8329TFF-B **THERMALLY CONDUCTIVE EPOXY ADHESIVE**

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: 8329TFF-B

Other Means if Identification: Thermally Conductive Epoxy Adhesive

Related Part # 8329TFF-25ML, 8329TFF-50ML

Recommended Use and Restriction on Use

Use: Thermally conductive adhesive hardener

Uses Advised Against: Not for use as a spray coating

Details of Manufacturer or Importer

Manufacturer

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

☎ +1-800-340-0772
FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

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

☎ +1-905-331-1396
FAX +1-905-331-2682
E-MAIL info@mgchemicals.com

E-MAIL (Competent Person): sds@mgchemicals.com

Emergency Phone Number

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents)
USA or CANADA—Call CHEMTREC at ***+1-800-424-9300***

For emergencies involving the transport of dangerous goods; 24/7 service
CANADA—Call CANUTEC collect at ***+1-613-996-6666*** or ****666*** on cellular phones

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Skin Corrosion		1	Danger	Corrosion
Eye Damage		1	Danger	Corrosion
Sensitization	Skin	1	Warning	Exclamation

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

Section continued on the next page

Continued …

Prevention	**Precautionary Statements**
P102	Keep out of reach of children.
P260	Do not breathe fumes/vapors.
P280	Wear protective gloves/protective clothing/eye protection.
P264	Wash hands and exposed skin thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
Response	**Precautionary Statements**
P310	For all routes of exposure: Immediately call a POISON CENTER/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash skin with plenty of water [or shower].
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Storage	**Precautionary Statements**
P405	Store locked up.
Disposal	**Precautionary Statements**
P501	Dispose of contents/container in accordance to local/regional/international regulations.

Hazards Not Otherwise Classified

Other Criteria	**Hazard Statements/Precautionary Statement**	**Signal Word**	**Pictograms**
None	None	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
21645-51-2	aluminum trihydrate	50%
96-27-5	3-mercaptopropane-1,2-diol	21%
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	8%

Section 4: First-Aid Measures

Exposure Condition	*GHS Code: Precautionary Statement*
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	*redness, burns, pain*
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/doctor.
IF ON SKIN (or hair)	P303 + P361 + P352, P310, P333 + P313, P363
Immediate Symptoms	*redness, allergic contact dermatitis, burns*
Response	Take off immediately all contaminated clothing. Wash skin with plenty of water [or shower]. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
IF INHALED	P304 + P340, P310
Immediate Symptoms	*cough, irritation of the respiratory track*
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
IF SWALLOWED	P301 + P330 + P331, P310
Immediate Symptoms	*burns to mouth and throat, abdominal pain*
Response	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use extinguishing media suitable for surrounding materials.
Specific Hazards	Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke of unknown toxicity in fires. Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO_2), nitrogen oxides (NO_x), sulphur oxides, and toxic metal fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	Use personal protection recommended in Section 8.
Precautions for Response	Do not breathe the fumes/vapors.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways. Do not flush to sewer.
Containment Methods	Contain with inert absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable container. Sprinkle inert absorbent compound onto spill, then sweep into the container. 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. Do not breathe fumes/vapors. Contaminated work clothing should not be allowed out of the workplace.
Handling	Wear protective gloves/protective clothing/eye protection. Take off contaminated clothing and wash it before reuse. Wash hands and exposed skin thoroughly after handling.
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 [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

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH[1], OSHA, and Canadian provinces exposure limits were consulted. Limits from the RTECS database[2] and from suppliers' SDS were also consulted. Short term exposure limits (STEL) are usually for 15 min and long term permissible exposure limits (PEL) for 8 h.

a) As respirable airborne particles.

Engineering Controls

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

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

Respiratory Protection

For over-exposures up to 10 x OEL of mist/vapors/spray, wear respirator such as a half-mask respirator with organic vapor cartridges.

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

If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit**	Not available
Appearance	Off-white	**Upper Flammability Limit**	Not available
Odor	Mercaptan-like	**Vapor Pressure @20 °C**	Not available
Odor Threshold	Not available	**Vapor Density**	Not available
pH	Not available	**Specific Gravity @25 °C**	1.5
Freezing/Melting Point	Not available	**Solubility in Water**	Insoluble
Boiling Point a)	118 °C [244 °F]	**Partition Coefficient**	Not available
Flash Point a)	113 °C [235 °F]	**Auto-ignition Temperature**	365 °C [689 °F]
Evaporation Rate	Not available	**Decomposition Temperature**	Not available
Flammability (solid, gas)	Not applicable	**Viscosity @25 °C**	>20.5 mm^2/s

a) Component with the lowest reported value.

Section 10: Stability and Reactivity

Reactivity	Not available
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, reducing agents, strong acids and alkalis metals
Polymerization	Will not occur
Decomposition	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, redness and pain.
Skin	May cause redness, allergic contact dermatitis, and chemical burns.
Inhalation	Inhalation of vapors or mist may cause cough and irritation of the nose, throat, and lungs (upper respiratory tract).
Ingestion	May cause severe irritation and abdominal pain. It is corrosive to the mouth, throat, esophagus, and stomach. (See inhalation symptoms.)
Chronic	Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
aluminum trihydrate	>2 000 mg/kg Rat [a)]	Not available	Not available
3-mercaptopropane-1,2-diol	645 mg/kg Rat	670 mg/kg Rat	Not available
2,4,6-tris (dimethylaminomethyl)phenol	2 169 mg/kg Rat	969 mg/kg Rabbit	Not available

Note: Representative toxicity data from RTECS database[2] and data from supplier (M)SDS were also consulted.
a) Supplier SDS

Section continued on the next page

Other Toxicological Effects

Skin corrosion/irritation	2,4,6-tris(dimethylaminomethyl)phenol causes severe skin burns.
Serious eye damage/irritation	2,4,6-tris(dimethylaminomethyl)phenol causes severe eye damage.
Respiratory and skin sensitization (allergic reactions)	2,4,6-tris(dimethylaminomethyl)phenol may cause skin sensitization according to animal studies.
Carcinogenicity (risk of cancer)	Not classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not.
Reproductive Toxicity (risk to sex functions)	Based on available data, the classification criteria are not.
Teratogenicity (risk of fetus malformation)	Based on available data, the classification criteria are not.
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.
Aspiration hazard	There are no category 1 components, and the kinematic viscosity is >20.5 mm^2/s at 40 °C.

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (http://echa.europa.eu), and other reliable sources.

Based on available data, aluminum trihydrate, 3-mercaptopropane-1,2-diol and 2,4,6-tris(dimethylaminomethyl)phenol are not classified as environmental hazards according to GHS criteria.

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

Section continued on the next page

Chronic Ecotoxicity

Available toxicity data does not meet classification thresholds.

Biodegradability

Not readily biodegradable

Bioaccumulation

Not available

Other Effects

Not available

Section 13: Disposal Considerations

Dispose of contents in accordance with all local, provincial, state, and federal 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 *8329TFF-25ML, 8329TFF-50ML* **Limited Quantity** 	

Section continued on the next page

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 30 mL and under

8329TFF-25ML
Excepted Quantity

Document as class E2

Refer to Package Mark 2.6.7.1 in IATA for further instruction

Sizes 0.5 L and under [a)]

8329TFF-50ML
Limited Quantity

Sizes greater than 0.5 L

UN number: UN2735
Shipping Name: AMINES, LIQUID, CORROSIVE, n.o.s. (2,4,6-tris(dimethylaminomethyl)phenol)
Class: 8
Packing Group: II
Marine Pollutant: No

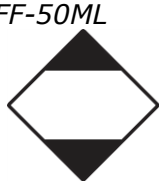
a) Inner packaging net quantity per S.P. Y844. Total net quantity per package is 5.0 kg.

Sea

Refer to IMDG regulations.

Sizes 1 L and under

8329TFF-25ML, 8329TFF-50ML
Limited Quantity



Sizes greater than 1 L

FOR REFERENCE ONLY
UN number: UN2735
Shipping Name: AMINES, LIQUID, CORROSIVE, n.o.s. (2,4,6-tris(dimethylaminomethyl)phenol)
Class: 8
Packing Group: II
Marine Pollutant: No

Sizes 30 mL and under
Excepted Quantity
Document as class E2

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.

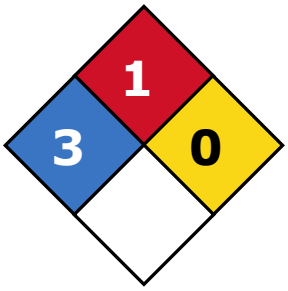
USA

Other Classifications

HMIS® RATING

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

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:
0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

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

This product does not contain substances, which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

Section continued on the next page

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, Sept 2, 2011 revision, USA).

This product does not contain any of the listed substances.

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 Revision	22 May 2018
Supersedes	28 March 2018
Reason for Changes:	Product name change

Reference

1) ACGIH *2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices*, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).

2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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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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