HIGH TEMPERATURE EPOXY **832HT-PART A**

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: High Temperature Epoxy: Encapsulating and Potting Compound

SDS Code: 832HT–Part A

Related Part # 832HT-375ML, 832HT-3L, 832HT-60L

Recommended Use and Restriction on Use

Use: Epoxy resin for use with hardeners to pot devices or encapsulate components

Uses Advised Against: Not for use as a spray coating

Details of Manufacturer or Importer

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

☎ +1-800-340-0772
FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

MG Chemicals (Head Office)
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Surrey, British Columbia V4N 4E7
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☎ +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: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Carcinogenicity		2	Warning	Health
Sensitization	Skin sensitizer	1	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Environmental Hazard	Chronic Aqua. Tox.	2	*none*	Environment
Environmental Hazard	Acute Aqua. Tox.	2	*none*	*none*

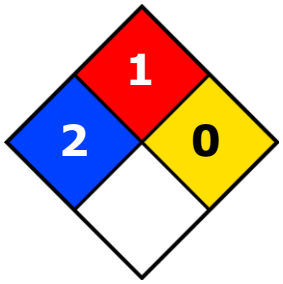
Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Other Classifications

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)

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Label Elements

Signal Word	**WARNING**
Pictograms	**Hazard Statements**
	H319: Causes serious eye irritation H315: Causes skin irritation H317: May cause an allergic skin reaction
	H351: Suspected of causing cancer
	H411: Toxic to aquatic life with long lasting effects

Prevention	**Precautionary Statements**
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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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Prevention	**Precautionary Statements**
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 + P313	If eye irritation persists: Get medical advice/attention.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P332 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P308 + P313	IF INHALED: IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.
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

Other Criteria	**Hazard Statements/Precautionary Statement**	**Signal Word**	**Pictograms**
Defats skin	Repeated exposure may cause skin dryness or cracking.	None	None

Section 3: Composition/Information on Ingredients

CAS #	**Chemical Name**	**%(weight)**
28064-14-4	phenyl glycidyl ether/ formaldehyde copolymer	98%
25068-38-6	bisphenol-A epoxy resin (reaction product)	1%
1333-86-4	carbon black	0.4%

Section 4: First-Aid Measures

Exposure Condition	*GHS Code/Symptoms/Precautionary Statements*
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	*redness, irritation, pain*
Response	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN	P302 + P352, P332 + P313, P362 + P364
Immediate *or Delayed* Symptoms	*redness, irritation, dry skin, allergic contact dermatitis*
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 INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	*cough, irritation of the respiratory track*
Response	Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	*Irritation*
Response	Rinse mouth. Do NOT induce vomiting.

Section 5: Fire-Fighting Measures

In case of fire	P370 + P378
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 toxic fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

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.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Avoid breathing fumes/mist/vapors or contact with skin or eyes.

Avoid release to the environment.

Handling

Wear protective gloves/clothing/eye protection.

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

Routes of Entry

Skin contact, Inhalation, and Eye contact

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
carbon black [a)]	ACGIH	3.5 mg/m^3	Not established
	U.S.A. OSHA PEL	3.5 mg/m^3	Not established
	Canada AB	3.5 mg/m^3	Not established
	Canada BC	3 mg/m^3	Not established
	Canada ON	3.5 mg/m^3	Not established
	Canada QC	3.5 mg/m^3	Not established

Note: The ACGIH[1], OSHA, and Canadian provinces exposure limits were consulted. Limits from by RTECS database[2] of the Canadian Centre for Occupational Health and Safety (CCOHS) a data from suppliers' SDS were also consulted. Short term exposure limits (STEL) are usually for 15 min and long term permissible exposure limits (PEL) for 8 h.

a) Respirable airborne particles

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Engineering Controls

Ventilation

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

Because the carbon black is bound to the liquid mixture, it does not present an airborne hazard under normal use. Ensure adequate ventilation if the product is mechanically misted or aerosolized.

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.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit**	Not available
Appearance	Black	**Upper Flammability Limit**	Not available
Odor	Mild	**Vapor Pressure @20 °C**	Not available
Odor Threshold	Not available	**Vapor Density**	Not available
pH	Not available	**Specific Gravity @25 °C**	1.17
Freezing/Melting Point	Not available	**Solubility in Water**	Insoluble
Boiling Point	≥150 °C [≥302 °F]	**Partition Coefficient**	Not available
Flash Point	>150 °C [>302 °F]	**Auto-ignition Temperature**	Not available
Evaporation Rate	Not available	**Decomposition Temperature**	Not available
Flammability (solid, gas)	Not available	**Viscosity @25 °C**	≥44 000 mm^2/s

Section 10: Stability and Reactivity

Reactivity	Reacts exothermically with amines.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid ignition sources, open flames, and incompatible substances. Do not use in away that forms mist or aerosolizes the product.
Incompatibilities	Strong oxidizing agents, strong acids, alkaly
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

Skin contact, Inhalation, and Eye contact

Symptoms Summary

Eyes May cause redness, severe irritation, or pain.

Skin May cause skin redness, irritation, dry skin, or allergic contact dermatitis.

Inhalation May cause cough and respiratory irritation.

Ingestion No acute oral toxicity effects known (see inhalation symptoms).

Chronic Prolonged and repeated exposure may lead to skin sensitization.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
phenyl glycidyl ether/ formaldehyde copolymer	4 000 mg/kg Rabbit [a)]	Not available	6 000 mg/kg Rabbit [a)]
reaction products: bisphenol-A-(epichlorhydrin) and epoxy resin [b)]	11 400 mg/kg Rat	Not available	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not established

Note: Toxicity data from the RTECS database accessed through the Canadian Centre for Occupational Health and Safety (CCOHS)[2] were consulted. The data from supplier (M)SDS were also consulted.

a) Supplier MSDS

b) Referred to as bisphenol-A epoxy resin (reaction product)

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Other Toxicological Effects

Skin corrosion/irritation	Moderate skin irritant.
Serious eye damage/irritation	Causes serious eye irritation.
Sensitization (allergic reactions)	Skin sensitizer based on animal studies on the epoxy components
Carcinogenicity (risk of cancer)	The carbon black [1333-86-4] is possibly carcinogenic by airborne routes of exposures under WHMIS. Because the carbon black is bound in the epoxy liquid mixture, it is not available as an airborne hazard (dust, mist, or spray) under normal use. **Carbon Black [1333-86-4]** IARC Group 2B: Possibly carcinogenic to humans ACGIH A4: Not classified as a human carcinogen CA Prop 65: Listed as a carcinogen (airborne, as unbound particles of respirable size) NTP: Not listed
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

The IMDG Code criteria, the raw-material safety data sheets, and supporting data from the European Chemical Agency database (http://echa.europa.eu) were used to support the classification.

In Europe, similar epoxy resin mixtures with CAS# 28064-14-4 and CAS# 25068-38-6 are generally classified as chronic category 2 marine pollutant due to LC50 96 h of >1 mg/L but ≤10 mg/L.

Based on available data, carbon black is not classified as environmental hazard according to GHS criteria.

Acute Ecotoxicity

Category 2

Toxic to aquatic life

Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect spillage.

Biodegradability

Not readily biodegradable

Bioaccumulation

Not available

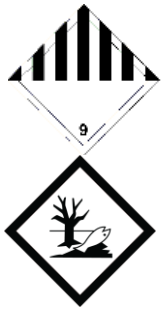
Section 13: Disposal Information

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

Section 14: Transport Information

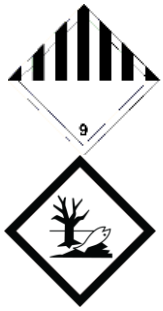
Ground

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

Sizes 5 liters and under	Sizes greater than 5 liters
Limited Quantity **Note:** The 832HT-375ML, 832HT-3L and 832HT-12L are composed of separate containers which meet this inner packaging limit. 	**UN number**: UN3082 **Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,N.O.S. (Reaction product: phenyl glycidyl ether/ formaldehyde copolymer) **Class:** 9 **Packing Group**: III **Marine Pollutant:** Yes 

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 5 liters and under	Sizes greater than 5 liters
Limited Quantity  Excepted Quantity E2 ≤30 mL	**UN number**: UN3082 **Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: phenyl glycidyl ether/ formaldehyde copolymer) **Class:** 9 **Packing Group**: III **Marine Pollutant:** Yes 

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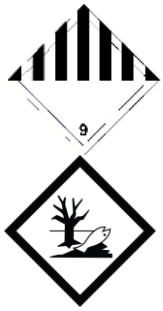
Sea

Refer to IMDG regulations.	
Sizes 5 liters and under	Sizes greater than 5 liters
Limited Quantity Note: The 832HT-375ML, 832HT-3L and 832HT-12L are composed of separate containers which meet this inner packaging limit. 	**UN number**: UN3082 **Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: phenyl glycidyl ether/ formaldehyde copolymer) **Class:** 9 **Packing Group**: III **Marine Pollutant:** Yes 

Note: **Shipper must be appropriately <u>trained and certified</u> before involvement with the transport of dangerous goods.**

Section 15: Regulatory Information

Canada

WHMIS 1988 Classification

D2A – Very Toxic (Carcinogen IARC: 2B);
D2B – Toxic Other (Skin Sensitizer, Eye and Skin Irritant)

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

All hazardous ingredients are listed on the DSL.

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.

Section continued on the next page

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.

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 contains carbon black, which is listed as a carcinogenic substances when airborne, as unbound particles of respirable size.

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 Review 19 May 2015

Supersedes 03 July 2013

Reason for Changes: Changes to better meet HCS 2012 and WHMIS 2.0 requirements.

Section continued on the next page

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

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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