



Kit Revision Date: 11 February 2020

834ATH ATH FLAME RETARDANT EPOXY: ENCAPSULATING AND POTTING 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	Flame Retardant Epoxy	Epoxy resin for use with hardeners to pot devices or encapsulate components
B	Flame Retardant Epoxy	Epoxy hardener for use with resins to pot devices or encapsulate components

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.

834ATH-A

(PART A)

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: 834ATH-A**Other Means of Identificaion:** ATH Flame Retardant Epoxy: Encapsulating and Potting Compound (Part A)**Related Part #** 834ATH-375ML, 834ATH-3L, 834ATH-60L

Recommended Use and Restriction on Use

Use: Epoxy resin for use with hardeners to pot devices or encapsulate components**Uses Advised Against:** Not for use as a spray coating

Details of Manufacturer or Importer

ManufacturerMG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADAMG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA**☎** +1-800-340-0772**FAX** +1-800-340-0773**E-MAIL** support@mgchemicals.com**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

834ATH-A
(PART A)
Section 2: Hazard(s) Identification
Classification of Hazardous Chemical
GHS Categories

Criteria	Category	Signal Word	Pictograms
Sensitization	Skin	1	Warning
Eye Irritation		2	Warning
Skin Irritation		2	Warning
Carcinogenicity		2	Warning
Hazardous to the Aquatic Environment	Chronic	2	<i>none</i>
			Exclamation
			Exclamation
			Exclamation
			Health
			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
	H319: Causes serious eye irritation H315: Causes skin irritation H317: May cause an allergic skin reaction
	H351: Suspected of causing cancer
	H411: Toxic to aquatic life with long lasting effects

Section continued on the next page

834ATH-A
(PART A)
Continued...

Prevention	Precautionary Statements
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.
P261	Avoid breathing fumes and vapors.
P280	Wear protective gloves, protective clothing, eye protection, and face protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
Response	Precautionary Statements
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.
P337 + P313	If eye irritation persists: Get medical advice or attention.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P332 + 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
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

834ATH-A
(PART A)
Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
25068-38-6	bisphenol-A epoxy resin (reaction product)	50%
21645-51-2	aluminum trihydrate	17%
84852-53-9	1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	14%
68609-97-2	alkyl glycidyl ether	8%
138265-88-0	zinc borate, hydrated ^{a)}	6%
1309-64-4	antimony trioxide	3%
64741-65-7	naphtha, petroleum, heavy alkylate	1%
1333-86-4	carbon black	0.6%

a) The anhydrous inorganic salt is listed under the CAS# 1332-07-6

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, 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 or attention.
IF ON SKIN	P302 + P352, P332 + P313, P362 + P364, P308 + P313
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 or attention. Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical advice or attention.
IF INHALED	P304 + P340, P308 + P313
Immediate Symptoms	<i>cough, irritation of the respiratory track</i>
Response	Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice or attention.

Section continued on the next page

834ATH-A**(PART A)**

IF SWALLOWED	P301 + P330 + P331, P308 + P313
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Immediate Symptoms	<i>irritation</i>
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Response	Rinse mouth. Do NOT induce vomiting. IF exposed or concerned: Get medical advice or attention.
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Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use extinguishing media suitable for surrounding materials.
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Specific Hazards	Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke and toxic smoke in fires.
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Prevent fire-fighting wash from entering waterway or sewer system.

Combustion Products	Produces carbon oxides (CO,CO ₂), bromines, hydrogen bromide, and toxic fumes.
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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.
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Precautions for Response	Avoid breathing fumes or vapors. Remove or keep away all sources of extreme heat or open flames.
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Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
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Containment Methods	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
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Cleaning Methods	Collect liquid in a sealable, chemical-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Use soap and water to remove the last traces of residue.
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Disposal Methods	Dispose of spill waste according to Section 13.
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Section continued on the next page

834ATH-A
(PART A)
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.

Avoid breathing fumes and vapors.

Avoid release to the environment.

Handling

Wear protective gloves, protective clothing, eye protection, and face protection.

Contaminated work clothing should not be allowed out of the workplace.

Wash hands thoroughly after handling.

Do NOT mix more than 2 kg of epoxy at a time. This product is exothermic (produces heat when curing) and the temperature at the core may become high to activate the flame retardant and emit toxic fumes. Do NOT heat cure above 100 °C [212 °F].

Collect spillage.

Storage

Store locked up.

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)
aluminum metal and insoluble compounds ^{a)}	ACGIH	1 mg/m ³	Not established
	U.S.A. OSHA PEL	15 mg/m ³	Not established
	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
antimony trioxide ^{a)}	ACGIH	0.5 mg/m ³	Not established
	U.S.A. OSHA PEL	0.5 mg/m ³	Not established
	Canada AB	0.5 mg/m ³	Not established
	Canada BC	0.5 mg/m ³	Not established
	Canada ON	0.5 mg/m ³ ^{b)}	Not established
	Canada QC	0.5 mg/m ³	Not established

Section continued on the next page

834ATH-A
(PART A)
Continued ...

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	manufacturer	2 mg/m ³	Not established
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	3.5 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 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
- b) Keep airborne concentration as low as possible

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.

Section continued on the next page.

834ATH-A**(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 or spray, wear respirator such as a half-mask respirator with organic vapor cartridges.

Above 10 x OEL or in case of fire, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.

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.

834ATH-A
(PART A)
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	Not available
pH	Not available	Relative Density @25 °C	1.4
Freezing/Melting Point	Not available	Solubility in Water	Insoluble
Initial Boiling Point ^{a)}	>150 °C [>302 °F]	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	150 °C [302 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability (solid, gas)	Not applicable	Viscosity @25 °C	3 300 cSt

a) The closed cup flash point and boiling point for component with the lowest reported value.

Section 10: Stability and Reactivity

Reactivity	Reacts exothermically with amines.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Excessive heat (especially above 320 °C [608 °F]), and incompatible substances. Such temperatures would activate the flame retardant and release active bromines to suppress flames. Do not use in a way that forms a mist or aerosolize the product.
Incompatibilities	Strong oxidizing agents, strong bases, strong acids
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

834ATH-A
(PART A)
Section 11: Toxicological Information
Summary of Effects and Symptoms by Routes of Exposure

Eyes	Causes serious eye irritation. May also cause eye redness or pain.
Skin	May cause skin redness, irritation, dry skin, or allergic contact dermatitis.
Inhalation	<i>Not a likely route of exposure due to low volatility.</i> Inhalation of vapors or mist may cause irritation to the nose, throat and lung (upper respiratory tract).
Ingestion	<i>Not a likely route of exposure.</i> No acute toxicity effect known. See skin and inhalation symptoms.
Chronic	Prolonged or repeated exposure to the uncured epoxy resins used may cause dermatitis and sensitization. Inhalation of dust or mist may lead to cancer.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
bisphenol-A epoxy resin (reaction product)	11 400 mg/kg Rat	100 pph 7 h Rabbit ^{a)}	Not available
aluminum trihydrate	Not available	Not available	Not available
1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	>5 000 mg/kg Rat ^{a)}	>2 000 mg/kg Rabbit ^{a)}	Not available
alkyl glycidyl ether	19 200 mg/kg Rat ^{a)}	4 500 mg/kg Rat ^{a)}	Not available
zinc borate, hydrated	>10 000 mg/kg Rat ^{a)}	>10 000 mg/kg Rabbit ^{a)}	Not available
antimony trioxide	>34 600 mg/kg Rat	>2 000 mg/kg Rabbit	Not available
naphtha, petroleum, heavy alkylate	Not available	Not available	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not available

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

a) Supplier SDS

834ATH-A**(PART A)****Other Toxicological Effects****Skin corrosion/irritation**

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Sensitization
(allergic reactions)

Skin sensitizer based on animal studies on the epoxy components

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.

Section continued on the next page.

834ATH-A**(PART A)****Aspiration hazard**

Based on available data, the classification criteria are not met. There is no category 1 components, and the kinematic viscosity is $>20.5 \text{ mm}^2/\text{s}$ at $40 \text{ }^\circ\text{C}$.

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 average molecular weight of less than 700 are generally classified as chronic category 2 marine pollutant due to LC50 96 h of $>1 \text{ mg/L}$ but $\leq 10 \text{ mg/L}$.

Zinc borate is a category 1 chronic marine pollutant (with a LC50 96h 2.4 mg/L for *Oncorhynchus mykiss* (rainbow trout); 76 mg/L 48 h *Daphnia magna* (water flea).

Antimony trioxide (CAS# 1309-64-4) is not classifiable under GHS because it has a LC50 of 833 mg/L for flathead minnow (*pimpehales promelas*) 96 h.

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

Acute Ecotoxicity

Category 2

Toxic to aquatic life

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

834ATH-A

(PART A)


Section 13: Disposal Information

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

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

<p>TDG: Sizes under 450 L <i>Part A of 834ATH-375ML, 834ATH-3L, 834ATH-60L kits</i> NOT REGULATED in TDG per Special Provisions 99</p>	<p>49 CFR: Sizes greater than 5 L <i>Part A of 834ATH-60L kit</i> UN number: UN3082 Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: bisphenol-A, zinc borate, naphtha petroleum) Class: 9 Packing Group: III Marine Pollutant: Yes</p>	
<p>49 CFR: Sizes 5 L and under <i>Part A of 834ATH-375ML, 834ATH-3L kits</i> NOT REGULATED in 49 CFR per exception 171.4 (c)(2)</p>		

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.

Section continued on the next page

834ATH-A

(PART A)

Air

Refer to ICAO-IATA regulations.

Sizes 5 L and under

*Part A of 834ATH-375ML,
834ATH-3L kits*

NOT REGULATED

On air waybill write:
"Not Restricted, as per
Special Provisions A197"

Sizes greater than 5 L

Part A of 834ATH-60L kit

UN number: UN3082

Shipping Name:

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

(Reaction product: bisphenol-A,
zinc borate, naphtha petroleum)

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.

Section continued on the next page

834ATH-A

(PART A)

Sea

Refer to IMDG regulations.

Sizes 5 L and under

Part A of 834ATH-375ML, 834ATH-3L kits

NOT REGULATED
per 2.10.2.7

Sizes greater than 5 L

Part A of 834ATH-60L kit

UN number: UN3082

Shipping Name:

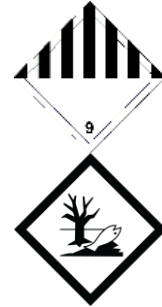
ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S.

(Reaction product: bisphenol-A,
zinc borate, naphtha petroleum)

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 trained and certified before involvement with the transport of dangerous goods.

834ATH-A

(PART A)

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL.

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.

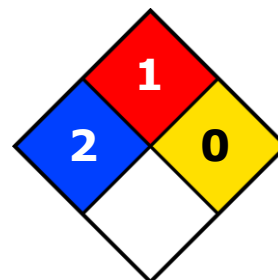
USA

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 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 antimony trioxide (CAS# 1309-64-4) and zinc borate (CAS# 138265-88-0), which have a 1 000 lb reporting quantity requirements in section 313 Title III of the SARA of 1986 and 40 CFR part 372.

Section continued on the next page

834ATH-A**(PART A)****TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

Contains 14% 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 is listed as a carcinogen.

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 Regulatory Department

Date of Review 11 February 2020

Supersedes 15 November 2016

Reason for Changes: Update transport section and format changes throughout safety data sheet.

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®)

Section continued on the next page

834ATH-A**(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
L7L 5R6

Head Office
9347-193rd Street
Surrey, British Columbia, Canada
V4N 4E7

Disclaimer

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

834ATH-B

(PART B)

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

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

Recommended Use and Restriction on Use

Use: Epoxy hardener for use with resins to pot devices or encapsulate components**Uses Advised Against:** Not for use as a spray coating

Details of Manufacturer or Importer

ManufacturerMG 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**WEB** www.mgchemicals.com**TEL** +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

834ATH-B
(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
Sensitization	Skin	1	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Carcinogenicity		2	Warning	Health
Reproductive Toxicity		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

Signal Word	DANGER
Pictograms	Hazard Statements
	H318: Causes serious eye damage
	H315: May cause skin irritation H317: May cause an allergic skin reaction
	H351: Suspected of causing cancer H361: Suspected of damaging fertility or the unborn child if swallowed

Section continued on the next page

834ATH-B
(PART B)
Continued...

Pictograms	Hazard Statements
	H411: Toxic to aquatic life with long lasting effects
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P201, P202	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing fumes and vapors.
P280	Wear protective gloves, protective clothing, eye protection, 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
P308 + P313	IF exposed or concerned: Get medical advice or attention.
P305 + P351 + P338, P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
P302 + P352	IF ON SKIN: Wash with plenty 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
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of contents in accordance to local, regional, national, and international regulations.

Section continued on the next page

834ATH-B
(PART B)
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	54%
21645-51-2	aluminum trihydrate	17%
84852-53-9	1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	13%
138265-88-0	zinc borate, hydrated	6%
112-24-3	triethylenetetramine	4%
1309-64-4	antimony trioxide	2%
64741-65-7	naphtha, petroleum, heavy alkylate	1%
108-65-6	1-methoxy-2-propanol 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 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor.

Section continued on the next page

834ATH-B
(PART B)
Continued...

IF ON SKIN (or hair)	P303 + P361+ P353, P362 + P364, P333 + P313, P308 + P313
Immediate Symptoms	<i>redness, irritation, rash (allergic contact dermatitis), pain</i>
Response	<p>Take off immediately all contaminated clothing. Wash with plenty of water [shower].</p> <p>Take off contaminated clothing and wash it before reuse.</p> <p>If skin irritation or rash occurs: Get medical advice or attention.</p> <p>IF exposed or concerned: Get medical advice or attention.</p>
IF INHALED	P304 + P340, P308 + P313
Immediate Symptoms	<i>cough, irritation of the respiratory track, burning sensation</i>
Delayed Symptoms	<i>asthma, difficulty breathing</i>
Response	<p>Remove person to fresh air and keep comfortable for breathing.</p> <p>IF exposed or concerned: Get medical advice or attention.</p>
IF SWALLOWED	P301 + P330 + P331, P308 + P313
Immediate Symptoms	<i>irritation</i>
Response	<p>Rinse mouth. Do not induce vomiting.</p> <p>IF exposed or concerned: Get medical advice or attention.</p>

Advice to Physicians

In case of exposure to nitrogen oxides (NO_x) combustion products or triethylenetetramine 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 smoke of unknown toxicity in fires.</p> <p>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.

834ATH-B**(PART B)****Section 6: Accidental Release Measures**

Personal Protection	Use personal protection recommended 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	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 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 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. Avoid breathing fumes and vapors. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse. Avoid release to the environment.
Handling	Wear protective gloves, protective clothing, eye protection, and face protection. Wash hands thoroughly after handling. Collect spillage.
Storage	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)
aluminum metal and insoluble compounds	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	1 mg/m ³ 15 mg/m ³ 10 mg/m ³ 1 mg/m ³ 1 mg/m ³ 10 mg/m ³	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 triethylenetetramine	manufacturer	2 mg/m ³	Not established
	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 ³ (Skin) Not established	Not established Not established Not established Not established Not established Not established Not established
antimony trioxide ^{b)}	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	0.5 mg/m ³ 0.5 mg/m ³ 0.5 mg/m ³ 0.5 mg/m ³ (Carcinogen) 0.5 mg/m ^{3 a)} 0.5 mg/m ³	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
naphtha, petroleum, heavy distillate	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	100 ppm (525 mg/m ³) 500 ppm (2 900 mg/m ³) 572 mg/m ³ 290 mg/m ³ 100 ppm 525 mg/m ³	Not established Not established Not established 580 mg/m ³ Not established Not established

Section continued on the next page

834ATH-B
(PART B)
Continued...

Chemical Name	Country or Vendor	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
carbon black ^{b)}	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 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.

Skin—can be absorbed through the skin.

- a) Exposure should be controlled to levels as low as possible.
- b) As respirable airborne particles.

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.

Section continued on the next page

834ATH-B
(PART B)

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.

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	Ammonia like	Vapor Pressure @20 °C	Not available
Odor Threshold	Not available	Vapor Density	Not available
pH	Not available	Relative Density @25 °C	1.26
Freezing/Melting Point	Not available	Solubility in Water	Partially soluble
Initial Boiling Point	Not available	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	>185 °C [>365 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability	Non Flammable	Viscosity @25 °C	10 000 cSt

a) The closed cup flash point for component with the lowest reported value.

834ATH-B**(PART B)****Section 10: Stability and Reactivity**

Reactivity	Reacts exothermically with ketones, halogenated hydrocarbons, cyanides, nitriles, and 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 cause chemical burns, severe eye irritation, eye redness or pain.
Skin	May cause redness, serious skin irritation, and allergic contact dermatitis. Triethylenetetramine can be absorbed through skin leading to toxic effects.
Inhalation	Inhalation of vapors or mist may cause irritation to the nose, throat and lung (upper respiratory tract). When heated, hot triethylenetetramine vapors may also result in itching of the face with skin redness (erythema) and swelling (edema).
Ingestion	May cause severe irritation or corrosive burns to the mouth, throat, esophagus, and stomach. May cause allergic reactions.
Chronic	Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization. Inhalation of dust or mist may lead to cancer and reproductive and developmental effects.

Section continued on the next page

834ATH-B
(PART B)
Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	>5 000 mg/kg ^{a)}	>5 000 mg/kg ^{a)}	Not available
aluminum trihydrate	Not available	Not available	Not available
1,1'-(1,2-ethanediyl) bis[2,3,4,5,6-pentabromo-benzene	>5 000 mg/kg Rat ^{a)}	>2 000 mg/kg Rabbit ^{a)}	Not available
zinc borate	>10 000 mg/kg Rat ^{a)}	>10 000 mg/kg Rabbit ^{a)}	>5 mg/kg
triethylenetetramine	2 500 mg/kg Rat	805 mg/kg Rabbit	Not available
antimony trioxide	>34 600 mg/kg Rat	>2 000 mg/kg Rabbit	Not available
naphtha, petroleum, heavy alkylate	Not available	Not available	Not available
1-methoxy-2-propanol acetate	8 562 mg/kg Rat	>5 000 mg/kg Rabbit	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not available

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

a) Supplier SDS

Other Toxicological Effects
Skin corrosion/irritation

Causes skin irritation

Serious eye damage/irritation

Triethylenetetramine (CAS# 112-24-3) causes severe eye damage.

Respiratory and skin sensitization (allergic reactions)

The epoxy hardener components (CAS# 68410-23-1, and 112-24-3) may cause skin sensitization according to animal studies.

Section continued on the next page

834ATH-B**(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)

Animal ingestion studies show that high doses of zinc borate cause reproductive and developmental effects.

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 no category 1 components, and the kinematic viscosity is $>20.5 \text{ mm}^2/\text{s}$ at $40 \text{ }^\circ\text{C}$.

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 fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (CAS# 68410-23-1) were classified as a chronic category 2 environmental toxicant (not readily biodegradable, LC50 range of 1–10 mg/L for fish; EC0 bacterial >10 and ≤100 mg/L).

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

Zinc borate is a category 1 chronic marine pollutant (with a LC50 96h 2.4 mg/L for *Oncorhynchus mykiss* (rainbow trout); 76 mg/L 48 h *Daphnia magna* (water flea).

Antimony trioxide (CAS# 1309-64-4) is not classifiable under GHS because it has a LC50 of 833 mg/L for flathead minnow (*pimpehales promelas*) 96 h.

Based on available data, aluminum trihydrate, 2-methoxy-1-methylethyl acetate, and carbon black are 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 effect

Avoid release to the environment. Collect spillage.

Biodegradability

Not readily biodegradable

Bioaccumulation

Not available

Other Effects

Not available

834ATH-B

(PART B)

Section 13: Disposal Considerations

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

Section 14: Transport Information

Ground

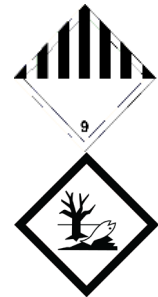
Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

TDG: Sizes under 450 L
Part B of 834ATH-375ML, 834ATH-3L, 834ATH-60L kits
NOT REGULATED in TDG per Special Provisions 99

49 CFR: Sizes greater than 5 L
Part B of 834ATH-60L kit

UN number: UN3082
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction product: bisphenol-A, zinc borate, naphtha petroleum)

Class: 9
Packing Group: III
Marine Pollutant: Yes



49 CFR: Sizes 5 L and under
Part B of 834ATH-375ML, 834ATH-3L kits
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.

Section continued on the next page

834ATH-B

(PART B)

Air

Refer to ICAO-IATA regulations.

Sizes 5 L and under
Part B of 834ATH-375ML, 834ATH-3L kits

NOT REGULATED

On air waybill write:
"Not Restricted, as per
Special Provisions A197"

Sizes greater than 5 L
Part B of 834ATH-60L kit

UN number: UN3082

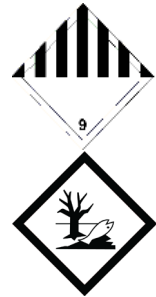
Shipping Name:

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S.
(Reaction product: bisphenol-A,
zinc borate, naphtha petroleum)

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.

Section continued on the next page

834ATH-B
(PART B)
Sea
Refer to IMDG regulations.
Sizes 5 L and under
Part B of 834ATH-375ML, 834ATH-3L kits
NOT REGULATED

per 2.10.2.7

Sizes greater than 5 L
Part B of 834ATH-60L kit
UN number: UN3082

Shipping Name:

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

 (Reaction product: bisphenol-A,
 zinc borate, naphtha petroleum)

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 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.

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.

Section continued on the next page

834ATH-B

(PART B)

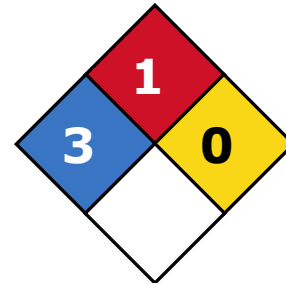
USA

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 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 antimony trioxide (CAS# 1309-64-4) and zinc borate (CAS# 138265-88-0), which have a 1 000 lb reporting quantity requirements in 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 13% 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, which are listed as carcinogenic substances when airborne, as unbound particles of respirable size.

Section continued on the next page

834ATH-B**(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

SDS Prepared by MG Chemicals' Regulatory Department

Date of Revision 22 July 2020

Supersedes 11 February 2020

Reason for Changes: Minor update to the transport section to show Part B.

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®)

Section continued on the next page

834ATH-B**(PART B)****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.

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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.