



Kit Revision Date: 09 March 2020

832HD Black 1:1 Epoxy Potting Encapsulating Compound KIT

MG Chemicals Multipart Product Kit

This product is a kit made up of multiple parts. Each part is an independently packaged chemical component and has independent hazard assessments.

Kit Content

<i>Part</i>	<i>Product Name</i>	<i>Product Use</i>
A	832HD-A	Epoxy resin for use with hardeners
B	832HD-B	Epoxy hardener for use with resins

Safety Data Sheets for each part listed above follow this cover sheet.

Transportation Instruction

Before offering this product kit for transport, read Section 14 for all parts listed above.

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(PART A)

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)**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 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

MG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

 +1-800-340-0772
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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 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

832HD**(PART A)****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	<i>none</i>	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.

Section continued on the next page

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Continued...

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

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(PART A)

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>redness, serious irritation, pain</i>
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	<i>redness, irritation, dry skin, allergic contact dermatitis</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 INHALED	P304 + P340
Immediate Symptoms	<i>cough, irritation of the respiratory track</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	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 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) 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.

Section continued on the next page

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(PART A)

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	Relative Density @25 °C	1.15
Freezing/Melting Point	Not available	Solubility in Water	soluble
Initial Boiling Point ^{a)}	≥150 °C [≥302 °F]	Partition Coefficient n-octanol/water	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	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 alkali
Polymerization	Will not occur
Decomposition	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**

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 available
reaction products: bisphenol-A- (epichlorhydrin) and epoxy resin ^{b)}	11 400 mg/kg Rat	Not established	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not available
alkyl glycidyl ether	19 200 mg/kg Rat	4 500 mg/kg Rat	Not available

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

a) Supplier MSDS

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

Section continued on the next page

832HD**(PART A)****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 $>20.5 \text{ mm}^2/\text{s}$ 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.

832HD
(PART A)
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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(PART A)
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)}
NOT REGULATED

On air waybill, write:

"Not Restricted, as per Special
Provisions A197"

Sizes greater than 5 L
UN number: UN3082

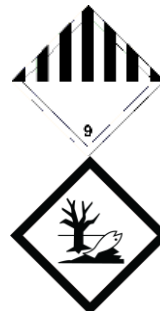
Shipping Name:

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S.

(Rotation 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

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(PART A)
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)}
NOT REGULATED
per 2.10.2.7

Sizes greater than 5 L
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 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.

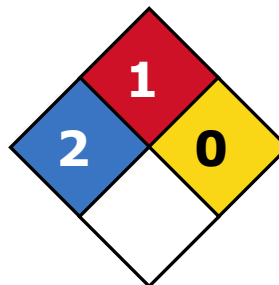
Hazardous Products Act (R.S.C., 1985, c. H-3)

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

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832HD**(PART A)****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, 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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(PART A)

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

SDS Prepared by	MG Chemicals Regulatory Department
Date of Review	02 March 2020
Supersedes	15 November 2016
Reason for Changes:	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®)

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832HD**(PART A)****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
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Head Office
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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.

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)
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Surrey, British Columbia V4N 4E7
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FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

 +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 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

Signal Word	DANGER
Pictograms	Hazard Statements
	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...*

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.

Section continued on the next page

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(PART B)
Continued...

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%

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	<i>redness, severe irritation, pain, burns</i>
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	<i>redness, severe irritation, rash (allergic contact dermatitis), pain, chemical burns</i>
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	<i>cough, irritation of the respiratory track, burning sensation, asthma, difficulty breathing</i>
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	<i>irritation, abdominal pain, nausea, vomiting, burns to the digestive tract</i>
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.

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	<p>Not flammable or combustible, but burns if involved in a fire. Produces irritating and toxic fumes in fires or in contact with hot surfaces.</p> <p>Inhalation of toxic smoke during fire may have delayed effects. Exposed person may need to be put under surveillance for 48 h.</p> <p>Toxic for aquatic environment: Prevent fire-fighting wash from entering waterway or sewer system.</p>
Combustion Products	Produces carbon oxides (CO, CO ₂) 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.

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.

Section continued on the next page

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

b) Based on tetraethylenepentamine component

Section 10: Stability and Reactivity

Reactivity	Reacts exothermically with epoxides. May attack metals such as aluminum, zinc, copper, and their alloys.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid excessive heat and incompatible substances. Do not use in a way that forms a mist or aerosolize the product.
Incompatibilities	Strong oxidizing agents, strong acids
Polymerization	Will not occur
Decomposition	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**

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 oral	LD50 dermal	LC50 inhalation
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 ^{a)}	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 RTECS² 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

Skin corrosion/irritation	The phenol, 4-nonyl-, branched; 2'-dimethyl-4,4'-methylenebis(cyclohexylamine); and Tetraethylenepentamine ingredients cause skin burns.
Serious eye damage/irritation	The phenol, 4-nonyl-, branched; 2'-dimethyl-4,4'-methylenebis(cyclohexylamine); and Tetraethylenepentamine ingredients cause eye damage.
Respiratory and skin sensitization (allergic reactions)	The epoxy hardener components (CAS# 68953-36-6, 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 (risk of heritable genetic effects)	The phenol (CAS# 108-95-2) is considered a mutagen according to animal studies.
Reproductive Toxicity (risk to sex functions)	The phenol, 4-nonyl-, branched (CAS# 84852-15-3) is considered a reproductive hazard.
Teratogenicity (risk of fetus malformation)	Based on available data, 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 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 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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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.

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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**

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.

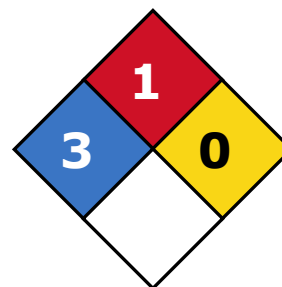
Hazardous Products Act (R.S.C., 1985, c. H-3)

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

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832HD**(PART B)****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, 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

SDS Prepared by	MG Chemicals Regulatory Department
Date	02 March 2020
Supersedes	13 October 2016
Reason for Changes:	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

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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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