

OPTICALLY CLEAR EPOXY

8322-PART A

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

Recommended Use and Restriction on Use

Use: Epoxy resin for use with hardeners**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)
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Surrey, British Columbia V4N 4E7
CANADA

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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

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Section 2: Hazard(s) Identification


Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Sensitization	Skin	1B	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Environmental Hazard	Chronic 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	WARNING
Pictograms	Hazard Statements
	H317: May cause an allergic skin reaction H315: Causes skin irritation
No Symbol Mandated	H412: May cause long lasting harmful effects to aquatic life
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P261	Avoid breathing fumes/mist/vapors.
P280	Wear protective gloves/eye protection/face protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.

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Response	Precautionary Statements
P302 + P352	IF ON SKIN: Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
Storage	Precautionary Statements
<i>None</i>	<i>None</i>
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

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
30583-72-3	cyclohexanol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane	>90%

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Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF ON SKIN	P302 + P352, P333 + P313, P362 + P364
Immediate Symptoms	<i>irritation, rash, redness</i>
Response	Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
IF IN EYES	P305 + P351 + P338
Immediate Symptoms	<i>mild irritation, redness, tearing</i>
Response	Rinse cautiously with water for 15 minutes or more. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED	P304 + P340, P312
Immediate Symptoms	<i>irritation</i>
Response	Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	<i>irritation</i>
Response	Rinse mouth. Do NOT induce vomiting.

Section 5: Fire-Fighting Measures

Extinguishing Media	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 smoke of unknown toxicity in fires. Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO ₂), and aldehydes
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

OPTICALLY CLEAR EPOXY**8322-PART A****Section 6: Accidental Release Measures**

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing the fumes/mist/vapors. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable, chemical-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wash residue with a paper towel wetted with alcohol, ethyl lactate, or another suitable organic solvent; and place dirty towels in container. Use soap and water to remove the last traces of residue.
Disposal Methods	Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention	Keep out of reach of children. Avoid breathing fumes/mist/vapors.
Handling	Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling. Contaminated clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse. Avoid release to the environment.
Storage	Keep container tightly closed. Store in a well-ventilated area.

OPTICALLY CLEAR EPOXY**8322-PART A****Section 8: Exposure Controls/Personal Protection****Substances with Occupational Exposure Limit Values**

Contains no substances with occupational exposure limits.

Note: The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS² database and data from suppliers' SDS were also consulted.

Engineering Controls

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

Personal Protective Equipment

Eye protection Wear appropriate protective eyeglasses or chemical safety goggles.

Recommendation: Ensure that glasses have side shields for lateral protection.

Skin Protection For likely contacts, use of protective butyl rubber 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.

RECOMMENDATION: Consult your local safety supply store to ensure your respirator has 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.

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	Lower Flammability Limit	Not available
Appearance	Clear	Upper Flammability Limit	Not available
Odor	Mild	Vapor Pressure^{b)} @20 °C	<3.5×10 ⁻¹⁰ mmHg [<5.0×10 ⁻¹⁰ hPa]
Odor Threshold	Not available	Vapor Density	>1 (Air =1)
pH	Not available	Specific Gravity @25 °C	1.09
Freezing/Melting Point	<10 °C [<50 °F]	Solubility in Water	Insoluble
Boiling Point	Not available	Partition Coefficient	Not available
Flash Point^{a)}	115 °C [239 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability (solid, gas)	Not available	Viscosity @25 °C	2300 cSt

a) Pensky-Martens closed cup value

b) Based on vapor pressure for similar composition product

Section 10: Stability and Reactivity

Reactivity	At room temperature, reacts exothermically with alkali substances including amines, mercaptans, and Lewis acids. At 200 °C, vigorous polymerization will occur in the presence of caustic soda (sodium hydroxide).
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid ignition sources, open flames, and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong bases (alkali)
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

OPTICALLY CLEAR EPOXY**8322-PART A****Section 11: Toxicological Information****Routes of Exposure**

Eye Contact, Ingestion, Inhalation, and Skin Contact

Symptoms Summary

Eyes	May cause mild eye irritation, redness or tearing.
Skin	Causes irritation, rash, and redness.
Inhalation	May cause nose, throat and lung irritation.
Ingestion	See inhalation symptoms.
Chronic	Prolonged or repeated exposure to the uncured epoxy resin may cause sensitization (allergies).

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
cyclohexanol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane	Not available	Not available	Not available

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

Other Toxicological Effects

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Sensitization (allergic reactions)	May cause skin sensitization in humans
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)	Based on available data, the classification criteria are not met.

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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.

The epoxy resin (CAS#30583-72-3) is an acute category 3 environmental toxicant with minimal LC50 of 11.5 mg/L for *Oncorhynchus mykiss* (rainbow trout); EC50 28.3 mg/L 48 h *Daphnia magna* (water flea).

Acute Ecotoxicity

Category 3

Harmful to aquatic life

Avoid release to the environment. Collect spillage

Chronic Ecotoxicity

Category 3

Harmful to aquatic life with long lasting effects

Biodegradability

Not readily biodegradable.

Other Effects

Regulated Volatile Organic Content (VOC) = 100% (1088 g/L)

Section 13: Disposal Information

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

OPTICALLY CLEAR EPOXY**8322-PART A****Section 14: Transport Information****Ground**

Refer to TDG (Canadian Transportation of Dangerous Goods regulations) and **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

Not Regulated	
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Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Not Regulated	
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Sea

Refer to IMDG regulations.

Not Regulated	
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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.

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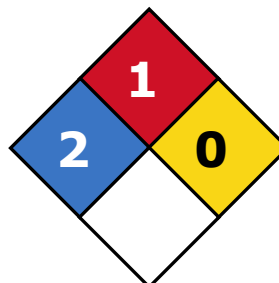
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USA

HMIS® RATING

HEALTH:	* 2
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, which 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, June 06, 2014 revision, USA).

This product does not contain any listed substances in California.

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.

OPTICALLY CLEAR EPOXY**8322-PART A****Section 16: Other Information****SDS Prepared by** Michel Hachey**Date of Creation** 15 July 2016**Supersedes** 18 December 2013**Reason for Changes:** Formatting change to better meet HCS 2012 and WHMIS 2015 requirements.**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®)

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
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

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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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