

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**

# Safety Data Sheet




**Section 1: Identification****Product Identifier and Other Means of Identification****Product Name:** Silver Conductive Epoxy Adhesive: Slow Cure / High Conductivity (Part B)**SDS Code:** 8331S-Part B**Related Part #** 8331S-15G, 8331S-50ML, 8331S-200ML**Recommended Use and Restriction on Use****Use:** Silver filled electrically conductive adhesive—epoxy hardener for use with resins**Uses Advised Against:** Not available**Details of Manufacturer or Importer****Manufacturer**MG Chemicals  
1210 Corporate Drive  
Burlington, Ontario L7L 5R6  
CANADAMG Chemicals (Head Office)  
9347-193 Street  
Surrey, British Columbia V4N 4E7  
CANADA**☎** +1-800-340-0772**FAX** +1-800-340-0773**E-MAIL** [support@mgchemicals.com](mailto:support@mgchemicals.com)**WEB** [www.mgchemicals.com](http://www.mgchemicals.com)**☎** +1-905-331-1396**FAX** +1-905-331-2682**E-MAIL** [info@mgchemicals.com](mailto:info@mgchemicals.com)**E-MAIL** (Competent Person): [sds@mgchemicals.com](mailto:sds@mgchemicals.com)**Emergency Phone Number****For hazardous material incidents ONLY**—leaks, spills, fires, exposures or accidentsUSA or CANADA: Call CHEMTREC ☎: **+1-800-424-9300****For emergencies involving dangerous goods;** Collect 24/7CANADA: Call CANUTEC ☎: **+1-613-996-6666** or **\*666** on cellular phones

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**
**Section 2: Hazard(s) Identification**
**Classification of the Hazardous Materials**
**GHS Categories**

Criteria	Category	Signal Word	Pictograms
Eye Damage	1	Danger	Corrosion
Skin Sensitization	1	Warning	Exclamation
Skin Irritant	2	Warning	Exclamation
Hazardous to the Aquatic Environment      Chronic	1	Warning	Environment

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

**Label Elements**

Signal Word	<b>DANGER</b>
Pictograms	Hazard Statements
	H318: Causes serious eye damage
	H317: May cause an allergic skin reaction H315: Causes skin irritation
	H410: Very toxic to aquatic life with long lasting effects

*Section continued on the next page*

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**
*Continued...*

<b>Prevention</b>	<b>Precautionary Statements</b>
P102	Keep out of reach of children.
P261	Avoid breathing fumes/vapors.
P280	Wear protective gloves/protective clothing/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.
<b>Response</b>	<b>Precautionary Statements</b>
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/doctor.
P302 + P352, P362 + P364	IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.
<b>Disposal</b>	<b>Precautionary Statements</b>
P501	Dispose of contents/container in accordance to local/regional/international regulations.

**Hazards Not Otherwise Classified**

<b>Other Criteria</b>	<b>Hazard Statements/Precautionary Statement</b>	<b>Signal Word</b>	<b>Pictograms</b>
Argyria Warning	Long term ingestion or inhalation of silver can lead to an irreversible blue-grey discoloration of the skin.	None	None

**Section 3: Composition/Information on Ingredients**

<b>CAS #</b>	<b>Chemical Name</b>	<b>%(weight)</b>
7440-22-4	silver	67%
68541-13-9	9,12-octadecadienoic acid-based polyamidoamine	15%
68082-29-1	fatty acid-polyethylamine polymer	14%
4246-51-9	3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine	3%
112-24-3	triethylenetetramine	1%

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
<b>IF IN EYES</b>	P305 + P351 + P338, P310
<b>Immediate Symptoms</b>	<i>redness, severe irritation, pain, burns</i>
<b>Response</b>	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.
<b>IF ON SKIN</b>	P302 + P352, P362 + P364, P333 + P313
<b>Immediate Symptoms</b>	<i>redness, severe irritation, rash (allergic contact dermatitis)</i>
<b>Response</b>	Wash with plenty of water. Take off contaminated clothing and wash it before reuse.  If skin irritation or rash occurs: Get medical advice/attention.
<b>IF INHALED</b>	P304 + P340
<b>Immediate Symptoms</b>	<i>cough, sore throat, irritation of the respiratory track</i>
<b>Response</b>	Remove person to fresh air and keep comfortable for breathing.
<b>IF SWALLOWED</b>	P301 + P330 + P331
<b>Immediate Symptoms</b>	<i>abdominal pain, burning sensation</i>
<b>Response</b>	Rinse mouth. Do not induce vomiting.

**Advice to Physicians**

In case of exposure to nitrogen oxides (NOx) 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.

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Section 5: Fire-Fighting Measures**

<b>Extinguishing Media</b>	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. Use water spray to cool containers.
<b>Specific Hazards</b>	Not flammable or combustible, but burns if involved in a fire. Produces irritating and toxic fumes in fires or in contact with hot surfaces.  Inhalation of toxic smoke during fire may have delayed effects. Exposed person may need to be put under surveillance for 48 h.  Toxic for aquatic environment: Prevent fire-fighting wash from entering waterway or sewer system.
<b>Combustion Products</b>	Produces carbon oxides (CO, CO <sub>2</sub> ), ammonia, nitric acid, nitrogen oxides (NO <sub>x</sub> ), and silver metal fumes.
<b>Fire-Fighter</b>	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

**Section 6: Accidental Release Measures**

<b>Personal Protection</b>	Use personal protection recommended in Section 8.
<b>Precautions for Response</b>	Avoid breathing the fumes/vapors.
<b>Environmental Precautions</b>	Avoid releasing to the environment. Prevent spill from entering drains and waterways. Do not flush to sewer.
<b>Containment Methods</b>	None required—this product is not readily flowable.
<b>Cleaning Methods</b>	Collect liquid in a sealable container. Wipe residue with a paper towel wetted with a suitable organic solvent such as alcohol or ethyl lactate, and place dirty towels in container. Wash spill area with soap and water to remove the last traces of residue.  <b>Recommendation:</b> Use a plastic, stainless steel, or carbon steel container. Avoid containers with copper, aluminum, zinc, or galvanized surfaces since the waste material can slowly oxidize them.
<b>Disposal Methods</b>	Dispose spill waste according to Section 13.

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**
**Section 7: Handling and Storage**

<b>Prevention</b>	Keep out of reach of children. Avoid breathing fumes/vapors or contact with skin or eyes. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.
<b>Handling</b>	Wear protective gloves/protective clothing/eye protection. Take off contaminated clothing and wash it before reuse. Wash hands thoroughly after handling. Collect spillage.
<b>Storage</b>	Do not store near acids or other incompatible substances.

**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)
silver (metal dust, mist) (metal) (Ag and its compounds) (metal, dust, fumes)	ACGIH	0.1 mg/m <sup>3</sup>	Not established
	U.S.A. OSHA PEL	0.01 mg/m <sup>3</sup>	Not established
	Canada AB	0.1 mg/m <sup>3</sup>	Not established
	Canada BC	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>
	Canada ON	0.1 mg/m <sup>3</sup>	Not established
	Canada QC	0.1 mg/m <sup>3</sup>	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/m <sup>3</sup> (Skin) <sup>a)</sup>	Not established
Canada QC	Not established	Not established	

*Note:* Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH<sup>1</sup>, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS<sup>2</sup> database and data from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

a) Skin—can be absorbed through the skin.

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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Engineering Controls****Ventilation**

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

Due to low vapor pressure of the product, general ventilation should be adequate for normal use. 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.

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

Wear appropriate protective eyeglasses or chemical safety goggles.

**RECOMMENDATION:** Use safety glasses with lateral protection (side shields).

**Skin Protection**

For likely contacts, use of protective butyl rubber, neoprene, or other chemically resistant gloves.

For incidental contacts, use nitrile or other chemically resistant gloves.

**Respiratory Protection**

For over-exposures up to 10 x OEL of fumes/vapors, 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:** Consulter un détaillant ou fabricant pour vous assurer que la cartouche du masque faciale ou demi-masque est conforme aux normes NIOSH (É.-U.) pour ingrédient répertorié dans la Section 3. L'appareil devrait être ajusté pour l'employer par un expert. Assurez-vous que les cartouches soient sellées dans un sac en plastique lorsqu'elles ne sont pas utilisées.

**General Hygiene Considerations**

Wash hands thoroughly with water and soap after handling.

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**
**Section 9: Physical and Chemical Properties**

<b>Physical State</b>	Solid	<b>Lower Flammability Limit</b>	Not available
<b>Appearance</b>	Silver grey paste	<b>Upper Flammability Limit</b>	Not available
<b>Odor</b>	Amine-like	<b>Vapor Pressure @20 °C<sup>b)</sup></b>	<0.48 kPa [<3.6 mmHg]
<b>Odor Threshold</b>	Not available	<b>Vapor Density</b>	Not available
<b>pH</b>	Not available	<b>Specific Gravity @25 °C</b>	2.38
<b>Freezing/Melting Point</b>	Not available	<b>Solubility in Water</b>	Slightly soluble
<b>Boiling Point<sup>a)</sup></b>	>221 °C [>430 °F]	<b>Partition Coefficient</b>	Not available
<b>Flash Point<sup>a)</sup></b>	>93 °C [>200 °F]	<b>Auto-ignition Temperature</b>	Not available
<b>Evaporation Rate</b>	Not available	<b>Decomposition Temperature</b>	Not available
<b>Flammability (solid, gas)</b>	Not available	<b>Viscosity @25 °C</b>	>20.5 mm <sup>2</sup> /s

a) The boiling point and closed cup flash point values are based on the lowest value component: 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine.

b) Based on highest vapor pressure component

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Section 10: Stability and Reactivity**

<b>Reactivity</b>	Reacts exothermically with ketones and epoxides. May react violently with peroxides. May slowly attack metals such as aluminum, zinc, copper, and their alloys.
<b>Chemical Stability</b>	Chemically stable at normal temperatures and pressures
<b>Conditions to Avoid</b>	Avoid excessive heat and incompatible substances.
<b>Incompatibilities</b>	Strong oxidizing agents, strong acids, bases, acetylene, ammonia, peroxides
<b>Polymerization</b>	Will not occur
<b>Decomposition</b>	For thermal decomposition, see combustion products in Section 5.

**Section 11: Toxicological Information****Routes of Exposure**

Eye contact, Skin contact, Inhalation, and Ingestion

**Symptoms Summary**

<b>Eyes</b>	May cause redness, severe eye irritation, pain, or corrosive eye damage.
<b>Skin</b>	May cause redness, serious skin irritation, and allergic contact dermatitis. Triethylenetetramine can be absorbed through skin leading to toxic effects.  When heated, hot triethylenetetramine vapors may also result in itching of the face with skin redness (erythema) and swelling (edema).
<b>Inhalation</b>	Inhalation of vapors or fumes may cause irritation to the nose and lung (upper respiratory tract), coughing, and sore throat.
<b>Ingestion</b>	May cause abdominal pain or a burning sensation (See inhalation symptoms.)
<b>Chronic</b>	Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization.  Prolonged and repeated ingestion or inhalation of silver may yield to an irreversible blue-grey discoloration of the skin.

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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**
**Lethal Exposure Concentrations**

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
silver	>2 000 mg/kg Rat	>2 000 mg/kg Rat	5.16 mg/L 4 h Rat (dust)
9,12-octadecadienoic acid-based polyamidoamine	Not established	Not established	Not established
fatty acid-polyethylamine polymer	>2 000 mg/kg Rat	2 000 mg/kg Rat	Not established
3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine	4 310 mg/kg Rat <sup>a)</sup>	2 510 mg/kg Rat	Not established
triethylenetetramine	2 500 mg/kg Rat	805 mg/kg Rabbit	Not established

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

a) Supplier MSDS

**Other Toxicological Effects**
**Skin corrosion/irritation**

The triethylenetetramine (CAS#112-24-3) and 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine components are Category 1 constituents. Together, they account for about 4% of the mixture, giving an overall category 2 rating.

**Serious eye damage/irritation**

The proportions of triethylenetetramine (CAS#112-24-3), fatty acid-polyethylamine polymer (CAS# 68082-29-1), and 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine components (CAS# 4246-51-9) cause severe eye damage. Contains mechanically abrasive particles

**Sensitization**  
(allergic reactions)

Triethylenetetramine (CAS#112-24-3), fatty acid-polyethylamine polymer (CAS# 68082-29-1), and 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine components (CAS# 4246-51-9) may cause skin sensitization according to animal studies.

**Carcinogenicity**  
(risk of cancer)

None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP

**Mutagenicity**  
(risk of heritable genetic effects)

Based on available data, the classification criteria are not met.

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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**

<b>Reproductive Toxicity</b> (risk to sex functions)	Based on available data, the classification criteria are not met.
<b>Teratogenicity</b> (risk of fetus malformation)	Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	Based on available data, the classification criteria are not met.
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met. There are 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.

Contains silver particles of less than a 1 mm but more than 100 nm (larger than nanoparticles), which release ionic silver levels that is very toxic to the environment. While massive silver is insoluble in water, its powders is considered sufficiently soluble to give rise to an ecological hazard by EU regulators. The classification that follows takes into account to chronic aqueous toxicity of category 1 (M = 10 for silver) of the EU.

The fatty acid-polyethylamine polymer is classified as a chronic category 2 environmental toxicant.

The 3,3'-(oxybis(2,1-ethane-diyloxy))bis-1-propanamine is classified as a chronic category 3 environmental toxicant.

The 9,12-octadecadienoic acid-based polyamidoamine is not classified as an ecotoxic substance.

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

**Acute Ecotoxicity**

Category 1

Very toxic to aquatic life

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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**
**Chronic Ecotoxicity**

Category 1

Very 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

**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 under 450 kg

**NOT REGULATED** in TDG per Special Provisions 99

Sizes 5 kg and under

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

*FOR REFERENCE ONLY*
**UN number:** UN3077

**Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (silver particles)

**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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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Air****Refer to ICAO-IATA regulations.**

Sizes 5 kg and under: Cat. No. 8331S-15G, 8331S-50ML, 8331S-200ML

**NOT REGULATED**On the air waybill, write:  
"Not Restricted, as per Special  
Provisions A197"**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.**Sea****Refer to IMDG regulations.**

Sizes 5 kg and under: Cat. No. 8331S-15G, 8331S-50ML, 8331S-200ML

**NOT REGULATED**

per 2.10.2.7

**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.**

**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Section 15: Regulatory Information****Canada****Domestic Substance List (DSL)/Non-Domestic Substance Lists (NDSL)**

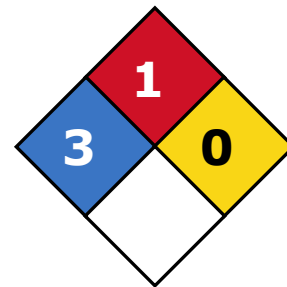
All hazardous ingredients are listed on the DSL/NDSL.

**Industry and Science Canada**

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

**USA****Other Classifications****HMIS® RATING**

<b>HEALTH:</b>	<b>* 3</b>
<b>FLAMMABILITY:</b>	<b>1</b>
<b>PHYSICAL HAZARD:</b>	<b>0</b>
<b>PERSONAL PROTECTION:</b>	

**NFPA® 704 CODES**

*Approximate HMIS and NFPA Risk Ratings Legend:*

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

**CAA** (Clean Air Act, USA)

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

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

This product does 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 contains silver (CAS# 7440-22-4; reportable quantity = 1000 lb), which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

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

This product does not contain any listed substances in California.

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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B****Europe****RoHS** (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, 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**

Michel Hachey

**Date of Revision**

15 June 2016

**Supersedes**

26 September 2015

**Reason for Changes:** Modified special provisions for transportation**Reference**

1) ACGIH 2013 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 (2013).

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

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
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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Registered Quality System **ISO 9001:2008**

QMI File #004008

Burlington, Ontario, Canada

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**SILVER CONDUCTIVE EPOXY ADHESIVE: SLOW CURE/HIGH CONDUCTIVITY 8331S-PART B**

**Technical Queries** Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at [www.mgchemicals.com](http://www.mgchemicals.com).

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

**Mailing Addresses** *Manufacturing & Support*  
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Burlington, Ontario, Canada  
L7L 5R6

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

**Disclaimer** This material 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.