

834FRB-B

FLAME RETARDANT EPOXY (PART B)

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Name:** 834FRB-B**Other Means of Identification:** Flame Retardant Epoxy (Part B)**Related Part #** 834FRB-375ML, 834FRB-3L, 834FRB-60L

### Recommended Use and Restriction on Use

**Use:** Hardener for use with epoxy resin**Uses Advised Against:** Not for use as spray coating

### Details of Manufacturer or Importer

**Manufacturer**MG Chemicals  
1210 Corporate Drive  
Burlington, Ontario L7L 5R6  
CANADAMG Chemicals (Head Office)  
9347-193 Street  
Surrey, British Columbia V4N 4E7  
CANADA**TEL** +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)**TEL** +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 serviceCANADA—Call CANUTEC collect at **+1-613-996-6666** or **\*666** on cellular phones

**834FRB-B**
**FLAME RETARDANT EPOXY (PART B)**
**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		1B	Danger	Corrosion
Sensitization	Skin	1	Warning	Exclamation
Carcinogenicity		2	Warning	Health
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**

<b>Signal Word</b>	<b>DANGER</b>
<b>Pictograms</b>	<b>Hazard Statements</b>
	H314: Causes severe skin burns and eye damage
	H351: Suspected of causing cancer
	H317: May cause an allergic skin reaction
	H411: Toxic to aquatic life with long lasting effects

*Section continued on the next page*

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**FLAME RETARDANT EPOXY (PART B)**
*Continued...*

<b>Prevention</b>	<b>Precautionary Statements</b>
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes or vapors.
P280	Wear protective gloves, protective clothing, eye protection, and face 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.
<b>Response</b>	<b>Precautionary Statements</b>
P308 + P313	IF exposed or concerned: Get medical advice or 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.
P303 + P361 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water [or shower].
P333 + P313	If skin irritation or rash occurs: Get medical advice or 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.
P310	Immediately call a POISON CENTER or doctor.
P391	Collect spillage.
<b>Storage</b>	<b>Precautionary Statements</b>
P405	Store locked up.
<b>Disposal</b>	<b>Precautionary Statements</b>
P501	Dispose of contents in accordance to local, regional, national and international regulations.

*Section continued on the next page*

**834FRB-B**
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**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)
68410-23-1	fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	63%
84852-53-9	1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	18%
112-24-3	triethylenetetramine	8%
1309-64-4	antimony trioxide	7%
108-65-6	2-methoxy-1-methylethyl acetate	0.8%
1333-86-4	carbon black	0.7%

**Section 4: First-Aid Measures**
*Exposure Condition*
*GHS Code: Precautionary Statement*
**IF IN EYES**

P305 + P351 + P338, P310

**Immediate Symptoms**
*redness, severe irritation, pain, burns*
**Response**

Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor

**IF ON SKIN (or hair)**

P303 + P361+ P352, P333 + P313, P363

**Immediate Symptoms**
*redness, irritation, rash, pain, burns, blistering*
**Response**

Take off immediately all contaminated clothing. Wash with plenty of water [or shower]. Immediately call a POISON CENTRE or doctor.

If skin irritation or rash occurs: Get medical advice or attention.

Wash contaminated clothing before reuse.

*Section continued on the next page*

**834FRB-B****FLAME RETARDANT EPOXY (PART B)***Continued...*

<b>IF INHALED</b>	P304 + P340, P310, P308 + P313
<b>Immediate Symptoms</b>	<i>cough, irritation of the respiratory track, burning sensation</i>
<b>Response</b>	Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  IF exposed or concerned: Get medical advice or attention
<b>IF SWALLOWED</b>	P301 + P330 + P331, P310
<b>Immediate Symptoms</b>	<i>burns to mouth, throat, stomach, abdominal pain, nausea, vomiting, diarrhea</i>
<b>Response</b>	Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTRE or doctor.

**Section 5: Fire-Fighting Measures**

<b>Extinguishing Media</b>	In case of fire: Use extinguishing media suitable for surrounding materials.
<b>Specific Hazards</b>	Not flammable or combustible but will burn if involved in a fire. It should self-extinguish when removed from external flame sources.  Liberates toxic gases at temperature greater than 320 °C [608 °F].  Prevent fire-fighting wash from entering waterway or sewer system.
<b>Combustion Products</b>	Produces carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), hydrogen bromide (HBr), bromines, and toxic fumes.
<b>Fire-Fighter</b>	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

**834FRB-B****FLAME RETARDANT EPOXY (PART B)****Section 6: Accidental Release Measures**

<b>Personal Protection</b>	See personal protection recommendations in Section 8.
<b>Precautions for Response</b>	Do not breathe the fumes or vapors. Remove or keep away all sources of extreme heat or open flames.
<b>Environmental Precautions</b>	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
<b>Containment Methods</b>	Contain with inert absorbent (such as soil, sand, vermiculite).
<b>Cleaning Methods</b>	Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe off residues with paper towels and place the used towels in the waste container. Wash spill area with soap and water to remove the last traces of residue.
<b>Disposal Methods</b>	Dispose of spill waste according to Section 13.

**Section 7: Handling and Storage**

<b>Prevention</b>	Keep out of reach of children.  Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.  Contaminated work clothing should not be allowed out of the workplace.  Do not breathe fumes or vapors.  Avoid release to the environment.
<b>Handling</b>	Wear protective gloves, protective clothing, eye protection, and face protection.  Take off contaminated clothing and wash it before reuse.  Wash hands thoroughly after handling.  Collect spillage.
<b>Storage</b>	Store locked up.

**834FRB-B**
**FLAME RETARDANT EPOXY (PART B)**
**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)
triethylenetetramine	ACGIH U.S.A. OSHA PEL U.S.A (WEEL) Canada AB Canada BC Canada ON Canada QC	Not established Not established 1 ppm Not established Not established 0.5 mg/m <sup>3</sup> (Skin) Not established	Not established Not established Not established Not established Not established Not established Not established
1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene antimony trioxide <sup>a)</sup>	manufacturer	2 mg/m <sup>3</sup>	Not established
	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	0.5 mg/m <sup>3</sup> 0.5 mg/m <sup>3</sup> 0.5 mg/m <sup>3</sup> 0.5 mg/m <sup>3</sup> (Carcinogen) 0.5 mg/m <sup>3</sup> <sup>b)</sup> 0.5 mg/m <sup>3</sup>	Not established Not established Not established Not established Not established Not established
1-methoxy-2-propanol acetate	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	Not established 50 ppm Not established 50 ppm 50 ppm Not established	Not established Not established Not established 75 ppm Not established Not established
carbon black <sup>a)</sup>	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	3.5 mg/m <sup>3</sup> 3.5 mg/m <sup>3</sup> 3.5 mg/m <sup>3</sup> 3 mg/m <sup>3</sup> 3.5 mg/m <sup>3</sup> 3.5 mg/m <sup>3</sup>	Not established Not established Not established Not established Not established 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) Respirable airborne particles

b) Exposure should be controlled to levels as low as possible.

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**834FRB-B****FLAME RETARDANT EPOXY (PART B)****Engineering Controls****Ventilation**

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

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

**Personal Protective Equipment****Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

**RECOMMENDATION:** 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**

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.

Generally, for emergencies and exposure above 0.5 mg/m<sup>3</sup>, use a self-contained breathing apparatus with full face piece operated in a pressure positive mode.

**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.



**834FRB-B**
**FLAME RETARDANT EPOXY (PART B)**
**Section 9: Physical and Chemical Properties**

<b>Physical State</b>	Liquid	<b>Lower Flammability Limit</b>	Not available
<b>Appearance</b>	Black	<b>Upper Flammability Limit</b>	Not available
<b>Odor</b>	Mild	<b>Vapor Pressure @25 °C</b>	Not available
<b>Odor Threshold</b>	Not available	<b>Vapor Density</b>	Not available
<b>pH</b>	Not available	<b>Relative Density @25 °C</b>	1.16
<b>Freezing/Melting Point</b>	Not available	<b>Solubility in Water</b>	Practically insoluble
<b>Initial Boiling Point</b>	Not available	<b>Partition Coefficient n-octanol/water</b>	Not available
<b>Flash Point</b>	Not available	<b>Auto-ignition Temperature</b>	Not available
<b>Evaporation Rate</b>	Slow	<b>Decomposition Temperature</b>	Not available
<b>Flammability</b>	Non flammable	<b>Viscosity @25 °C</b>	3 600 cP [3 100 mm <sup>2</sup> /s]

**Section 10: Stability and Reactivity**

<b>Reactivity</b>	Reacts exothermically with epoxides.
<b>Chemical Stability</b>	Chemically stable at normal temperatures and pressures.
<b>Conditions to Avoid</b>	Excessive heat (especially above 320 °C [608 °F]), 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, strong bases, and amines.
<b>Polymerization</b>	Will not occur
<b>Decomposition</b>	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

**834FRB-B****FLAME RETARDANT EPOXY (PART B)****Section 11: Toxicological Information****Summary of Effects and Symptoms by Routes of Exposure**

<b>Eyes</b>	May cause chemical burns or severe eye irritation, redness, and pain.
<b>Skin</b>	May cause chemical burns and serious skin irritation. May cause skin sensitization. Triethylenetetramine can be absorbed through skin.
<b>Inhalation</b>	Hot triethylenetetramine vapors may result in respiratory tract irritation and itching of the face with erythema and edema. May cause nose, throat and lung irritation. Inhalation of vapors, dust, or mist may cause irritation to the upper respiratory tract.
<b>Ingestion</b>	Single dose oral toxicity is low. It may cause burns or severe irritation to the digestive tract.
<b>Chronic</b>	Prolonged and repeated exposure may lead to skin sensitization reactions. Long term exposure to dust or mist may cause cancer. Prolonged ingestion of the antimony trioxide component may cause gastrointestinal upset, ulcers, blood effects, liver effects, and neurological effects.

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**834FRB-B**
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**Lethal Exposure Concentrations**

<b>Chemical Name</b>	<b>LD50 oral</b>	<b>LD50 dermal</b>	<b>LC50 inhalation</b>
fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	>5 000 mg/kg <sup>a)</sup>	>5 000 mg/kg <sup>a)</sup>	Not available
1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	>5 000 mg/kg Rat <sup>a)</sup>	>2 000 mg/kg Rabbit <sup>a)</sup>	Not available
triethylenetetramine	2 500 mg/kg Rat	805 g/kg Rabbit	Not available
antimony trioxide	>34 600 mg/kg Rat	>2 000 mg/kg Rabbit	Not available
2-methoxy-1-methylethyl acetate	8 532 mg/kg Rat	>5 g/kg Rabbit	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not available

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

a) Supplier SDS

**Other Toxicological Effects**

<b>Skin corrosion/irritation</b>	Triethylenetetramine (CAS# 112-24-3) can cause skin burns.
<b>Serious eye damage/irritation</b>	Triethylenetetramine (CAS# 112-24-3) can cause severe eye damage.
<b>Respiratory and skin sensitization</b> (allergic reactions)	The epoxy hardener components (CAS# 68410-23-1, and 112-24-3) may cause skin sensitization in humans.

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**834FRB-B****FLAME RETARDANT EPOXY (PART B)****Carcinogenicity**  
(risk of cancer)

The carbon black and antimony trioxide are possibly carcinogenic by airborne routes of exposures. Because they are both bound in the epoxy liquid mixture, it is not expected to be available as an airborne hazard (dust, mist, or spray) under normal use.

**Antimony Trioxide [1309-64-4]**

IARC Group 2B: Possibly carcinogenic to humans. This finding is based on a long term dust inhalation study for female rats.

ACGIH A2: Suspected human carcinogen causing lung cancer

CA Prop 65: Listed as a carcinogen

NTP: Not listed

**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. The kinematic viscosity is  $>20.5 \text{ mm}^2/\text{s}$  at  $40 \text{ }^\circ\text{C}$ .

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**834FRB-B****FLAME RETARDANT EPOXY (PART B)****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 fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (CAS# 68410-23-1) was classified as a chronic category 2 environmental toxicant (supplier reports LC50 range of 1–10 mg/L for fish; EC0 bacterial >10 and ≤100 mg/L; not readily biodegradable).

Literature for the triethylenetetramine (CAS# 112-24-3) suggest low category 3 aquatic toxicity (LC50, IC50, and EC50 values of >100 mg/L for fish and between 10 and 100 for algae).

The 1-methoxy-2-propanol acetate component is an acute category 3 environmental toxicant (with minimal LC50 96 h of ≥100 mg/L *Salmo gairdneri*).

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

**Acute Ecotoxicity**

See chronic ecotoxicity

**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

**834FRB-B**

**FLAME RETARDANT EPOXY (PART B)**

**Section 13: Disposal Considerations**

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

*Part B of 834FRB-375ML, 834FRB-3L kits*

**Limited Quantity**

Note: The 834FRB-375ML and 834FRB-3L kits are composed of separate containers which meet this inner packaging limit.



Sizes greater than 1 L (Cargo only)

*Part B of 834FRB-60L kit*

**UN number:** UN2735

**Shipping Name:** AMINES, LIQUID, CORROSIVE, N.O.S. (triethylenetetramine)

**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:** UN2735

**Shipping Name:** AMINES, LIQUID, CORROSIVE, N.O.S. (triethylenetetramine)

**Class:** 8

**Packing Group:** II

**Marine Pollutant:** Yes



*Section continued on the next page*

**834FRB-B****FLAME RETARDANT EPOXY (PART B)****Sea****Refer to IMDG regulations.**

Sizes 1 L and under  
**Limited Quantity**



Sizes greater than 1 L  
**UN number:** UN2735  
**Shipping Name:** AMINES,  
LIQUID, CORROSIVE, N.O.S.  
(triethylenetetramine)  
**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.

Ministerial conditions apply to 1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene (CAS # 84852-53-9). See Canada Gazette, Part 1, Vol. 151, No. 41, October 14, 2017.

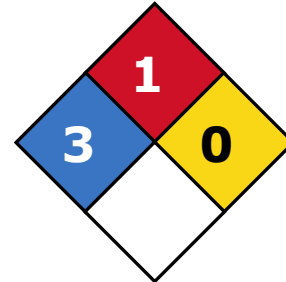
**Hazardous Products Act (R.S.C., 1985, c. H-3)**

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

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**834FRB-B****FLAME RETARDANT EPOXY (PART B)****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 contain an "antimony compound", which is listed as hazardous air pollutants.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains antimony trioxide (CAS# 1309-64-4; reportable quantity = 1 000 lb), which is 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.

Contains 18% 1,1'-(1,2-ethanediyl)bis[2,3,4,5,6-pentabromo-benzene, with CAS# 84852-53-9, which is subject to a Significant New Use Rule (SNUR) 40 CFR 721.536.

**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.

This product contains antimony trioxide (airborne, unbound particles of respirable size), which are listed as carcinogens.

*Section continued on the next page*



**834FRB-B****FLAME RETARDANT EPOXY (PART B)****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**

**MSDS Prepared by** Regulatory Department

**Date of Revision** 12 March 2020

**Supersedes** 11 March 2019

**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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**834FRB-B****FLAME RETARDANT EPOXY (PART B)****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
NOELR	No observable effect loading ratio
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
PEL	Permissible Exposure Limit
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](http://www.mgchemicals.com).

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

**Mailing Addresses** *Manufacturing & Support*  
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Burlington, Ontario, Canada  
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*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.