

OPTICALLY CLEAR EPOXY**8322-PART B**

Safety Data Sheet

Section 1: 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 for use as a spray coating

Details of Manufacturer or Importer

ManufacturerMG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADAMG 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 accidentsUSA or CANADA: Call CHEMTREC ☎: **+1-800-424-9300****For emergencies involving dangerous goods;** Collect 24/7CANADA: Call CANUTEC ☎: **+1-613-996-6666** or ***666** on cellular phones

OPTICALLY CLEAR EPOXY
8322-PART B
Section 2: Hazard(s) Identification
Classification of the Chemical Material
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 | <i>none</i> | <i>none</i> |

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

| | |
|---|---|
| Signal Word | DANGER |
| Pictograms | Hazard Statements |
|  | H314: Causes severe skin burns and eye damage |
|  | H302: Harmful if swallowed H317: May cause an allergic skin reaction |
|  | H402: Harmful to aquatic life |

Section continued on the next page

OPTICALLY CLEAR EPOXY
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Continued...

| Prevention | Precautionary Statements |
|--------------------------|---|
| P102 | Keep out of reach of children. |
| P260 | Do not breathe fumes/mist/vapors. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P264 | Wash hands thoroughly after handling. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| Response | Precautionary Statements |
| P301 + P330 + P331, P310 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. |
| P303 + P361 + P353, P310 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER/doctor. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P363 | Wash contaminated clothing before reuse. |
| P304 + P340, P310 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| P305 + P351 + P338, P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| P301 + P312 + P330 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. |
| Storage | Precautionary Statements |
| P405 | Store locked up. |
| Disposal | Precautionary Statements |
| P501 | Dispose of contents/container in accordance to local/regional/international regulations. |

Hazards Not Otherwise Classified

| HCS2012 Criteria | Hazard Statements/Precautionary Statement | Signal Word | Pictograms |
|-------------------------|--|--------------------|-------------------|
| None | None | None | None |

OPTICALLY CLEAR EPOXY
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Section 3: Composition/Information on Ingredients

| CAS # | Chemical Name | %(weight) |
|-----------|--------------------|-----------|
| 2855-13-2 | isophorone diamine | 100% |

Section 4: First-Aid Measures

| <i>Exposure Condition</i> | <i>GHS Code: Precautionary Statement</i> |
|--------------------------------------|--|
| IF IN EYES | P305 + P351 + P338, P310 |
| Immediate Symptoms | <i>redness, severe irritation, pain, burns</i> |
| Response | Rinse cautiously with water for 30 minutes or more. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| IF ON SKIN (or hair) | P303 + P361+ P353, P310, P333 + P313, P363 |
| Immediate or Delayed Symptoms | <i>redness, irritation, rash (allergic contact dermatitis), pain, chemical burns, blistering</i> |
| Response | Take off immediately all contaminated clothing. Wash with plenty of water or shower. Immediately call a POISON CENTRE/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. |
| IF INHALED | P304 + P340, P310 |
| Immediate Symptoms | <i>cough, irritation of the respiratory track, burning sensation</i> |
| Delayed Symptoms | <i>asthma, difficulty breathing</i> |
| Response | Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| IF SWALLOWED | P301 + P330 + P331, P310 |
| Immediate Symptoms | <i>Irritation, abdominal pain, nausea, vomiting, burns to the digestive tract</i> |
| Response | Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER/doctor. |

OPTICALLY CLEAR EPOXY**8322-PART B****Section 5: Fire-Fighting Measures**

| | |
|----------------------------|---|
| Extinguishing Media | In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. |
| Specific Hazards | Not flammable or combustible, but burns if involved in a fire. Produces irritating and toxic fumes in fires or in contact with hot surfaces. Inhalation of toxic smoke during fire may have delayed effects. Exposed person may need to be put under surveillance for 48 h. Toxic for aquatic environment: Prevent fire-fighting wash from entering waterway or sewer system. |
| Combustion Products | Produces carbon oxides (CO, CO ₂) and nitrogen oxides (NO _x). |
| Fire-Fighter | Wear self-contained breathing apparatus and full fire-fighting turn-out gear. |

Section 6: Accidental Release Measures

| | |
|----------------------------------|--|
| Personal Protection | Use personal protection recommended in Section 8. |
| Precautions for Response | Do not breathe fumes/mist/vapors. |
| Environmental Precautions | Avoid releasing to the environment. Prevent spill from entering drains and waterways. Do not flush to sewer. |
| Containment Methods | Contain with inert absorbent (such as soil, sand, vermiculite). |
| Cleaning Methods | Collect liquid in a sealable container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe residue with a paper towel wetted with a suitable organic solvent such as alcohol or ethyl lactate, and place dirty towels in container. Wash spill area with soap and water to remove the last traces of residue. |
| Disposal Methods | Dispose spill waste according to Section 13. |

OPTICALLY CLEAR EPOXY**8322-PART B****Section 7: Handling and Storage****Prevention**

Keep out of reach of children.

Do not breathe fumes/mist/vapors. Contaminated work clothing should not be allowed out of the workplace.

Do not eat, drink, or smoke when using this product.

Avoid release to the environment.

Handling

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

Wash contaminated clothing before reuse.

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

Wash hands thoroughly after handling.

Collect spillage.

Storage

Store locked up.

Section 8: Exposure Controls/Personal Protection**Substances with Occupational Exposure Limit Values**

Contains no substances with occupational exposure limits.

Note: The ACGIH¹, OSHA, and Canadian provinces exposure limits were consulted. Limits from by RTECS database² and data from suppliers' SDS were also consulted.

Engineering Controls**Ventilation**

Keep airborne concentrations below the occupational exposure limits (OEL).

Due to low vapor pressure of the product, general ventilation should be adequate for normal use. If the product is heated at high temperatures or worker is allergic, use local ventilation and consider using a full mask with organic vapor cartridges.

Section continued on the next page

OPTICALLY CLEAR EPOXY**8322-PART B****Personal Protective Equipment****Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

RECOMMENDATION: Use safety glasses with lateral protection (side shields).

Skin Protection

For likely contacts, use of protective butyl rubber, neoprene, or other chemically resistant gloves.

For incidental contacts, use nitrile or other chemically resistant gloves.

Respiratory Protection

For over-exposures up to 10 x OEL of mist/vapors/spray, wear respirator such as a half-mask respirator with organic vapor cartridges.

Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.

If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

RECOMMENDATION: Consult your local safety supply store to ensure your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in section 3 of this SDS, and that the respirator is fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

OPTICALLY CLEAR EPOXY
8322-PART B
Section 9: Physical and Chemical Properties

| | | | |
|---|----------------------|--|-------------------------------|
| Physical State | Liquid | Lower Flammability Limit | Not available |
| Appearance | Clear | Upper Flammability Limit | Not available |
| Odor | Amine-like | Vapor Pressure @20 °C | 0.01 hPa [0.008 mmHg] |
| Odor Threshold | Not available | Vapor Density | >1 (Air = 1) |
| pH | Not available | Specific Gravity @25 °C | 0.92 |
| Freezing/Melting Point ^{a)} | 10 °C [50 °F] | Solubility in Water | Miscible |
| Boiling Point | ≥247 °C [≥477 °F] | Partition Coefficient ^{a)} | Log Pow 0.8 @23 °C [73 °F] |
| Flash Point ^{b)} | 112 °C [234°F] | Auto-ignition Temperature | Not available |
| Evaporation Rate | Not available | Decomposition Temperature | Not available |
| Flammability (solid, gas) | Not available | Viscosity @25 °C | <20 mm ² /s |

a) Literature value

b) Pensky-Martens closed cup

Section 10: Stability and Reactivity

| | |
|----------------------------|---|
| Reactivity | Reacts exothermically with ketones, halogenated hydrocarbons, cyanides, nitriles, and epoxides. May attack metals such as aluminum, zinc, copper, and their alloys. |
| Chemical Stability | Chemically stable at normal temperatures and pressures |
| Conditions to Avoid | Avoid excessive heat and incompatible substances. Do not use in a way that forms a mist or aerosolize the product. |
| Incompatibilities | Strong oxidizing agents, strong acids |

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OPTICALLY CLEAR EPOXY**8322-PART B****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**

Eye Contact, Skin contact, Inhalation, and Ingestion

Symptoms Summary

| | |
|-------------------|---|
| Eyes | May causes redness, severe eye irritation, pain, or corrosive eye damage. |
| Skin | May cause redness, serious skin irritation, allergic contact dermatitis, and chemical burns. Triethylenetetramine can be absorbed through skin leading to toxic effects. When heated, vapors may also result in itching of the face with skin redness (erythema) and swelling (edema). |
| Inhalation | Inhalation of vapors or mist may cause irritation to the nose, throat and lung (upper respiratory tract). |
| Ingestion | May cause severe irritation or corrosive burns to the mouth, throat, esophagus, and stomach. May cause allergic reactions (see inhalation symptoms). |
| Chronic | Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization. |

Acute Toxicity (Lethal Exposure Concentrations)

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

Note: Toxicity data from the RTECS² and ECHA were consulted. The data from supplier (M)SDS were also consulted.

Section continued on the next page

OPTICALLY CLEAR EPOXY**8322-PART B****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. |
| Respiratory and skin sensitization (allergic reactions) | Isophorone diamine (CAS# 2855-13-2) may cause skin sensitization in humans. |
| Carcinogenicity (risk of cancer) | None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP. |
| Mutagenicity (risk of heritable genetic effects) | Based on available data, the classification criteria are not met. |
| Reproductive Toxicity (risk to sex functions) | Based on available data, the classification criteria are not met. |
| Teratogenicity (risk of fetus malformation) | Based on available data, the classification criteria are not met. |
| STOT-single exposure | Based on available data, the classification criteria are not met. |
| STOT-repeated exposure | Based on available data, the classification criteria are not met. |
| Aspiration hazard | Based on available data, the classification criteria are not met. There is no category 1 components, and the kinematic viscosity is >20.5 mm ² /s at 40 °C. |

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

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).

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OPTICALLY CLEAR EPOXY
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Acute Ecotoxicity

Category 3

Harmful to aquatic life

Avoid release to the environment.

Chronic Ecotoxicity

Based on available data, the classification criteria are not met.

Biodegradability

Not readily biodegradable

Bioaccumulation

Not available

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


Section continued on the next page

OPTICALLY CLEAR EPOXY
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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


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.

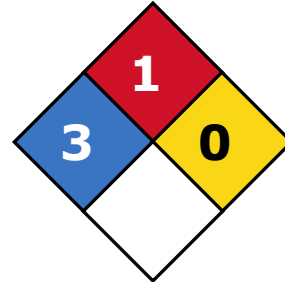
Industry and Science Canada

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.

Section continued on the next page

OPTICALLY CLEAR EPOXY**8322-PART B****USA****Other Classifications****HMIS® RATING**

| | |
|-----------------------------|------------|
| HEALTH: | * 3 |
| FLAMMABILITY: | 1 |
| 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)

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.

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

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

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 listed substances in California.

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OPTICALLY CLEAR EPOXY**8322-PART B****Europe****RoHS** (Restriction of Hazardous Substances Directive)

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

WEEE (Waste Electrical and Electronic Equipment Directive)

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 Revision 15 July 2016

Supersedes 16 December 2013

Reason for Changes: Change to better meet HCS 2012 and WHMIS 2015 requirements.

Reference

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®)

Abbreviations

| | |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists (USA) |
| EC50 | Half maximal effective concentration |
| EL50 | Half maximal effective loading |
| IARC | International Agency for Research on Cancer |
| NOELR | No observable effect loading ratio |
| NTP | National Toxicology Program |
| GHS | Globally Harmonized System of Classification of Labeling of Chemicals |
| LC50 | Lethal Concentration 50% |
| LCLo | Lowest published lethal concentration |
| LD50 | Lethal Dose 50% |
| OEL | Occupational Exposure Limit |
| PEL | Permissible Exposure Limit |
| SDS | Safety Data Sheet |
| STEL | Short-Term Exposure Limit |
| TCLo | Lowest published toxic concentration |
| TWA | Time Weighted Average |
| VOC | Volatile Organic Content |

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OPTICALLY CLEAR EPOXY**8322-PART B**

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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