



OPTICALLY CLEAR EPOXY

8322-PART B

Safety Data Sheet

Section 1: Product and Company Identification

Product Identifier and Other Means of Identification

Product Name: Optically Clear Epoxy; Encapsulating and Potting Compound

SDS Code: 8322-Part B

Related Part # 8322-1, 8322-2, 8322-3

Recommended Use and Restriction on Use

Use: Epoxy hardener for use with resins

Uses Advised Against: Not available

Details of Manufacturer or Importer

Manufacturer

MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

MG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

☎ 1-800-340-0772

FAX 1-800-340-0773

E-MAIL: support@mgchemicals.com

WEB www.mgchemicals.com

☎ 1-905-331-1396

FAX 1-905-331-2682

E-MAIL: info@mgchemicals.com

E-MAIL (Competent Person): sds@mgchemicals.com

Emergency Phone Number

For hazardous material incidents ONLY—leaks, spills, fires, exposures or accidents
USA or CANADA: Call CHEMTREC ☎: 1-800-424-9300

For emergencies involving dangerous goods; Collect 24/7
CANADA: Call CANUTEC ☎: 1-613-996-6666 or *666 on cellular phones

Section 2: Hazards Identification

Classification of Hazardous Chemical

WHMIS Classification



E – Corrosive; D2B – Toxic Material (Skin Sensitization in Humans)

GHS Categories

Criteria		Category	Signal Word	Pictograms
Serious Eye Damage		1	Danger	Corrosion
Skin Corrosion		1B	Danger	Corrosion
Sensitization	Skin sensitizer	1A	Warning	Exclamation
Acute Toxicity	Oral	4	Warning	Exclamation
Environmental Hazard	Acute Aqua. Tox.	3	—	none

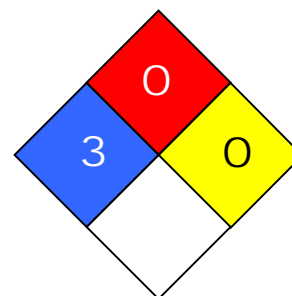
Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity). Severity categories do not allow comparisons between classes.

Other Classifications

HMIS® RATING

HEALTH:	3
FLAMMABILITY:	0
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:



0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

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Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H314: Causes severe skin burns and eye damage
	H302: Harmful if swallowed H317: May cause allergic skin reaction
No Symbol Mandated	H402: Harmful to aquatic life
	Precautionary Statements
Prevention	P102: Keep out of reach of children. P260: Do not breathe vapors or mist. P280: Wear protective gloves/protective clothing/eye protection. P264: Wash hands thoroughly after handling. P270: Do not eat, drink, or smoke when using this product. P272: Contaminated clothing should not be allowed out of the workplace. P273: Avoid release to the environment.
Response	P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P363: Wash contaminated clothing before reuse. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P301+ P312 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P310: Immediately call a POISON CENTER or doctor.
Storage	P405: Store locked up.
Disposal	P501: Dispose of contents/container in accordance to local/regional/national/international regulations.

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Other Hazards

Not applicable

Section 3: Hazardous Ingredients

CAS #	Chemical Name	Wt%
2855-13-2	isophorone diamine	100%

Section 4: First-Aid Measures

Exposure Condition	GHS Code/Symptoms/Precautionary Statements
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	burns, irritation, tearing, redness, pain
Response	Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.
IF ON SKIN (or hair)	P303 + P353 + P361, P310, P363
Immediate Symptoms	burns, blistering, pain, rash, redness
Response	Rinse skin with water/shower. Take off immediately all contaminated clothing. Immediately call a POISON CENTRE/doctor.
Delayed Symptoms	Wash contaminated clothing before reuse. rash, redness
If skin irritation or rash occurs	Get medical advice/attention.
IF SWALLOWED	P301 + P330 + P331, P310 (Not a likely route of exposure under normal use)
Immediate Symptoms	burns to mouth, throat, stomach, abdominal pain
Response	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTRE/doctor.
IF INHALED	P304 + P340, P312 (Not a likely route of exposure under normal use)
Immediate Symptoms	cough, respiratory tract irritation
Response	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing.
If feeling unwell	Call a POISON CENTRE/doctor.

Section 5: Fire-Fighting Measures

Auto-ignition Temperature	Not available	Flash Point ^{a)}	112 °C [234 °F]	LFL [LEL] UFL [UEL] ^{b)}	Not available
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In case of fire P370 + P378

Response	Use dry chemical, carbon dioxide, or chemical foam to extinguish. Use water spray to cool containers.
Combustion Products	Produces carbon oxides (CO, CO ₂), nitrogen oxides (NO _x)
Fire-Fighter	Wear self-contained breathing apparatus for fire fighting
General Information	Produces irritating and toxic fumes in fires or in contact with hot surfaces. Exposure to fire decomposition products may lead to delayed symptoms.

a) Based on Pensky-Martens closed cup value

b) LFL = Lower Flammability [or Explosion] Limit (in volume %);
UFL = Upper Flammability [or Explosion] Limit (in volume %)

Section 6: Accidental Release Measures

Personal Protection	See Section 8. Avoid breathing vapors.
Containment	Evacuate surrounding area. Remove all sources of ignition. Prevent spill from entering drains and waterways. Contain with inert absorbent (such as soil, sand, vermiculite).
Cleaning	Collect liquid in a sealable, chemically-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe up further residue with paper towel and place dirty towels in container. Wash spill area with soap and water to remove the last traces of residue. RECOMMENDATION: Use a plastic, stainless steel or carbon steel container.
Disposal	Dispose of spill waste according to Section 13.



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Section 7: Handling and Storage

Prevention Keep out of reach of children.
 Do not eat, drink, or smoke when using this product.
 Wear protective gloves/protective clothing/eye protection. Wear butyl rubber, nitrile or other impervious gloves with breakthrough time greater than intended use period.
 Do not breathe vapors.
 Wash hands thoroughly after handling.
 Contaminated clothing should not be allowed out of the workplace.
 Avoid release to the environment.

Handling Wear protective gloves/clothing/eye protection.
 Wash hands thoroughly after handling.

Storage Keep container tightly closed. Store in a well-ventilated area. Protect from sunlight.

Section 8: Exposure Controls/Personal Protection

Routes of Entry

Eyes, skin, ingestion, and inhalation

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
isophorone diamine	ACGIH	None established	None established
	U.S.A. OSHA PEL	None established	None established
	Canada	None established	None established

Note: The ACGIH¹, OSHA, and Canadian provinces exposure limits were consulted. Limits from by RTECS database² of the Canadian Centre for Occupational Health and Safety (CCOHS) a data from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

Engineering Controls

Ventilation Keep airborne concentrations below exposure limits.

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Personal Protective Equipment

Eye protection	<p>Wear appropriate protective eyeglasses or chemical safety goggles.</p> <p>RECOMMENDATION: Use safety goggles or faceshield. At a minimum, wear glasses with lateral protection (side shields).</p>
Skin Protection	<p>Use of protective gloves chemically resistant gloves.</p> <p>For incidental exposure, you may use nitrile rubber gloves.</p> <p>For prolonged exposure, use nitrile rubber, polyvinyl alcohol (PVA) or viton gloves and aprons.</p>
Respiratory Protection	<p>If exposed to vapors or mist, wear a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respiratory cartridge.</p> <p>RECOMMENDATION: Consult your local safety supply store to ensure your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this MSDS, and that the respirator is fitted to the employee by a professional.</p>

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

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Section 9: Physical and Chemical Properties

Physical State	Liquid	Appearance	Colorless
Odor	Amine like	Odor Threshold	Not available
pH	14	Specific Gravity @25 °C	0.922
Solubility in Water	Miscible	Freezing/Melting Point ^{a)}	10 °C [50 °F]
Flash Point ^{b)}	112 °C [234°F]	Vapor Pressure @ 20 °C	0.01 hPa [0.008 mmHg]
Boiling Point	247 °C [477 °F]	Evaporation Rate	Not available
Lower Flammability Limit	Not available	Upper Flammability Limit	Not available
Auto-ignition Temperature	Not available	Decomposition Temperature	Not available
Viscosity @40 °C	<20 mm ² /s	Vapor Density	>1 (Air = 1)
Partition Coefficient ^{a)}	Log Pow 0.8 @23 °C [73 °F]		

a) Literature

b) Pensky-Martens closed cup

Section 10: Stability and Reactivity

Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures.
Conditions to Avoid	High temperatures, misting
Incompatibilities	Strong oxidizing agents
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5

Section 11: Toxicological Information**Routes of Exposure**

Eyes, ingestion, inhalation, and skin

Symptoms Summary

Eyes	Causes severe chemical burns. Also cause eye redness or pain.
Skin	May cause chemical burns and serious skin irritation. May cause allergic skin reactions. When heated, vapors may also result in itching of the face with skin redness (erythema) and swelling (edema).
Inhalation	Not a likely route of exposure due to low volatility. Inhalation of vapors may cause irritation to the nose, throat and lung (upper respiratory tract).
Ingestion	Not a likely route of exposure. May cause severe irritation or corrosive burns to the mouth, throat, esophagus, and stomach. May cause allergic reactions.
Chronic	Prolonged or repeated exposure to the uncured epoxy hardener may cause sensitization (allergies).

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation
isophorone diamine	1030 mg/kg Rat	Not available	Not available	Not available

Note: Representative toxicity data from by RTECS database of the Canadian Centre for Occupational Health and Safety (CCOHS)¹ data from supplier MSDS were also consulted.

Other Toxicological Effects

Skin corrosion/irritation	Isophorone diamine (CAS# 2855-13-2) can cause skin burns.
Serious eye damage/irritation	Isophorone diamine (CAS# 2855-13-2) can cause severe eye damage.
Sensitization (allergic reactions)	Isophorone diamine (CAS# 2855-13-2) may cause skin sensitization in humans

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Carcinogenicity (risk of cancer)	Not classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP
Mutagenicity (risk of heritable genetic effects)	No data available
Reproductive Toxicity (risk to sex functions)	No data available
Teratogenicity (risk of fetus malformation)	No data available
STOT-single exposure	No data available.
STOT-repeated exposure	No data available.
Aspiration hazard	Not a Cat 1 or 2 aspiration toxicants

Section 12: Ecological Information

The ecotoxicity of the mixture was estimated by the calculation method using the summation of classified ingredients. The IMDG Code criteria and the raw-material MSDS along with supporting data for the classification of registered substances from the European Chemical Agency database (<http://echa.europa.eu>) were used.

Isophorone diamine (CAS# 2855-13-2) is an acute category 3 environmental toxicant (with minimal LC50 of 110 mg/L for *Leuciscus idus* (Golden orfe); EC50 17.4 mg/L 48 h *Daphnia magna* (water flea), EC50 37 mg/L 72 h *Desmodesmus subspicatus* (green algae)).

Acute Ecotoxicity

Category 3

GHS Code: Hazard Statement

H402: Harmful to aquatic life

P273: Avoid release to the environment

P391: Collect spillage

Chronic Ecotoxicity

Not available

Biodegradability

Not readily biodegradable.

Other Effects

VOC (Regulated Volatile Organic Content) = 100% [922 g/L]

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations.

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); USA CFR 49 Regulations (Parts 100 to 185). ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road, and ADN (Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways).

Sizes 5 liter and under

Limited Quantity



Sizes greater than 5 liter

UN number: UN2289
Shipping Name:
ISOPHORONEDIAMINE
Class: 8
Packing Group: III
Marine Pollutant: No



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 1 liter and under

Limited Quantity



Packing Instr. Y841

Sizes greater than 1 liters up to 5 L

UN number: UN2289
Shipping Name:
ISOPHORONEDIAMINE
Class: 8
Packing Group: III
Marine Pollutant: No
Packing Instr. A803



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Sea

Refer to IMDG regulations.

Sizes 5 liter and under

Limited Quantity



Sizes greater than 5 liter

UN number: UN2289
Shipping Name:
ISOPHORONEDIAMINE
Class: 8
Packing Group: III
Marine Pollutant: No



Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL/NDSL.

Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

Health Canada

Products produced by MG Chemicals intended for retail display conform to the Canadian Consumer Labeling Regulations.

USA

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.
pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45

This product does not contain substance subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

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TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, Sept 2, 2011 revision, USA).

This product does not contain any of the listed substances.

Europe

RoHS

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, and complies with European RoHS regulations.

WEEE

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

SDS Prepared by	Michel Hachey
Date of Creation	16 December 2013
Supersedes	Not applicable
Reason for Changes:	New product

References

- 1) ACGIH 2013 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2013).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
NOELR	No observable effect loading ratio
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
PEL	Permissible Exposure Limit
STEL	Short-Term Exposure Limit
TCLo	Lowest published toxic concentration
TWA	Time Weighted Average
VOC	Volatile Organic Content

Technical Queries Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

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