

832HD

(PART B)

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

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

**Other Means of Identification:** Not applicable

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

### Recommended Use and Restriction on Use

**Use:** Epoxy hardener for use with resins


**Uses Advised Against:** INDUSTRIAL USE ONLY. Do not aerosolize.

### 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](mailto:support@mgchemicals.com)

**WEB** [www.mgchemicals.com](http://www.mgchemicals.com)

 +1-905-331-1396

**FAX** +1-905-331-2682

**E-MAIL** [info@mgchemicals.com](mailto:info@mgchemicals.com)

**E-MAIL** (Competent Person): [sds@mgchemicals.com](mailto:sds@mgchemicals.com)

### Emergency Phone Number

**For hazardous material incidents ONLY** (leaks, spills, fires, exposures or accidents)

USA or CANADA—Call Verisk 3E at **+1-866-519-4752** or **+1-760-476-3962**

(Service access code: 335388)

**For emergencies involving the transport of dangerous goods;** 24/7 service



CANADA—Call CANUTEC collect at **+1-613-996-6666** or **\*666** on cellular phones

**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		1	Danger	Corrosion
Reproductive Toxicity		2	Warning	Health
Germ Cell Mutagenicity		2	Warning	Health
Sensitization	Skin	1	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Acute Toxicity	Oral	4	Warning	Exclamation
Acute Toxicity	Dermal	4	Warning	Exclamation
Acute Toxicity	Inhalation	4	Warning	Exclamation
Hazardous to the Aquatic Environment	Chronic	1	Warning	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**

<b>Signal Word</b>	<b>DANGER</b>
<b>Pictograms</b>	<b>Hazard Statements</b>
	H314: Causes severe skin burns and eye damage
	H341: Suspected of causing genetic defects H361: Suspected of damaging fertility or the unborn child

*Section continued on the next page*

**832HD**
**(PART B)**
*Continued...*

<b>Pictograms</b>	<b>Hazard Statements</b>
	H317: May cause an allergic skin reaction H302: Harmful if swallowed H312: Harmful in contact with skin H332: Harmful if inhaled H335: May cause respiratory irritation
	H410: Very toxic to aquatic life with long lasting effects
<b>Prevention</b>	<b>Precautionary Statements</b>
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes/mists/vapors.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P264	Wash hands and exposed skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
<b>Response</b>	<b>Precautionary Statements</b>
P310	For all routes of exposure: Immediately call a POISON CENTER/doctor.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

*Section continued on the next page*

**832HD**
**(PART B)**
*Continued...*

<b>Response</b>	<b>Precautionary Statements</b>
P303 + P361 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash skin with plenty of water or shower.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391	Collect spillage.
<b>Storage</b>	<b>Precautionary Statements</b>
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
<b>Disposal</b>	<b>Precautionary Statements</b>
P501	Dispose of contents/container in accordance to local/regional/international regulations.

**Hazards Not Otherwise Classified**

<b>Other Criteria</b>	<b>Hazard Statements/Precautionary Statement</b>	<b>Signal Word</b>	<b>Pictograms</b>
None	None	None	None

**Section 3: Composition/Information on Ingredients**

<b>CAS #</b>	<b>Chemical Name</b>	<b>%(weight)</b>
84852-15-3	phenol, 4-nonyl-, branched	41%
68953-36-6	Tofa, reaction products with TEPA	37%
6864-37-5	2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	16%
112-57-2	tetraethylenepentamine	3%
64741-65-7	naphtha, petroleum, heavy alkylate	2%
108-95-2	phenol	0.2%

**Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
<b>IF IN EYES</b>	P305 + P351 + P338, P310
<b>Immediate Symptoms</b>	<i>redness, severe irritation, pain, burns</i>
<b>Response</b>	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.
<b>IF ON SKIN (or hair)</b>	P303 + P361+ P352, P310, P333 + P313, P363
<b>Immediate or Delayed Symptoms</b>	<i>redness, severe irritation, rash (allergic contact dermatitis), pain, chemical burns</i>
<b>Response</b>	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.
<b>IF INHALED</b>	P304 + P340, P310
<b>Immediate or Delayed Symptoms</b>	<i>cough, irritation of the respiratory track, burning sensation, asthma, difficulty breathing</i>
<b>Response</b>	Remove person to fresh air and keep comfortable for breathing.  Immediately call a POISON CENTER/doctor.
<b>IF SWALLOWED</b>	P301 + P330 + P331, P310
<b>Immediate Symptoms</b>	<i>irritation, abdominal pain, nausea, vomiting, burns to the digestive tract</i>
<b>Response</b>	Rinse mouth. Do not induce vomiting.  Immediately call a POISON CENTER/doctor.

**Advice to Physicians**

In case of exposure to nitrogen oxides (NOx) combustion products vapors during a fire, the symptoms may be delayed. For significant exposures, the exposed person should be kept under medical surveillance for 48 hours.

### Section 5: Fire-Fighting Measures

<b>Extinguishing Media</b>	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
<b>Specific Hazards</b>	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.
<b>Combustion Products</b>	Produces carbon oxides (CO, CO <sub>2</sub> ) and nitrogen oxides (NO <sub>x</sub> ).
<b>Fire-Fighter</b>	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

### Section 6: Accidental Release Measures

<b>Personal Protection</b>	Use personal protection recommended in Section 8.
<b>Precautions for Response</b>	Do not breath the fumes/mists/vapors.
<b>Environmental Precautions</b>	Avoid releasing to the environment. Prevent spill from entering drains and waterways. Do not flush to sewer.
<b>Containment Methods</b>	Contain with inert absorbent (such as soil, sand, vermiculite).
<b>Cleaning Methods</b>	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.
<b>Disposal Methods</b>	Dispose 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.

Do not breathe fumes/mists/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. In case of inadequate ventilation wear respiratory protection.

Use only outdoors or in a well-ventilated area.

Take off contaminated clothing and wash it before reuse.

Wash hands and exposed skin thoroughly after handling.

Collect spillage.

**Storage**

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

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

Chemical Name	Country or Vendor	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
phenol <sup>a)</sup>	ACGIH	5 ppm (Skin)	Not established
	U.S.A. OSHA PEL	5 ppm (Skin)	Not established
	U.S.A (WEEL)	5 ppm (Skin)	Not established
	Canada AB	5 ppm (Skin)	Not established
	Canada BC	5 ppm (Skin)	Not established
	Canada ON	5 ppm (Skin)	Not established
	Canada QC	5 ppm (Skin)	Not established

*Note:* Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH<sup>1</sup>, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database<sup>2</sup> 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) Skin—can be absorbed through the skin.

*Section continued on the next page*

### Engineering Controls

**Ventilation**

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

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.

### 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 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**

<b>Physical State</b>	Liquid	<b>Lower Flammability Limit</b>	Not available
<b>Appearance</b>	Clear, amber	<b>Upper Flammability Limit</b>	Not available
<b>Odor</b>	Ammonia-like	<b>Vapor Pressure @20 °C</b>	Not available
<b>Odor Threshold</b>	Not available	<b>Vapor Density</b>	Not available
<b>pH</b>	Not available	<b>Specific Gravity @25 °C</b>	0.95
<b>Freezing/Melting Point</b>	Not available	<b>Solubility in Water</b>	Slightly soluble
<b>Boiling Point <sup>a)</sup></b>	≥93 °C [≥199 °F]	<b>Partition Coefficient</b>	Not available
<b>Flash Point <sup>b)</sup></b>	150 °C [302 °F]	<b>Auto-ignition Temperature <sup>b)</sup></b>	321 °C [448 °F]
<b>Evaporation Rate</b>	Not available	<b>Decomposition Temperature</b>	Not available
<b>Flammability (solid, gas)</b>	Not available	<b>Viscosity @25 °C</b>	2 300 cP

a) Component with the lowest value—2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)

b) Based on tetraethylenepentamine component

**Section 10: Stability and Reactivity**

<b>Reactivity</b>	Reacts exothermically with epoxides. May attack metals such as aluminum, zinc, copper, and their alloys.
<b>Chemical Stability</b>	Chemically stable at normal temperatures and pressures
<b>Conditions to Avoid</b>	Avoid excessive heat and incompatible substances. Do not use in a way that forms a mist or aerosolize the product.
<b>Incompatibilities</b>	Strong oxidizing agents, strong acids
<b>Polymerization</b>	Will not occur
<b>Decomposition</b>	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

**Section 11: Toxicological Information**
**Summary of Effects and Symptoms by Routes of Exposure**

<b>Eyes</b>	May causes redness, severe irritation, pain, or corrosive eye damage.
<b>Skin</b>	May cause redness, severe irritation, allergic contact dermatitis, pain and chemical burns.
<b>Inhalation</b>	Inhalation of vapors or mist may cause coughing, irritation of the respiratory track, burning sensation, asthma, difficulty breathing.
<b>Ingestion</b>	May cause irritation, abdominal pain, nausea, vomiting, burns to the digestive tract.
<b>Chronic</b>	Prolonged and repeated exposure to uncured epoxy hardener may lead to skin and respiratory sensitization.

**Acute Toxicity (Lethal Exposure Concentrations)**

<b>Chemical Name</b>	<b>LD50 oral</b>	<b>LD50 dermal</b>	<b>LC50 inhalation</b>
phenol, 4-nonyl-, branched	1 900 mg/kg Rat	3 160 mg/kg Rabbit	Not available
tofa, reaction products with TEPA	>2 000 mg/kg Rat <sup>a)</sup>	8 550 mg/kg Rabbit	Not available
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	320 mg/kg Rat	200 mg/kg Rabbit	0.41 mg/L Rat 4 h (dust)
tetraethylenepentamine	3 900 mg/kg Rat	660 µL/kg Rabbit	Not available
naphtha, petroleum, heavy alkylate	Not available	Not available	Not available
phenol	650 mg/kg Rat	660 mg/kg Rabbit	0.316 mg/L Rat 4 h (dust)

*Note:* Toxicity data from the RTECS<sup>2</sup> and ECHA databases were consulted. The data from supplier SDS were also consulted.

a) Supplier estimated value

*Section continued on the next page*

**Other Toxicological Effects**

<b>Skin corrosion/irritation</b>	The phenol, 4-nonyl-, branched; 2'-dimethyl-4,4'-methylenebis(cyclohexylamine); and Tetraethylenepentamine ingredients cause skin burns.
<b>Serious eye damage/irritation</b>	The phenol, 4-nonyl-, branched; 2'-dimethyl-4,4'-methylenebis(cyclohexylamine); and Tetraethylenepentamine ingredients cause eye damage.
<b>Respiratory and skin sensitization</b> (allergic reactions)	The epoxy hardener components (CAS# 68953-36-6, and 112-57-2) may cause skin sensitization.
<b>Carcinogenicity</b> (risk of cancer)	None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
<b>Mutagenicity</b> (risk of heritable genetic effects)	The phenol (CAS# 108-95-2) is considered a mutagen according to animal studies.
<b>Reproductive Toxicity</b> (risk to sex functions)	The phenol, 4-nonyl-, branched (CAS# 84852-15-3) is considered a reproductive hazard.
<b>Teratogenicity</b> (risk of fetus malformation)	Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	The Tofa, reaction products with TEPA (CAS# 68953-36-6) may cause respiratory irritation.
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met. There is less than 10% category 1 component, and the kinematic viscosity is >20.5 mm <sup>2</sup> /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 phenol, 4-nonyl-, branched is classified as a chronic category 1 environmental toxicant.

The 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine), tetraethylenepentamine, naphtha, petroleum, heavy alkylate, phenol compounds are classified as chronic category 2 environmental toxicants.

*Section continued on the next page*

**832HD****(PART B)****Acute Ecotoxicity**

See chronic ecotoxicity.

**Chronic Ecotoxicity**

Category 1

Very toxic to aquatic life with long lasting effects

Avoid release to the environment.

Collect Spillage.

**Biodegradability**

Not readily biodegradable

**Bioaccumulation**

Not available

**Other Effects**

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 1 L and under  
**Limited Quantity**



Sizes greater than 1 L

**UN number:** UN1760

**Shipping Name:** Corrosive Liquid,  
 N.O.S. (Nonylphenol,  
 Tetraethylenepentamine)

**Class:** 8

**Packing Group:** II

**Marine Pollutant:** Yes



**Air**

**Refer to ICAO-IATA Dangerous Goods Regulations.**

Sizes 0.5 L and under  
**Limited Quantity**



Sizes greater than 0.5 L up to 1 L

**UN number:** UN1760

**Shipping Name:** Corrosive Liquid,  
 N.O.S. (Nonylphenol,  
 Tetraethylenepentamine)

**Class:** 8

**Packing Group:** II

**Marine Pollutant:** Yes



**Excepted Quantity** E2 ≤30 mL

*Section continued on the next page*

**832HD**

**(PART B)**

**Sea**

**Refer to IMDG regulations.**

Sizes 1 L and under

**Limited Quantity**

Note: The 832B-375ML and 832B-3L kits are composed of separate containers which meet this inner packaging limit.



Sizes greater than 1 L

**UN number:** UN1760

**Shipping Name:** Corrosive Liquid, N.O.S. (Nonylphenol, Tetraethylenepentamine)

**Class:** 8

**Packing Group:** II

**Marine Pollutant:** Yes



**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.

**Hazardous Products Act (R.S.C., 1985, c. H-3)**

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

*Section continued on the next page*

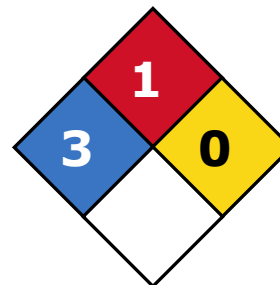
**USA**

**Other Classifications**

**HMIS® RATING**

<b>HEALTH:</b>	<b>* 3</b>
<b>FLAMMABILITY:</b>	<b>1</b>
<b>PHYSICAL HAZARD:</b>	<b>0</b>
<b>PERSONAL PROTECTION:</b>	

**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, 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, PBDE's, DEHP, BBP, DBP, or DIBP 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**

<b>SDS Prepared by</b>	MG Chemicals Regulatory Department
<b>Date</b>	02 March 2020
<b>Supersedes</b>	13 October 2016
<b>Reason for Changes:</b>	Update to the emergency phone number information.

**Reference**

- 1) ACGIH 2017 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 (2017).
- 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

*Section continued on the next page*



**832HD****(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](http://www.mgchemicals.com).

Email: [support@mgchemicals.com](mailto: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

**Disclaimer** This safety data sheet is provided as an information resource only. *M.G. Chemicals, Ltd.* believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.