

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Name:** Slow Cure Thermally Conductive Adhesive, Flowable

**SDS Code:** 8329TFS-Part B

**Related Part #** 8329TFS-25ML, 8329TFS-50ML

### Recommended Use and Restriction on Use

**Use:** Thermally conductive adhesive for bonding and thermal management

**Uses Advised Against:** Not available

### Details of Manufacturer or Importer

#### Manufacturer

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

MG 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 accidents  
USA or CANADA: Call CHEMTREC : **+1-800-424-9300**

**For emergencies involving dangerous goods;** Collect 24/7

CANADA: Call CANUTEC : **+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  |
|--------------------------------------|---------|----------|-------------|-------------|
| Sensitization                        | Skin    | 1        | Warning     | Exclamation |
| Skin Irritation                      |         | 2        | Warning     | Exclamation |
| Eye Irritation                       |         | 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**

|   |  |
|---|--|
| <b>Signal Word</b>  | <b>WARNING</b>   |
| <b>Pictograms</b>   | <b>Hazard Statements</b>   |
|  | H317: May cause an allergic skin reaction<br>H315: Causes skin irritation<br>H319: Causes serious eye irritation |
|  | H410: Very toxic to aquatic life with long lasting effects   |
| <b>Prevention</b>   | <b>Precautionary Statements</b>  |
| P102  | Keep out of reach of children.   |
| P261  | Avoid breathing fumes/vapors.  |
| P280  | Wear protective gloves/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.  |

*Section continued on the next page*

**SLOW CURE THERMALLY CONDUCTIVE ADHESIVE, FLOWABLE**
**8329TFS-PART B**
*Continued...*

| <b>Response</b>    | <b>Precautionary Statements</b>  |
|--------------------|--|
| 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/attention.  |
| P302 + P352        | IF ON SKIN: Wash with plenty water.  |
| P333 + P313        | If skin irritation or rash occurs: Get medical advice/attention.   |
| P362 + P364        | Take off contaminated clothing and wash it before reuse.   |
| P391               | Collect spillage.  |
| <b>Storage</b>     | <b>Precautionary Statements</b>  |
| <i>none</i>        | <i>none</i>  |
| <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> |
|-----------------------|--|--------------------|-------------------|
| Metal fumes fever     | When exposed to extreme heat, this product may produce harmful zinc oxide and aluminum oxide fumes | None               | None              |

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

| <b>CAS #</b> | <b>Chemical Name</b>  | <b>%(weight)</b> |
|--------------|---|------------------|
| 1344-28-1    | aluminum oxide  | 39%              |
| 1314-13-2    | zinc oxide  | 25%              |
| 68541-13-9   | fatty acids, c18-unsat, dimer, polymers, w/3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine | 18%              |
| 68082-29-1   | fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine | 9%               |
| 4246-51-9    | 3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine  | 3%               |
| 108-65-6     | 2-methoxy-1-methylethyl acetate   | 1%               |
| 112-24-3     | triethylenetetramine  | <1%              |
| 1333-86-4    | carbon black  | 0.5%             |

**Section 4: First-Aid Measures**

| <i>Exposure Condition</i> | <i>GHS Code: Precautionary Statement</i>  |
|---------------------------|---|
| <b>IF IN EYES</b>         | P305 + P351 + P338, P337 + P313   |
| <b>Immediate Symptoms</b> | <i>redness, irritation, pain</i>  |
| <b>Response</b>           | Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>If eye irritation persists: Get medical advice/attention. |
| <b>IF ON SKIN</b>         | P302 + P352, P333 + P313, P362 + P364   |
| <b>Immediate Symptoms</b> | <i>redness, irritation, allergic contact dermatitis</i>   |
| <b>Response</b>           | Wash with plenty water.<br>If skin irritation or rash occurs: Get medical advice/attention.<br>Take off contaminated clothing and wash it before reuse.                               |
| <b>IF INHALED</b>         | P304 + P340   |
| <b>Immediate Symptoms</b> | <i>cough, 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>irritation, abdominal pain</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.

### 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.   |
| <b>Specific Hazards</b>    | <p>Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke of unknown toxicity in fires.</p> <p>Inhalation of zinc oxide and aluminum oxide fumes may cause metal fever and irritate the respiratory tract. The flu-like symptoms of metal fever may be delayed, occurring 4 to 12 hours after exposure.</p> <p>Prevent fire-fighting wash from entering waterway or sewer system.</p> |
| <b>Combustion Products</b> | Produces carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), boron oxides, and toxic 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 fumes or vapors. Remove or keep away fall sources of extreme heat or open flames.  |
| <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>       | Contain with inert absorbent (such as soil, sand, vermiculite).  |
| <b>Cleaning Methods</b>          | Collect liquid in a sealable container. Sprinkle inert absorbent compound onto spill, then sweep into the 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>Disposal Methods</b>          | Dispose spill waste according to Section 13.   |

**Section 7: Handling and Storage**
**Prevention**

Keep out of reach of children.

Avoid breathing fumes/mist/vapors.

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

Avoid release to the environment.

**Handling**

Wear protective gloves/eye protection.

Take off contaminated clothing and wash it before reuse.

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 <sup>a)</sup> | ACGIH             | 1 mg/m <sup>3</sup>             | Not established                   |
|  | U.S.A. OSHA PEL   | 15 mg/m <sup>3</sup>            | Not established                   |
|  | Canada AB         | 10 mg/m <sup>3</sup>            | Not established                   |
|  | Canada BC         | 1 mg/m <sup>3</sup>             | Not established                   |
|  | Canada ON         | 1 mg/m <sup>3</sup>             | Not established                   |
|  | Canada QC         | 10 mg/m <sup>3</sup>            | Not established                   |
| zinc oxide (dust/mist)                               | ACGIH             | 2 mg/m <sup>3</sup>             | Not established                   |
|  | U.S.A. OSHA PEL   | 2 mg/m <sup>3</sup>             | 10 mg/m <sup>3</sup>              |
|  | Canada AB         | 2 mg/m <sup>3</sup>             | 10 mg/m <sup>3</sup>              |
|  | Canada BC         | 2 mg/m <sup>3</sup>             | 10 mg/m <sup>3</sup>              |
|  | Canada ON         | 2 mg/m <sup>3</sup>             | 10 mg/m <sup>3</sup>              |
|  | Canada QC         | 2 mg/m <sup>3</sup>             | 10 mg/m <sup>3</sup>              |
| 2-methoxy-1-methylethyl acetate                      | ACGIH             | Not established                 | Not established                   |
|  | U.S.A. OSHA PEL   | 50 ppm                          | Not established                   |
|  | Canada AB         | Not established                 | Not established                   |
|  | Canada BC         | 50 ppm                          | 75 ppm                            |
|  | Canada ON         | 50 ppm                          | Not established                   |
|  | Canada QC         | Not established                 | Not established                   |

*Section continued on the next page*

**SLOW CURE THERMALLY CONDUCTIVE ADHESIVE, FLOWABLE**
**8329TFS-PART B**
*Continued...*

| <b>Chemical Name</b>       | <b>Country or Vendor</b>   | <b>Long Term Exposure Limits (PEL)</b>   | <b>Short Term Exposure Limits (STEL)</b>   |
|----------------------------|--|--|--|
| triethylenetetramine       | ACGIH<br>U.S.A. OSHA PEL<br>U.S.A (WEEL)<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | Not established<br>Not established<br>1 ppm<br>Not established<br>Not established<br>0.5 mg/m <sup>3</sup> (Skin) <sup>b)</sup><br>Not established | Not established<br>Not established<br>Not established<br>Not established<br>Not established<br>Not established |
| carbon black <sup>a)</sup> | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC                 | 3.5 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup><br>3 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup>   | Not established<br>Not established<br>Not established<br>Not established<br>Not established<br>Not established |

*Note:* The ACGIH<sup>1</sup>, OSHA, and Canadian provinces exposure limits were consulted. Limits from the RTECS database<sup>2</sup> and data 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.
- b) Skin—can be absorbed through the skin.

## Engineering Controls

### Ventilation

Keep airborne concentrations below exposure limits.

Note that the aluminum oxide, zinc oxide, and carbon black are inextricably bound to the adhesive mixture; therefore, they are not available as airborne hazard under normal or foreseeable condition of use. Ensure adequate ventilation if the product is mechanically misted or aerosolized.

*Section continued on the next page*

## 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 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.

**SLOW CURE THERMALLY CONDUCTIVE ADHESIVE, FLOWABLE**
**8329TFS-PART B**
**Section 9: Physical and Chemical Properties**

|                                  |                      |                                  |                          |
|----------------------------------|----------------------|----------------------------------|--------------------------|
| <b>Physical State</b>            | Liquid               | <b>Lower Flammability Limit</b>  | Not available            |
| <b>Appearance</b>                | Grey                 | <b>Upper Flammability Limit</b>  | Not available            |
| <b>Odor</b>                      | Amine-like           | <b>Vapor Pressure @20 °C</b>     | Not available            |
| <b>Odor Threshold</b>            | Not available        | <b>Vapor Density</b>             | Not available            |
| <b>pH</b>                        | Not available        | <b>Specific Gravity @25 °C</b>   | 2.0                      |
| <b>Freezing/Melting Point</b>    | Not available        | <b>Solubility in Water</b>       | Insoluble                |
| <b>Boiling Point</b>             | >145 °C<br>[>293 °F] | <b>Partition Coefficient</b>     | Not available            |
| <b>Flash Point <sup>a)</sup></b> | 110 °C<br>[230 °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 closed cup flash point values for the component with the lowest reported boiling point.

**Section 10: Stability and Reactivity**

|                            |   |
|----------------------------|---|
| <b>Reactivity</b>          | Reacts exothermically with ketones, halogenated hydrocarbons, cyanides, nitriles, and epoxides. May 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.<br>Do not use in a way that forms a mist or aerosolize the product.   |
| <b>Incompatibilities</b>   | Strong oxidizing agents, strong acids   |
| <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 eye irritation, redness or pain.  |
| <b>Skin</b>       | May cause redness, irritation, allergic contact dermatitis, and chemical burns. Triethylenetetramine can be absorbed through skin leading to toxic effects.<br><br>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 mist may cause irritation to the nose, throat and lung (upper respiratory tract).   |
| <b>Ingestion</b>  | May cause irritation to the mouth, throat, esophagus, and stomach. May cause abdominal pain and allergic reactions (see inhalation symptoms).   |
| <b>Chronic</b>    | 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 oxide                                     | >5 000 mg/kg<br>Rat <sup>a)</sup> | Not established                     | Not established                  |
| zinc oxide   | 7 950 mg/kg<br>Rat                | Not established                     | 2 500 mg/m <sup>3</sup><br>Mouse |
| 3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine | 4 310 mg/kg<br>Rat <sup>a)</sup>  | 2 510 mg/kg<br>Rabbit <sup>a)</sup> | Not established                  |
| 2-methoxy-1-methylethyl acetate                    | 8 532 mg/kg<br>Rat                | >5 g/kg<br>Rabbit                   | Not available                    |
| methylethyl acetate                                | 2 500 mg/kg<br>Rat                | 805 g/kg<br>Rabbit                  | Not established                  |
| triethylenetetramine                               | 2 500 mg/kg<br>Rat                | 805 g/kg<br>Rabbit                  | Not established                  |
| carbon black                                       | >15.4 g/kg<br>Rat                 | >3 g/kg<br>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

*Section continued on the next page*

**Other Toxicological Effects**

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>                               | Causes skin irritation.  |
| <b>Serious eye damage/irritation</b>                           | Causes serious eye irritation. Contains mechanically abrasive particles.   |
| <b>Respiratory and skin sensitization</b> (allergic reactions) | Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine (CAS # 68082-29-1), 3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine, and triethylenetetramine may cause skin sensitization according to animal studies.   |
| <b>Carcinogenicity</b><br>(risk of cancer)                     | <p>The carbon black [1333-86-4] is possibly carcinogenic by airborne routes of exposures under WHMIS.</p> <p>Because the carbon black is bound in the epoxy liquid mixture, it is not available as an airborne hazard (dust, mist, or spray) under normal use.</p> <p><b>Carbon Black [1333-86-4]</b></p> <p>IARC Group 2B: Possibly carcinogenic to humans</p> <p>ACGIH A4: Not classified as a human carcinogen</p> <p>CA Prop 65: Listed as a carcinogen (airborne, as unbound particles of respirable size)</p> <p>NTP: Not listed</p> |
| <b>Mutagenicity</b><br>(risk of heritable genetic effects)     | Based on available data, the classification criteria are not.  |
| <b>Reproductive Toxicity</b><br>(risk to sex functions)        | Based on available data, the classification criteria are not.  |
| <b>Teratogenicity</b><br>(risk of fetus malformation)          | Based on available data, the classification criteria are not.  |
| <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.  |
| <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 mm <sup>2</sup> /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.

Contains zinc oxide which is an acute and chronic category 1 solid (non-biodegradable, minimal LC50 of 0.042 mg/L) that is very toxic to the aquatic environment.

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

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).

Based on available data, aluminum oxide, fatty acids, c18-unsat, dimer, polymers, w/3,3'-(Oxybis(2,1-ethane-diyloxy))bis-1-propanamine (CAS # 68541-13-9), Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids, 2-methoxy-1-methylethyl acetate and triethylenetetramine (CAS # 68082-29-1), and carbon black are not classified as environmental hazard according to GHS criteria.

### Acute Ecotoxicity

See chronic ecotoxicity.

### Chronic Ecotoxicity

Category 1

Very toxic to aquatic life with long lasting effects

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, 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 under 450 L<br><b>NOT REGULATED</b> in TDG<br>per Special Provisions 99       | <i>FOR REFERENCE ONLY</i><br><b>UN number:</b> UN3082<br><b>Shipping Name:</b> ENVIRONMENTALLY<br>HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc<br>oxide)<br><br><b>Class:</b> 9<br><b>Packing Group:</b> III<br><b>Marine Pollutant:</b> Yes |
| Sizes 5 L and under<br><b>NOT REGULATED</b> in 49 CFR<br>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*

**SLOW CURE THERMALLY CONDUCTIVE ADHESIVE, FLOWABLE****8329TFS-PART B****Air****Refer to ICAO-IATA regulations.**

Sizes 5 L and under: Cat. No. 8329TFS-25ML, 8329TFS-50ML

**NOT REGULATED**

On 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 L and under: 8329TFS-25ML, 8329TFS-50ML

**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.

**Section 15: Regulatory Information****Canada****Domestic Substance List (DSL)/Non-Domestic Substance Lists (NDSL)**

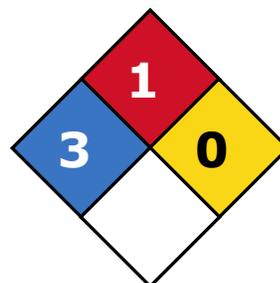
All hazardous ingredients are listed on the DSL/NDSL.

**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**

|                             |            |
|-----------------------------|------------|
| <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 aluminum oxide (CAS# 1344-28-1), 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.

*Section continued on the next page*

**SLOW CURE THERMALLY CONDUCTIVE ADHESIVE, FLOWABLE****8329TFS-PART B**

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

This product contains carbon black, which is listed as a carcinogenic substances when airborne, as unbound particles of respirable size.

**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**

|                            |                       |
|----------------------------|-----------------------|
| <b>SDS Prepared by</b>     | Michel Hachey         |
| <b>Date of Revision</b>    | 09 May 2017           |
| <b>Supersedes</b>          | 28 July 2016          |
| <b>Reason for Changes:</b> | Product name revision |

**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®)

*Section continued on the next page*

**SLOW CURE THERMALLY CONDUCTIVE ADHESIVE, FLOWABLE****8329TFS-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](http://www.mgchemicals.com).

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