	LC0 Inhalation Vapor	Rat-Male	0.00001 ppm
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat-Male, Female	>2000 mg/kg
	OECD 420 Acute Oral Toxicity –Fixed Dose Method	LD50 Oral	Rat - Female	>2000 mg/kg
Butylphenyl glycidyl ether	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat-Male, Female	>2000 mg/kg
	OECD 425 Acute Oral Toxicity: Up-and-Down Procedure	LD50 Oral	Rat-Female	>2000 mg/kg

Irritation/Corrosion

Produce Ingredient Name	Test	Species	Results
Bisphenol A Epoxy Resin	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Skin – Mild Irritant
	OECD 405 Acute Eye Irritation/Corrosion	Rabbit	Eyes – Mild Irritant
Butylphenyl Glycidyl Ether	OECD 402 Acute Dermal Toxicity	Rat	Skin – Non-Irritant
	OECD 405 Acute Eye Irritation / Corrosion	Rabbit	Eyes – Non - Irritant

Conclusion/Summary

Skin : Bisphenol A Epoxy Resin Irritation to skin
 Butylphenyl glycidyl ether Non-irritating to the skin

Eyes : Bisphenol A Epoxy Resin Irritation to eyes
 Butylphenyl glycidyl ether Non-irritating to the eyes

Respiratory : Bisphenol A Epoxy Resin No additional information
 Butylphenyl glycidyl ether No additional information

Sensitization

Product/Ingredient Name	Test	Route of exposure	Species	Result
Bisphenol A epoxy resin	OECD 429 Skin Sensitization: Local Lymph Node Assay	Skin	Mouse	Sensitizing
Butylphenyl glycidyl ether	OECD 429 Skin Sensitization: Local Lymph Node Assay	Skin	Mouse	Sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Bisphenol A epoxy resin	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Positive
	Experiment: In vitro Subject: Mammalian –Animal Cell: Somatic Metabolic activation: +/-	Positive
	Experiment: In vivo Subject: Mammalian –Animal Cell: Germ	Negative
Butylphenyl glycidyl ether	Experiment: In vivo Subject: Mammalian –Animal Cell: Germ	Negative
	Experiment: In vivo Subject: Mammalian –Animal Cell: Somatic	Negative
	Experiment: In vitro Subject: Bacteria Experiment: In vitro Subject: Mammalian –Animal	Positive Positive

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result Type
Bisphenol A epoxy resin	OEDS 453 Combined Chronic Toxicity/Carcinogenicity studies OEDS 453 Combined Chronic Toxicity/Carcinogenicity studies OEDS 453 Combined Chronic Toxicity/Carcinogenicity studies	Rat-Male, Female	15 mg/kg	2 years; 7 days per week	Negative – Oral – NOAEL
		Rat-Female	1 mg/kg	2 Years; 5 days per week	Negative- Dermal – NOAEL
		Mouse-Male	0.1 mg.kg	2 years; 3 days per week	Negative- Dermal - NOAEL

Reproductive toxicity

Product/ingredient Name	Test	Species	Maternal Toxicity	Fertility	Developmental Effects
Bisphenol A epoxy resin	OECD 416 Two- Generation Reproduction Toxicity Study	Rat-Male, Female	Negative	Negative	Negative

Teratogenicity

Product/ingredient Name	Test	Species	Result/Result type
Bisphenol A epoxy resin	OECD 414 Prenatal developmental toxicity study	Rat – Female	Negative – Oral
	EPA CFR	Rabbit – Female	Negative – Dermal
	OECD 4414 Prenatal developmental toxicity study	Rabbit - Female	Negative - Oral

Specific Target Organ Toxicity (single exposure) – Not available

Specific Target Organ Toxicity (repeated exposure) – Not available

Aspiration Hazard – Not available

Information on the likely routes of exposure – Not available

Potential acute health effects

- Eye contact : Causes serious eye irritation
- Inhalation : No known significant effects or critical hazards.
- Skin contact : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact : Adverse symptoms may include the following:
Pain or irritation, watering, redness.
- Inhalation : No specific data
- Skin Contact : Adverse symptoms may include irritation, and redness.
- Ingestion : No specific data

Delayed and immediate effects and chronic effects from short and long term exposure

Short term exposure:

- Potential Immediate effects – Not available
- Potential delayed effects – Not available

Long term exposure:

- Potential Immediate effects – Not available
- Potential delayed effects – Not available

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Results
Bisphenol A epoxy resin	OECD 408 Repeated Dose 90 day Oral Toxicity Study in Rodents	Sub-chronic NOAEL Oral	Rat – Male, Female	50 mg/kg
	OECD 411 Subchronic Dermal Toxicity 90 day Study	Sub-chronic NOEAL Dermal	Rat – Male, Female	10 mg/kg
	OECD 411 Subchronic Dermal Toxicity 90 day Study	Sub-chronic NOAEL Dermal	Mouse - Male	100 mg/kg

- General: : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity : No known significant effects or critical hazards.
- Mutagenicity : No known significant effects or critical hazards.
- Teratogenicity : No known significant effects or critical hazards.
- Developmental Effects : No known significant effects or critical hazards.
- Fertility Effects : No known significant effects or critical hazards.
- Acute toxicity estimates : Not available

12. ECOLOGICAL INFORMATION

Toxicity

Product/ingredient Name	Test	Endpoint	Exposure	Species	Result
Bisphenol A epoxy resin	EPA CFR	Acute EC50	72 hours static	Algae	9.4 mg/l
	OECD 202 Daphnia sp. Acute immobilization test.	Acute EC50	48 hours static	Daphnia	1.7 mg/l
	Unknown guidelines	Acute IC 50	3 hours static	Bacteria	>100 mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute LC 50	96 hours static	Fish	1.5 mg/l
	OECD 211 Daphnia Magna Reproduction test	Chronic NOEC	21 days semi-static	Daphnia	0.3 mg/l
Butylphenyl glycidyl ether	OECD 209 Activated sludge, respiration inhibition test	Acute EC50	3 hours static	Bacteria	>1000 mg/l
	OECD 202: Part 1 (Daphnia sp., Acute Immobilization test)	Acute EC50	48 hours static	Daphnia	67.9 mg/l
	OECD 201 Alga, Growth Inhibition Test	Acute EbC50	72 hours static	Algae	9 mg/l
	OECD 203 Fish Acute Toxicity Test	Acute LC50	96 hours static	Fish	7.5 mg/l

Persistence and degradability

Product/ingredient Name	Test	Period	Result
Bisphenol A epoxy resin	OECD Derived from OECD 301 F (biodegradation test)	28 days	5%
Butylphenyl glycidyl ether	OECD 301D Ready Biodegradability – Closed bottle test	28 days	1.1%

Conclusion / Summary : Bisphenol A epoxy resin – not readily biodegradable.

Product/ingredient Name	Aquatic half-life	Photolysis	Biodegradability
Bisphenol A epoxy resin	Fresh water 4.83 days	-	Not readily
	Fresh water 3.58 days		
	Fresh water 7.1 days		
Butylphenyl glycidyl ether	Fresh water 17 days	-	Not readily

Bio accumulative potential

Product/ingredient Name	LogP _{ow}	BCF	Potential
Bisphenol A epoxy resin	3.242	31	Low
Butylphenyl glycidyl ether	3.59	-	Low

Mobility in soil : Not available

Other adverse effects : No known significant effects or critical hazards.




BOD5 : Not determined
 COD : Not determined
 TOC : Not determined



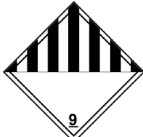
13. DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its containers must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled materials and runoff an contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

DOT : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin) Marine pollutant
 TDG : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin) Marine pollutant
 IMDG : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin) Marine pollutant
 IATA : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin)

Regulatory Information	UN Number	Classes	PG*	Label	Additional Information
DOT Classification	UN3082	9	III		Marine pollutants are only regulated for bulk and vessel shipments, per 49CFR171.4 © Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specified to marine pollutants do not apply to non-bulk packaging's transported by motor vehicle, rail car or aircraft.
TDG Classification	UN3082	9	III		-
IMDG Classification	UN3082	9	III		<u>Emergency schedules (Ems)</u> F-A S-F

					
IATA Classification	UN3082	9	III	 	<u>Passenger and Cargo Aircraft</u> Quantity limitation: 450 L Packaging instructions: 964 <u>Cargo Aircraft Only</u> Quantity limitation: 450 L Packaging instructions: 964

PG* : Packing Group

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) Inventory : All components are listed or exempted.
TSCA 5(a)2 Final : No ingredients listed

Significant new use rule (SNUR)

TSCA 5(e) substance consent order : No ingredients listed
TSCA 12(b) export notification : No ingredients listed
SARA 311/312 : Immediate (acute) health hazard

Clean Air Act – Ozone

Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

SARA 313

: No ingredients listed

California Prop 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>
1-chloro-2,3-epoxypropane	Yes	Yes

16. OTHER INFORMATION

HMIS Rating (USA)

Health	2
Flammability	1
Physical hazard	0

National Fire Production Association

Health	2
Flammability	1
Instability	0

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE REponsIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION, WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.



SAFETY DATA SHEET

Electrostatic Discharge System (ESD)

Version: 2.0
Revision Date: 01/01/2021

SDS Number: B00210
Printed Date: 01/01/2021

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Tera-Gem III ESD – 'B' Side

Product Use Description : Curing Agent

Manufacturer : Tera-Lite, Inc.
1631 S. 10th St
San Jose, CA 95112

Telephone : 1-408-288-8655 (Corporate – Non Emergency)
1-800-325-0671 Emergency

Email Address : teralite@ix.netcom.com

2. HAZARDS IDENTIFICATION AND INGREDIENTS

HMIS RATING Health 3
 Flammability 1
 Reactivity 0
 Protective Equipment X

In case of fire: Use carbon dioxide, foam, and dry chemicals, with self-containing breathing apparatus.

Hazards: Moderate eye, respiratory and skin irritant.
 May cause skin sensitization.

Hazard Statement: IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD
 COMMUNICATION STANDARD 29 CFR 1910.1200, THIS MATERIAL
 SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED.

<u>%</u>	<u>CAS NO</u>	<u>CHEMICAL NAME</u>
> 5	25620-58-0	Trimethylhexamethylenediamine (TMD) OSHA PEL: None established ACGIH TLV: None Established

<u>%</u>	<u>CAS NO</u>	<u>CHEMICAL NAME</u>
< 6	1477-55-0	Benzene-1, 3-dimethylamine (MXDA) OSHA PEL-C: 0.1000 mg/m ³ skin ACGIH TLV-C: 0.1000 mg/m ³ skin
> 20	100-51-6	Benzyl Alcohol OSHA PEL: None established ACGIH TLV: None Established
< 10	98-54-4	Paratertiarybutylphenol OSHA PEL: None established ACGIH TLV: None Established
< 4	1761-71-3	4,4 Methylenebiscyclohexanamine OSHA PEL: None established ACGIH TLV: None Established

THE REMAINING COMPONENTS ARE TRADE SECRET

3. HEALTH HAZARDS

Primary Routes of Exposure:

- Ingestion
- Skin Absorption
- Eye Contact
- Inhalation

Exposure Standards:

- No standard has been established for this product. Keep air contaminant concentration in work area to lowest levels.

Target Organs:

- Eyes, skin and respiratory systems.

Sign and Symptoms of Exposure (Acute Effects):

- Material vapor in low concentration can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. This may give rise to a perception of “Blue Haze” or “fog” around lights. The effect is transitory and has no know lasting effect. Inhalation of the vapor, mist or fog may cause irritation in the respiratory tract and other harms. Eyes and skin contact with the undiluted material will quickly cause sever irritation and pain and may lead to burns, necrosis and permanent injury. Ingestion may cause bleeding of the gastrointestinal tract and vomiting of blood.

Sign and Symptoms of Exposure (Possible Longer Term Effects)

- Repeated and prolonged exposure may cause allergic reaction/sensitization, adverse respiratory effects (cough, tightness of chest or shortness of breath), adverse eye effects (conjunctivitis or corneal damage) and/or adverse skin effects (defatting, rash, irritation). Prolonged or repeated vapor inhalation effects may be delayed and which may cause dryness of nasal passages and sore throat. **Medical Conditions**

Generally Aggravated by Exposure Asthma, chronic respiratory disease, eye disease, skin disorders and allergies.

4. EMERGENCY AND FIRST AIDS

- Ingestion:** Give 3-4 glasses of water or milk. Do not induce vomiting. If vomiting occurs, give more water. Get medical advice.
- Skin Contact:** Wash with running soap and water for at least 15 minutes. Remove contaminated clothing and shoes and discard or decontaminate before re-use. Seek medical advice.
- Eye Contact:** Flush eyes with eyelids apart with running water for 15 minutes. Get medical help.
- Inhalation:** If breathing is stopped or is labored, remove person to fresh air and give assisted respiration. Prevent person from vomiting. Get medical attention if breathing becomes difficult or irritating.
-

5. FIRE AND EXPLOSION HAZARD

Properties:	Flash Point (Tag closed cup)	104 C (219 F)
	Upper Explosion Limit (UEL)	No Data
	Lower Explosion Limit (LEL)	No Data
	Auto ignition Temperature	No Data
	Fire Hazard Classification (OSHA/NFPA)	Class IIIB

- Extinguishing Media:** Use water fog, foam, dry chemicals or carbon dioxide.
- Special Fire Fighting Procedures:** Spray and cool fire exposed containers with water. Fire fighters should be protected with butyl rubber gloves, boots and body suite. In confined space fire area use self-contained breathing apparatus.
- Unusual Fire and Explosion Hazards:** Decomposition and combustion products may be toxic. Sudden reaction and fire may result if the product is mixed with an oxidizing agent. Evacuate personnel in vicinity and downwind.
-

6. PERSONAL PROTECTION AND EXPOSURE

- Respiratory Protection:** In poorly ventilated area A NIOSH approved organic vapor respirator is recommended.
- Protective Equipment:** Use approved splash proof safety glasses, goggles or face shield for eye protection. Wear protective clothing resistant to this product. Immediately remove contaminated clothing and wash exposed skin with soap and water.
-

Ventilation: Good general mechanical ventilation with proper exhaust system, providing good air flow.

7. SPILL AND LEAK PROCEDURES

Protect people by keeping unnecessary people away and avoiding all personal contact. For large spill contain material by use of dikes or barrier. Keep out of sewers, storm drains, soil and surface water. Keep fire or spark producing equipments away. For clean-up soak up with absorbent materials such as sand, clay or suitable materials. Residual material may be removed using soapy water. Placed absorbent material in a suitable container to be disposed in accordance with federal, state and local regulations.

8. PHYSICAL PROPERTIES

Appearance: Dark brownish color liquid

Odor: Ammoniacal Odor

Vapor Pressure: No Data

Vapor Density: No Data

Boiling Point: 225 C (437 F)

Solubility in Water: Slight

Specific Gravity: (H₂O = 1) 1.047

Evaporation Rate: No Data

9. REACTIVITY AND STABILITY

Chemical Stability: Stable at ambient temperature

Conditions to Avoid: Not Applicable

Incompatible Materials: Acids, and oxidizing agents

Hazardous Decomposition: Carbon monoxide and nitrogen oxides in fire. Ammonia and hydrogen cyanide when heated. Under oxygen-starved conditions combustion products like nitrile, cyanic acid, isocyanates, cyanogens and carbamate are formed.

10. STORING AND HANDLING

Storage: Keep away from acids, oxidizers and heat. Protect containers from physical abuse.

Handling: Avoid contact to eyes and skin. Avoid excessive breathing of vapor. Smoking and open flame is not permitted in the area.

11. TOXICOLOGY INFORMATION

Acute Oral Toxicity (LD50):	(Rat) > 1,750 mg/kg.
Acute Dermal Toxicity (LD50):	(Rabbit) > 2,000 mg/kg (Estimate)
Acute Inhalation Toxicity (LC50):	(Rat) > 700 ppm/hr (Estimate)
Other Acute Effects:	No Data
Irritation Effects Data:	Corrosive to the skin of rabbit
Chronic/Subchronic Data:	No delayed chronic or subchronic test data are known

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No Data
Environmental Fate:	No Data
Additional Information:	No Data

13. DISPOSAL CONSIDERATIONS

Comply with all federal, state and local regulations. May incinerate in admixture with fuel equipped with scrubber to remove nitrogen oxide and carbon monoxide.

14. TRANSPORTATION INFORMATION

DOT Non-Bulk Shipping Name:	Amine. Liquid. Corrosive. N.O.S. (Benzene-1, 3 Dimethaneamine/Trimethylhexamethylenediamine); 8; UN2735; PG II
IMO SHIPPING DATA:	Amine. Liquid. Corrosive. N.O.S. (Benzene-1, 3 Dimethaneamine/Trimethylhexamethylenediamine); 8; UN2735; II; IMDG Page 8109-2; F.P.93.3 C; Placard Corrosive; HazMat STCC=4935601; EMS No 8-05;MFAG No 320
ICAO/IATA Shipping:	Amine. Liquid. Corrosive. N.O.S. (Benzene-1, 3 Dimethaneamine/Trimethylhexamethylenediamine); 8; UN2735; II; F.P.93.3 C; Shipment per 49CFR 171.11

15. REGULATORY INFORMATION

FEDERAL:

- **Sara Title III Sec. 312 and Sec. 313**
Under this regulation this product is classified as an “immediate health hazard” and under sec. 313 there are no components above the “de minimis level.
- **OSHA Hazard Communication Standard**
Under 29 CFR 1910.1200 this product is a “Corrosive”.
- **TSCA Inventory Status**
All chemical components of this product are listed on TSCA inventory.
- **Cercla Status**
Not Listed

STATE:

- **California proposition 65 listed chemicals:**
None

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