

Kit Revision Date: 06/09/2023

834BLV FLAME RETARDANT EPOXY 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

| Part | Product Name | Product Use |
|------|--------------|-----------------------------------|
| Α | 834BLV-A | Resin for use with epoxy hardener |
| В | 834BLV-B | Hardener for use with epoxy resin |

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 <u>all</u> parts listed above.

SAI Global File #004008 Burlington, Ontario, Canada

834BLV-A

FLAME RETARDANT EPOXY (PART A)

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: 834BLV-A

Other Means of Identification: Flame Retardant Epoxy (Part A)

Related Part # 834BLV-450ML, 834BLV-3L, 834BLV-60L

Recommended Use and Restriction on Use

Use: Resin for use with epoxy hardener

Uses Advised Against: Not for use as spray coating

Details of Manufacturer or Importer

Manufacturer

MG Chemicals 1210 Corporate Drive Burlington, Ontario L7L 5R6 CANADA

E-MAIL <u>support@mgchemicals.com</u> **WEB** <u>www.mgchemicals.com</u>

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

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FLAME RETARDANT EPOXY (PART A)

Section 2: Hazard(s) Identification

Classification of the Chemical Material

GHS Categories

| Criteria | | Category | Signal Word | Pictograms |
|--------------------------------------|---------|----------|----------------|-------------|
| Sensitization | Skin | 1 | Warning | Exclamation |
| Eye Irritation | | 2 | Warning | Exclamation |
| Skin Irritation | | 2 | Warning | Exclamation |
| Hazardous to the Aquatic Environment | Chronic | 2 | none | Environment |

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

| Signal Word | WARNING |
|-------------|--|
| Pictograms | Hazard Statements |
| <u>(!)</u> | H319: Causes serious eye irritation H315: Causes skin irritation 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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Continued...

| Prevention | Precautionary Statements |
|-----------------------|--|
| P102 | Keep out of reach of children. |
| P261 | Avoid breathing fumes and vapors. |
| P280 | Wear protective gloves and 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. |
| 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 or attention. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice or attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |
| Storage | Precautionary Statements |
| Not applicable | Not applicable |
| Disposal | Precautionary Statements |
| P501 | Dispose of contents in accordance to local, regional, national, and international regulations. |

Hazards Not Otherwise Classified

| Other Criteria | Hazard Statements/Precautionary Statement | Signal Word | Pictograms |
|----------------|---|----------------|------------|
| None | None | None | None |



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FLAME RETARDANT EPOXY (PART A)

Section 3: Composition/Information on Ingredients

| CAS# | Chemical Name | %(weight) |
|-------------|--|-----------|
| 25085-99-8 | propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-,polymers | 53% |
| 21645-51-2 | aluminum trihydrate | 23% |
| 68333-79-9 | ammonium polyphosphate | 16% |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 0.9% |
| 1333-86-4 | carbon black | 0.8% |
| 8052-41-3 | Stoddard solvent | 0.4% |
| 162627-21-6 | polyphosphoric acids | 0.3% |
| 64742-47-8 | kerosine | 0.2% |
| 64742-95-6 | naphtha, petroleum, light aromatic | 0.1% |
| 1330-20-7 | xylene | 0.1% |

Section 4: First-Aid Measures

| Exposure Condition | GHS Code: Precautionary Statement |
|--------------------|--|
| IF IN EYES | P305 + P351 + P338, P337 + P313 |
| Immediate Symptoms | redness, severe irritation, pain |
| Response | Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. |
| IF ON SKIN | P302 + P352, P333 + P313, P362 + P364 |
| Immediate Symptoms | redness, irritation, rash, dry skin, allergic contact dermatitis |
| Response | Wash with plenty of water. |
| | Get medical advice or attention. |
| | Take off contaminated clothing and wash it before reuse. |
| IF INHALED | P304 + P340 |
| Immediate Symptoms | Low Toxicity: cough, irritation of the respiratory track |
| Response | Remove person to fresh air and keep comfortable for breathing. |

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IF SWALLOWEDP301 + P330 + P331Immediate SymptomsLow Toxicity: irritation, stomach/abdominal discomfort or painResponseRinse mouth. Do NOT induce vomiting.

Section 5: Fire-Fighting Measures

Extinguishing Media In case of fire: Use water fog or fine spray, alcohol-resistant

foam, dry chemical or carbon dioxide.

Specific Hazards Do not use direct water stream, may spread fire. Violent steam

generation or eruption may occur upon application of direct

water steam to hot liquids.

Container may rupture from gas generation in a fire situation. Dense smoke is emitted when burned without sufficient oxygen.

Combustion Products

Produces carbon oxides (CO, CO_2), phenolics, 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 fumes and vapors. Remove or keep away all

sources of extreme heat or open flames.

Environmental Precautions

drains and waterways.

Containment Methods

Contain with inert absorbent (such as soil, sand, vermiculite).

Avoid releasing to the environment. Prevent spill from entering

Cleaning Methods

Collect liquid in a sealable, chemical-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. Use soap and water to

remove the last traces of residue.

Disposal Methods

Dispose of spill waste according to Section 13.



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FLAME RETARDANT EPOXY (PART A)

Section 7: Handling and Storage

Prevention Keep out of reach of children.

Avoid breathing fumes and vapors. Avoid release to the environment.

Handling Wear protective gloves and eye protection.

Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the

workplace.

Wash hands thoroughly after handling.

Collect spillage.

Storage Not applicable

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

| Chemical Name | Country or Vendor | Long Term Exposure Limits | Short Term Exposure Limits |
|----------------------------|----------------------|------------------------------|-------------------------------|
| 1 | | (PEL) | (STEL) |
| aluminum metal | ACGIH | 1 mg/m ³ | Not established |
| and insoluble | U.S.A. OSHA PEL | 15 mg/m ³ | Not established |
| compounds ^{a)} | Canada AB | 10 mg/m ³ | Not established |
| | Canada BC | 1 mg/m ³ | Not established |
| | Canada ON | 1 mg/m ³ | Not established |
| | Canada QC | 10 mg/m ³ | Not established |
| carbon black ^{a)} | ACGIH | 3.5 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 | 3.0 mg/m ³ | Not established |
| | Canada ON | 3.5 mg/m ³ | Not established |
| | Canada QC | 3.5 mg/m ³ | Not established |
| Stoddard solvent | ACGIH | 100 ppm | Not established |
| | U.S.A. OSHA PEL | 500 ppm | Not established |
| | Canada AB | 100 ppm | Not established |
| | Canada BC | 290 mg/m ³ | 50 mg/m ³ |
| | Canada ON | 100 ppm | Not established |
| | Canada QC | 100 ppm | Not established |

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Continued...

| Chemical Name | Country or Vendor | Long Term Exposure Limits (PEL) | Short Term Exposure Limits (STEL) |
|---------------|----------------------|---------------------------------------|-----------------------------------|
| kerosine | ACGIH | Not established | Not established |
| | U.S.A. OSHA PEL | Not established | Not established |
| | Canada AB | Not established | Not established |
| | Canada BC | 200 mg/m ³ | Not established |
| | Canada ON | Not established | Not established |
| | Canada QC | Not established | Not established |
| xylene | ACGIH | 100 ppm | 150 ppm |
| | U.S.A. OSHA PEL | 100 ppm | 150 ppm |
| | Canada AB | 100 ppm | 150 ppm |
| | Canada BC | 100 ppm | 150 ppm |
| | Canada ON | 100 ppm | 150 ppm |
| | Canada QC | 100 ppm | 150 ppm |

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 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

| lation |
|--------|
| |

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.

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 $\dot{\ }$

gloves.

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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/m³, 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.

Section 9: Physical and Chemical Properties

| | <u> </u> | | |
|---------------------------|----------------------|--|----------------------|
| Physical State | Liquid | Lower Flammability Limit | 1.36% |
| Appearance | Black | Upper Flammability Limit | 6.89% |
| Odor | Mild | Vapor Pressure @25°C | Not available |
| Odor Threshold | Not available | Vapor Density | Not available |
| рH | Not available | Relative Density @25 °C | 1.51 |
| Freezing/Melting Point | Not available | Solubility in Water | Not available |
| Initial Boiling Point | >110 °C [>230 °F] | Partition Coefficient n-octanol/water | Not available |
| Flash Point | Not available | Auto-ignition Temperature ^{a)} | >220 °C [>428 °F] |
| Evaporation Rate | Not available | Decomposition Temperature | Not available |
| Flammability | Non flammable | Viscosity @25 °C | 3928 cP |



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Section 10: Stability and Reactivity

Reactivity Masses of more than one pound (0.5 kg) of product plus an aliphatic

amine will cause irreversible polymerization with considerable heat

buildup.

Chemical Stability Chemically stable at normal temperatures and pressures.

Conditions to

Avoid

Avoid prolonged exposure to temperatures above 250 °C. Avoid short

term exposure to temperatures above 300 °C.

Incompatibilities Avoid contact with oxidizing materials. Avoid contact with acids and

bases. Avoid unintended contact with amines.

Polymerization Will not occur on its own.

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, severe eye irritation, and pain. **Skin** May cause redness, irritation, dry skin, and rash.

Inhalation Mist may cause irritation to the nose, throat and lung (upper respiratory

tract). Will result in cough.

Ingestion It may cause irritation or abdominal discomfort. At higher concentrations

symptoms include abdominal pain, diarrhoea, and unconsciousness.

Chronic Prolonged and repeated exposure may lead to skin sensitization.

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Lethal Exposure Concentrations

| Chemical Name | LD50 | LD50 | LC50 |
|--|--------------|--------------|-------------|
| | oral | dermal | inhalation |
| propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-,polymers | >5 000 mg/kg | 52 000 mg/kg | Not |
| | Rat | Rabbit | available |
| aluminum trihydrate | 79 000 mg/kg | Not | Not |
| | Rat | available | available |
| ammonium polyphosphate | 500 mg/kg | Not | Not |
| | Rat | available | available |
| 2-methoxy-1-methylethyl acetate | >5 000 mg/kg | 5 000 mg/kg | Not |
| | Rat | Rabbit | available |
| carbon black | >5 000 mg/kg | 3 000 mg/kg | Not |
| | Rat | Rabbit | available |
| Stoddard solvent | >5 000 mg/kg | >3 000 mg/kg | >5.5 mg/L |
| | Rat | Rabbit | 4hr Rat |
| kerosine | 8 000 mg/kg | 4 000 mg/kg | >17.38 mg/L |
| | Rat | Rat | 4hr Rat |
| naphtha, petroleum, heavy alkylate | >5 000 mg/kg | >2 000 mg/kg | Not |
| | Rat | Rabbit | available |
| xylene | 3523 mg/kg | 1100 mg/kg | >11 mg/L |
| | Rat | Rabbit | 4hr Rat |
| Mixture ATE | 2690 mg/kg | >5 000 mg/kg | >1 000 mg/L |

Note: Toxicity data from the ECHA database was consulted. The data from supplier SDS were also consulted.

Other Toxicological Effects

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation Causes serious eye irritation.

Respiratory and skin The epoxy resin components (CAS# 25085-99-8) may

sensitization (allergic reactions) cause skin sensitization in humans.

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Carcinogenicity

(risk of cancer)

The carbon black is a possible carcinogen by airborne routes of exposures. Because carbon black is bond in the epoxy liquid mixture, it is not expected to be 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)

Reproductive Toxicity (risk to sex functions)

Teratogenicity

(risk of fetus malformation)

STOT-single exposure

STOT-repeated exposure

Aspiration hazard

Based on available data, the classification criteria are

not met.

Based on available data, the classification criteria are

not met.

Based on available data, the classification criteria are

not met.

Based on available data, the classification criteria are

not met.

Based on available data, the classification criteria are

not met.

Based on available data, the classification criteria are

not met. There is <1% category 1 component and the

kinematic viscosity is >20.5 mm²/s at 40 °C.



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FLAME RETARDANT EPOXY (PART A)

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 epoxy resin (CAS# 25085-99-8) are generally classified as a chronic category 2 marine pollutant due to LC50 96 h of >1 mg/L and \leq 10 mg/L.

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

Acute Ecotoxicity

Not classified as acutely ecotoxic.

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 Considerations

Dispose of contents in accordance with all local, regional, national, and international regulations.



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FLAME RETARDANT EPOXY (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 5 L and under

Part A of 834BLV-450ML, 834BLV-3L kits

NOT REGULATED in TDG per Special Provisions 99

Sizes 5 L and under 834BLV-450ML, 834BLV-3L

NOT REGULATED in 49 CFR per exception 171.4 (c)(2)

49 CFR: Sizes greater than 5 L

Part A of 834BLV-60L kit UN number: UN3082 Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (propane, 2,2-bis[p-(2,3-

epoxypropoxy)phenyl]-

,polymers)
Class: 9

Packing Group: III Marine Pollutant: Yes



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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FLAME RETARDANT EPOXY (PART A)

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 5 L and under Part A of 834BLV-450ML, 834BLV-3L kits

NOT REGULATED

Not Restricted, as per Special Provisions A197 Sizes greater than 5 L Part A of 834BLV-60L kit

UN number: UN3082 Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (propane, 2,2-bis[p-(2,3-

epoxypropoxy)phenyl]-,polymers)

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 packaging's meet the general provisions 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

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FLAME RETARDANT EPOXY (PART A)

Sea

Refer to IMDG regulations.

Sizes 5 L and under Part A of 834BLV-450ML, 834BLV-3L kits

NOT REGULATED

per 2.10.2.7

Sizes greater than 5 L Part A of 834BLV-60L kit

UN number: UN3082 Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (propane, 2,2-bis[p-(2,3-

epoxypropoxy)phenyl]-,polymers)

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.

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.

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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USA

Other Classifications HMIS® RATING

| HEALTH: | * | 3 |
|----------------------|---|---|
| FLAMMABILITY: | | 1 |
| PHYSICAL HAZARD: | | 0 |
| PERSONAL PROTECTION: | | |





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 does not contain any substances on the EPCRA.

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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FLAME RETARDANT EPOXY (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

Prepared by Regulatory department

Date of Revision 25 May 2023
Supersedes Not applicable
Reason for Changes: First version of SDS.

Reference

1) ACGIH 2023 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 (2023).

Abbreviations

| ACGIH EC50 | American Conference of Governmental Industrial Hygienists (USA) 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 |

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FLAME RETARDANT EPOXY (PART A)

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@mqchemicals.com

Phone: +1-905-331-1396

Mailing Addresses Manufacturing & Support

1210 Corporate Drive Burlington, Ontario, Canada L7L 5R6

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.



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834BLV-B

FLAME RETARDANT EPOXY (PART B)

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: 834BLV-B

Other Means of Identification: Flame Retardant Epoxy (Part B)

Related Part # 834BLV-450ML, 834BLV-3L, 834BLV-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 CANADA

+1-800-340-0772 +1-905-331-1396 FAX +1-905-331-2682

E-MAIL <u>support@mgchemicals.com</u> **WEB** <u>www.mgchemicals.com</u>

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

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FLAME RETARDANT EPOXY (PART B)

Section 2: Hazard(s) Identification

Classification of the Chemical Material

GHS Categories

| Criteria | | Category | Signal Word | Pictograms |
|--------------------------------------|---------|----------|----------------|-------------|
| Skin Corrosion | | 1 | Danger | Corrosion |
| Sensitization | Skin | 1 | Warning | Exclamation |
| Hazardous to the Aquatic Environment | Chronic | 2 | none | Environment |

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

| Signal Word | DANGER |
|-------------|---|
| Pictograms | Hazard Statements |
| | H314: Causes severe skin burns and eye damage. |
| | H317: May cause an allergic skin reaction |
| ¥2> | 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...

| Prevention | Precautionary Statements |
|-----------------------|--|
| P102 | Keep out of reach of children. |
| P260 | Do not breathe fumes, vapors, or mist. |
| P280 | Wear protective gloves, protective clothing, and eye protection or 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. |
| 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. |
| P302 + P361 + P352 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water. |
| 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. |
| Storage | Precautionary Statements |
| P405 | Store locked up. |
| Disposal | Precautionary Statements |
| P501 | Dispose of contents in accordance to local, regional, national and international regulations. |

Hazards Not Otherwise Classified

| Other Criteria | Hazard Statements/Precautionary Statement | Signal Word | Pictograms |
|----------------|---|----------------|------------|
| None | None | None | None |

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FLAME RETARDANT EPOXY (PART B)

Section 3: Composition/Information on Ingredients

| CAS # | Chemical Name | %(weight) |
|-------------|--|-----------|
| 68082-29-1 | reaction product of Fatty acids, C18-unsatd., dimers and trimers with amines, polyethylenepoly-, triethylenetetramine fraction | 40% |
| 21645-51-2 | aluminum trihydrate | 23% |
| 68333-79-9 | ammonium polyphosphate | 16% |
| 112-24-3 | triethylenetetramine | 4% |
| 112-57-2 | 3,6,9-triazaundecamethylenediamine | 2% |
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 0.9% |
| 1333-86-4 | carbon black | 0.8% |
| 8052-41-3 | Stoddard solvent | 0.4% |
| 162627-21-6 | polyphosphoric acids, reaction products with 2-oxepanone and polyethylene glycol monomethylether | 0.3% |
| 64742-95-6 | solvent naphtha (petroleum), light aromatic | 0.1% |



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| Section 4: First-Aid Mea | asures |
|--------------------------|--|
| 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) | P302 + P361 + P352, P310, P333 + P313 |
| Immediate Symptoms | redness, irritation, rash, pain, burns, blistering |
| Response | Take off immediately all contaminated clothing. Wash with plenty of water. |
| | Immediately call a POISON CENTRE or doctor. |
| | If skin irritation or rash occurs: Get medical advice or attention. |
| IF INHALED | P304 + P340, P310 |
| Immediate Symptoms | cough, irritation of the respiratory track, burning sensation |
| Response | Remove person to fresh air and keep comfortable for breathing. |
| | Immediately call a POISON CENTER or doctor. |
| IF SWALLOWED | P301 + P330 + P331, P310 |
| Immediate Symptoms | burns to mouth, throat, stomach, abdominal pain, nausea, vomiting, diarrhea |
| Response | Rinse mouth. Do not induce vomiting. |
| | Immediately call a POISON CENTRE or doctor. |



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Section 5: Fire-Fighting Measures

Extinguishing Media In case of fire: Use water fog or fine spray, alcohol-resistant

foam, dry chemical or carbon dioxide.

Specific Hazards Not flammable or combustible but will burn if involved in a fire.

It should self-extinguish when removed from external flame

sources.

Prevent fire-fighting wash from entering waterway or sewer

system.

Combustion Products Produces carbon oxides (CO, CO₂), nitrogen oxides (NO_x), and

toxic fumes.

Fire-Fighter Wear self-contained breathing apparatus and full fire-fighting

turn-out gear.



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Section 6: Accidental Release Measures

Personal Protection See personal protection recommendations in Section 8.

Precautions for

Response

Do not breathe the fumes, vapors or mist. 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 absorbent (such as soil, sand, vermiculite).

Cleaning Methods

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.

Disposal Methods

Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention Keep out of reach of children.

Do not breathe fumes, vapors or mist.

Contaminated work clothing should not be allowed out of the

workplace.

Avoid release to the environment.

Handling Wear protective gloves, protective clothing, and eye protection

or face protection.

Take off contaminated clothing and wash it before reuse.

Collect spillage.

Store locked up. Storage

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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) |
|----------------------------|----------------------|---------------------------------------|---|
| aluminium metal | ACGIH | 1 mg/m³ | Not established |
| and insoluble | U.S.A. OSHA PEL | 15 mg/m ³ | Not established |
| compounds | U.S.A (WEEL) | 10 mg/m ³ | Not established |
| | Canada AB | 1 mg/m³ | Not established |
| | Canada BC | 1 mg/m³ | Not established |
| | Canada ON | 10 mg/m ³ | Not established |
| triethylenetetramine | ACGIH | Not established | Not established |
| | U.S.A. OSHA PEL | Not established | Not established |
| | U.S.A (WEEL) | 1 ppm | Not established |
| | Canada AB | Not established | Not established |
| | Canada BC | Not established | Not established |
| | Canada ON | 0.5 mg/m³ (Skin) | Not established |
| carbon black ^{a)} | ACGIH | 3.5 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 | 3.0 mg/m ³ | Not established |
| | Canada ON | 3.5 mg/m ³ | Not established |
| | Canada QC | 3.5 mg/m ³ | Not established |
| Stoddard solvent | ACGIH | 100 ppm | Not established |
| | U.S.A. OSHA PEL | 500 ppm | Not established |
| | Canada AB | 100 ppm | Not established |
| | Canada BC | 290 mg/m ³ | 50 mg/m ³ |
| | Canada ON | 100 ppm | Not established |
| | Canada QC | 100 ppm | 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 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

Section continued on the next page

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FLAME RETARDANT EPOXY (PART B)

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.

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/m³, 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.



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FLAME RETARDANT EPOXY (PART B)

Section 9: Physical and Chemical Properties

| Physical State | Liquid | Lower Flammability Limit | 1.17% |
|---------------------------|----------------------|---------------------------------------|-----------------------|
| Appearance | Black | Upper Flammability Limit | 6.62% |
| Odor | Mild, amine like | Vapor Pressure @25°C | Not available |
| Odor Threshold | Not available | Vapor Density | Not available |
| pH | Not available | Relative Density @25°C | 1.30 |
| Freezing/Melting Point | Not available | Solubility in Water | Practically insoluble |
| Initial Boiling Point | >110 °C [>230 °F] | Partition Coefficient n-octanol/water | Not available |
| Flash Point | Not available | Auto-ignition Temperature | Not available |
| Evaporation Rate | Not available | Decomposition Temperature | Not available |
| Flammability | Non | Viscosity | 2 495 cP |

Section 10: Stability and Reactivity

Will not react violently. Reactivity

Chemically stable. **Chemical Stability**

Conditions to

Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-Avoid static discharge. Do not heat over: 290 °C.

Incompatibilities Strong oxidizing agents, strong acids, strong bases, and strong

oxidants.

flammable

Polymerization Will not occur

Decomposition Will not decompose under normal conditions. For thermal

decomposition, see combustion products in Section 5.

@25 °C

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Inhalation

FLAME RETARDANT EPOXY (PART B)

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes May cause chemical burns or severe eye irritation, redness, and pain. **Skin** May cause chemical burns and serious skin irritation. May cause skin sensitization. Triethylenetetramine can be absorbed through skin.

Cough. Sore throat. Burning sensation. Shortness of breath. Labored

breathing.

Ingestion Single dose oral toxicity is low. It may cause burns or severe irritation to

the digestive tract.

Chronic Prolonged and repeated exposure may lead to skin sensitization reactions.

Section continued on the next page



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Lethal Exposure Concentrations

| Chemical Name | LD50 | LD50 | LC50 |
|--|---------------------|---------------------|------------------|
| | oral | dermal | inhalation |
| reaction product of Fatty acids, C18- unsatd., dimers and trimers with amines, polyethylenepoly-, triethylenetetramine fraction | >2 000 mg/kg Rat | >2 000 mg/kg Rat | Not available |
| aluminum trihydrate | 79 000 mg/kg Rat | Not available | Not available |
| ammonium polyphosphate | 500 mg/kg | Not | Not |
| | Rat | available | available |
| triethylenetetramine | 2 500 mg/kg | 805 mg/kg | Not |
| | Rat | Rabbit | available |
| 3,6,9-triazaundecamethylenediamine | 3 990 mg/kg | 659 mg/kg | Not |
| | Rat | Rabbit | available |
| 2-methoxy-1-methylethyl acetate | >5 000 mg/kg | 5 000 mg/kg | Not |
| | Rat | Rabbit | available |
| carbon black | >5 000 mg/kg | 3 000 mg/kg | Not |
| | Rat | Rabbit | available |
| Stoddard solvent | >5 000 mg/kg | >3 000 mg/kg | >5.5 mg/L 4hr |
| | Rat | Rabbit | Rat |
| polyphosphoric acids, reaction products with 2-oxepanone and polyethylene glycol monomethylether | Not | Not | Not |
| | available | available | available |
| solvent naphtha (petroleum), light aromatic | >5 000 mg/kg | >2 000 mg/kg | Not |
| | Rat | Rabbit | available |
| xylene | 3 523 mg/kg | 1 100 mg/kg | >11 mg/L |
| | Rat | Rabbit | 4hr Rat |
| Mixture ATE | waived corrosive | 3 429 mg/kg | >1 000mg/L |

Note: Toxicity data from ECHA was consulted. The data from supplier SDS were also consulted.

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Other Toxicological Effects

Skin corrosion/irritation Triethylenetetramine (CAS# 112-24-3) and 3,6,9-

triazaundecamethylenediamine (CAS# 112-57-2) can

cause skin burns.

Serious eye damage/irritation Triethylenetetramine (CAS# 112-24-3) and 3,6,9-

triazaundecamethylenediamine (CAS# 112-57-2) can

cause severe eye damage.

Respiratory and skin

sensitization (allergic reactions)

The epoxy hardener components (CAS# 68082-29-1, 112-24-3, and 112-57-2) may cause skin sensitization

in humans.

Carcinogenicity

(risk of cancer)

The carbon black is a possible carcinogen by airborne routes of exposures. Because carbon black is bound in the epoxy liquid mixture, it is not expected to be 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. The kinematic viscosity is >20.5 mm²/s at

40 °C.

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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 Reaction product of Fatty acids, C18-unsatd., dimers and trimers with amines, polyethylenepoly-, triethylenetetramine fraction (CAS# 68082-29-1) was classified as a chronic category 2 environmental toxicant.

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).

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



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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 834BLV-450ML, 834BLV-3L kits

Limited Quantity



Sizes greater than 1 L (Cargo only)

Part B of 834BLV-60L kit UN number: UN2735 Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (triethylenetetramine)

Class: 8

Packing Group: II

Marine Pollutant: Yes

Note: The 834BLV-450ML and 834BLV-3L kits are composed of separate containers which meet this inner packaging limit.

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 0.5 L and under Part B of 834BLV-450ML

Limited Quantity



Sizes greater than 0.5 L up to 1 L Part B of 834BLV-3L, 834BLV-60L kit

UN number: UN2735 **Shipping Name:** AMINES, LIQUID, CORROSIVE, N.O.S. (triethylenetetramine)

Class: 8

Packing Group: II Marine Pollutant: Yes



Note: The 834BLV-450ML kit are composed of separate containers which meet this inner packaging limit.

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Sea

Refer to IMDG regulations.

Sizes 1 L and under Part B of 834BLV-450ML, 834BLV-3L kits **Limited Quantity**



Sizes greater than 1 L Part B of 834BLV-60L kit UN number: UN2735 Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (triethylenetetramine)

Class: 8

Packing Group: II Marine Pollutant: Yes



Note: The 834BLV-450ML and 834BLV-3L kits are composed of separate containers which meet this inner packaging limit.

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.

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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USA

Other Classifications

HMIS® RATING

| HEALTH: | * | 3 |
|----------------------|---|---|
| FLAMMABILITY: | | 1 |
| PHYSICAL HAZARD: | | 0 |
| PERSONAL PROTECTION: | | |





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 is EPCRA compliant.

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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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 25 May 2023

Supersedes Not applicable.

Reason for Changes: First version of SDS.

Reference

1) ACGIH 2023 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 (2023).

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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.

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Disclaimer

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