



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)

SDS Code: 832HD-Part B

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

+1-800-340-0772

FAX +1-800-340-0773

E-MAIL support@mgchemicals.com

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@mqchemicals.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 **2**: +1-613-996-6666 or *666 on cellular phones

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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

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

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Pictograms	Hazard Statements
	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
Prevention	Precautionary Statements
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.
Response	Precautionary Statements
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.

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Response	Precautionary Statements
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.
Storage	Precautionary Statements
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
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
None	None	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
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%

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Section 4: First-Aid Measures				
Exposure Condition IF IN EYES	GHS Code: Precautionary Statement P305 + P351 + P338, P310			
Immediate Symptoms	redness, severe irritation, pain, burns			
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+ P352, P310, P333 + P313, P363			
Immediate or Delayed Symptoms	redness, severe irritation, rash (allergic contact dermatitis), pain, chemical burns			
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 or Delayed Symptoms	cough, irritation of the respiratory track, burning sensation, asthma, difficulty breathing			
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	irritation, abdominal pain, nausea, vomiting, burns to the digestive tract			
Response	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.



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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, CO₂) 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 breath the fumes/mists/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.

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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

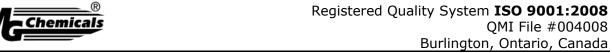
Chemical Name	Country or Vendor	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
phenol a)	ACGIH	5 ppm (Skin)	Not established
	U.S.A. OSHA PEL	5 ppm (Skin)	Not established
	U.S.A (WEEL)	5 ppm (Skin)	Not established
	Canada AB	5 ppm (Skin)	Not established
	Canada BC	5 ppm (Skin)	Not established
	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 ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database² 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.

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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.



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Section 9: Physical and Chemical Properties				
Physical State	Liquid	Lower Flammability Limit	Not available	
Appearance	Clear, amber	Upper Flammability Limit	Not available	
Odor	Ammonia-like	Vapor Pressure @20 °C	Not available	
Odor Threshold	Not available	Vapor Density	Not available	
рH	Not available	Specific Gravity @25 °C	0.95	
Freezing/Melting Point	Not available	Solubility in Water	Slightly soluble	
Boiling Point a)	≥93 °C [≥199 °F]	Partition Coefficient	Not available	
Flash Point b)	150 °C [302 °F]	Auto-ignition Temperature ^{b)}	321 °C [448 °F]	
Evaporation Rate	Not available	Decomposition Temperature	Not available	
Flammability (solid, gas)	Not available	Viscosity @25 °C	2 300 cP	
a) Company with the lawart value 2.21 directly 4.41 mathylamakia/ayalahayalamiaa)				

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

Section 10: Stability and Reactivity

Decomposition

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Will not decompose under normal conditions. For thermal

decomposition, see combustion products in Section 5.

b) Based on tetraethylenepentamine component



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Section 11: Toxicological Information

Routes of Exposure

Eye Contact, Skin Contact, Inhalation, and Ingestion

Symptoms Summary

Eyes May causes redness, severe irritation, pain, or corrosive eye damage. **Skin** May cause redness, severe irritation, allergic contact dermatitis, pain

and chemical burns.

Inhalation Inhalation of vapors or mist may cause coughing, irritation of the

respiratory track, burning sensation, asthma, difficulty breathing.

Ingestion May cause irritation, abdominal pain, nausea, vomiting, burns to the

digestive tract.

Chronic Prolonged and repeated exposure to uncured epoxy hardener may

lead to skin and respiratory sensitization.

Acute Toxicity (Lethal Exposure Concentrations)

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

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

a) Supplier estimated value

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Other Toxicological Effects

Skin corrosion/irritation The phenol, 4-nonyl-, branched; 2'-dimethyl-4,4'-

methylenebis(cyclohexylamine); and

Tetraethylenepentamine ingredients cause skin burns.

The phenol, 4-nonyl-, branched; 2'-dimethyl-4,4'-Serious eye damage/irritation

methylenebis(cyclohexylamine); and

Tetraethylenepentamine ingredients cause eye damage.

Respiratory and skin

The epoxy hardener components (CAS# 68953-36-6, **sensitization** (allergic reactions)

and 112-57-2) may cause skin sensitization.

Carcinogenicity (risk of cancer)

None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.

Mutagenicity

The phenol (CAS# 108-95-2) is considered a mutagen (risk of heritable genetic effects) according to animal studies.

Reproductive Toxicity The phenol, 4-nonyl-, branched (CAS# 84852-15-3) is

(risk to sex functions) considered a reproductive hazard.

Teratogenicity Based on available data,

(risk of fetus malformation) the classification criteria are not met.

STOT-single exposure The Tofa, reaction products with TEPA (CAS# 68953-

36-6) may cause respiratory irritation.

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 component, and the kinematic viscosity is >20.5 mm²/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.

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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.



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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

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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 <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/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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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, 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.



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Section 16: Other Information

SDS Prepared by Michel Hachey 13 October 2016 **Date** Supersedes 29 July 2016

Volatile Organic Content

Reason for Changes: Product name change.

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®)

VOC

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	

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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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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.