Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: Black 1:1 Epoxy Potting and Encapsulating Compound (Part A)

SDS Code: 832HD–Part A

Related Part # 832HD-25ML, 832HD-50ML, 832HD-400ML, 832HD-1.7L, 832HD-7.4L, 832HD-40L

Recommended Use and Restriction on Use

Use: Epoxy resin for use with hardeners

Uses Advised Against: Not applicable

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)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

☎ +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
Sensitization	Skin	1	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Hazardous to the Aquatic Environment	Chronic	2	*none*	Environment

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 H319: Causes serious eye irritation H315: Causes skin irritation
	H411: Toxic to aquatic life with long lasting effects
Prevention	**Precautionary Statements**
P102	Keep out of reach of children.
P261	Avoid breathing fumes/vapors.
P280	Wear protective gloves/eye 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.

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Response	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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
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
None	None	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	% (weight)
25085-99-8	propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	89%
17557-23-2	neopentyl glycol diglycidyl ether	6%
64741-65-7	naphtha, petroleum, heavy alkylate	2%
25068-38-6	bisphenol-A epoxy resin (reaction product) [a)]	1%
1333-86-4	carbon black	0.4%
68609-97-2	alkyl glycidyl ether	0.3%

a) Average molecular weight of ≤700

Section 4: First-Aid Measures

Exposure Condition	*GHS Code/Symptoms/Precautionary Statements*
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	*redness, serious irritation, pain*
Response	Rinse cautiously with water for at least 20 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, P333 + P313, P362 + P364
Immediate 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
Immediate Symptoms	*cough, irritation of the respiratory track*
Response	Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED	P301 + P330 + P331
Immediate Symptoms	*irritation*
Response	Rinse mouth. Do NOT induce vomiting.

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 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/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/vapors.
	Avoid release to the environment.
	Contaminated work clothing should not be allowed out of the workplace.
Handling	Wear protective gloves/protective clothing/eye protection.
	Take off contaminated clothing and wash it before reuse.
	Wash hands thoroughly after handling.
	Collect spillage.
Storage	**RECOMMENDATION:** Keep in a dry and clean area, away from incompatible substances.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
naphtha, petroleum, heavy distillate	ACGIH	100 ppm (525 mg/m^3)	Not established
	U.S.A. OSHA PEL	500 ppm (2 900 mg/m^3)	Not established
	Canada AB	572 mg/m^3	Not established
	Canada BC	290 mg/m^3	580 mg/m^3
	Canada ON	100 ppm	Not established
	Canada QC	525 mg/m^3	Not established
carbon black [a)]	ACGIH	3 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: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database[2] and 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.

a) Respirable airborne particles

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.

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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. 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 that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be 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.

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**	>1 (Air =1)
pH	Not available	**Specific Gravity @25 °C**	1.15
Freezing/Melting Point	Not available	**Solubility in Water**	soluble
Boiling Point [a)]	≥150 °C [≥302 °F]	**Partition Coefficient**	Not available
Flash Point [b)]	142 °C [287 °F]	**Auto-ignition Temperature**	≥235 °C [≥455 °F]
Evaporation Rate	Not available	**Decomposition Temperature**	Not available
Flammability (solid, gas)	Not available	**Viscosity @25 °C**	5 850 cP

a) Component with the lowest value—bisphenol-A epoxy resin (reaction product)
b) Component with the lowest value— alkyl glycidyl ether closed cup

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 a way that forms mist or aerosolizes the product.
Incompatibilities	Strong oxidizing agents, strong acids, strong 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, Eye contact, Inhalation, and Ingestion

Symptoms Summary

Eyes	May cause redness, irritation, or pain.
Skin	May cause skin redness, irritation, dry skin, or allergic contact dermatitis.
Inhalation	May cause cough, sore throat and respiratory irritation.
Ingestion	May cause irritation (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
neopentyl glycol diglycidyl ether	2 000 mg/kg Rat [a)]	2 150 mg/kg Rabbit [a)]	Not established
reaction products: bisphenol-A-(epichlorhydrin) and epoxy resin [b)]	11 400 mg/kg Rat	Not established	Not established
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not established
alkyl glycidyl ether	19 200 mg/kg Rat	4 500 mg/kg Rat	Not established

Note: Toxicity data from the RTECS[2] and ECHA 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	The epoxy components are moderate skin irritants.
Serious eye damage / irritation	The neopentyl glycol diglycidyl ether and the reaction products of bisphenol-A-(epichlorhydrin) are known serious eye irritants.
Sensitization (allergic reactions)	The product is a 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 less than 10% 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.

In Europe, similar epoxy resin mixtures with CAS# 25068-38-6 and 25085-99-8 have an average molecular weight of less than 700 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 and alkyl glycidyl ether are not classified as environmental hazards according to GHS criteria.

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect spillage.

Biodegradability

Not available

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 under 450 L **NOT REGULATED** in TDG per Special Provisions 99	*FOR REFERENCE ONLY* **UN number**: UN3082 **Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,N.O.S. (Reaction product: bisphenol-A-(epichlorhydrin)) **Class:** 9 **Packing Group**: III **Marine Pollutant:** Yes
Sizes 5 L and under **NOT REGULATED** in 49 CFR per exception 171.4 (c)(2)	

Special Provision 99 (2): These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.

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Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 5 L and under: Cat No. 832HD-25ML, 832HD-50ML, 832HD-400ML, 832HD-1.7L, 832HD-7.4L [a)]	Sizes greater than 5 L
NOT REGULATED On air waybill, write: "Not Restricted, as per Special Provisions A197"	**UN number**: UN3082 **Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: bisphenol-A-(epichlorhydrin)) **Class:** 9 **Packing Group**: III **Marine Pollutant:** Yes

Special Provision A197: These substances when transported in single or combination packagings containing net quantity per single or inner packaging of less than 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

a) The 832HD-7.4L kit inner packaging are all below 5 L net quantities

Section continued on the next page

Sea

Refer to IMDG regulations.	
Sizes 5 L and under: Cat No. 832HD-25ML, 832HD-50ML, 832HD-400ML, 832HD-1.7L, 832HD-7.4L [a)]	Sizes greater than 5 L
NOT REGULATED per 2.10.2.7	**UN number**: UN3082 **Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: bisphenol-A-(epichlorhydrin)) **Class:** 9 **Packing Group**: III **Marine Pollutant:** Yes 
2.10.2.7: Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provision of this Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class, all provisions of this Code relevant to any additional hazards continue to apply.	

a) The 832HD-7.4L kit inner packaging are all below 5 L net quantities.

Note: **Shipper must be appropriately <u>trained and certified</u> 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.

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

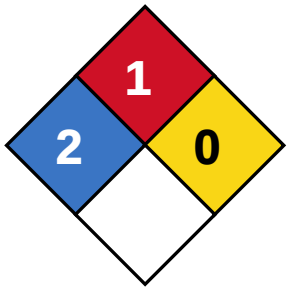
USA

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)

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, but it is bound and exposures during normal conditions of uses are below the Safe Harbor Threshold.

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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	15 November 2016
Supersedes	13 October 2016
Reason for Changes:	Change to California Proposition 65 statement in section 15.

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®)

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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.

Email: support@mgchemicals.com

Mailing Addresses

Manufacturing & Support
1210 Corporate Drive
Burlington, Ontario, Canada
L7L 5R6

Head Office
9347–193rd Street
Surrey, British Columbia, Canada
V4N 4E7

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