



SILICONE HEAT TRANSFER COMPOUND

860

Safety Data Sheet

Section 1: Product and Company Identification

Product Identifier and Other Means of Identification

Product Name: Silicone Heat Transfer Compound

SDS Code: 860

Related Part # 860-4G, 860-60G, 860-150G, 860-1P

Recommended Use and Restriction on Use

Use: Non-hardening compound for improving heat transfer across component interfaces

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

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Fax +1-800-340-0773

Fax +1-905-331-2682

E-mail support@mgchemicals.com

E-mail info@mgchemicals.com

Web www.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 ☎: **+1-800-424-9300**

For emergencies involving dangerous goods; Collect 24/7

CANADA: Call CANUTEC ☎: **+1-613-996-6666** or ***666** on cellular phones

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Section 2: Hazards Identification

Classification of the Hazardous Material

GHS Categories

| Criteria | Category | Signal Word | Pictograms |
|--|----------|-------------|---------------|
| Environmental Hazard Chronic Aqua. Tox. | 1 | Warning | Environmental |

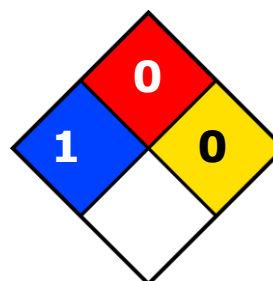
Note: The degree of severity in a category is ranked from 1 (Highest Severity) to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions.

Other Classifications

HMIS® RATING

| | |
|-----------------------------|----------|
| HEALTH: | 1 |
| FLAMMABILITY: | 0 |
| 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)

Label Elements

| | |
|---|--|
| Signal Word | WARNING |
| Pictograms | Hazard Statements |
|  | H410: Very toxic to aquatic life with long lasting effects |
| Prevention | Precautionary Statements |
| P273 | Avoid release to the environment. |
| Response | Precautionary Statements |
| P391 | Collect Spillage. |

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| Disposal | Precautionary Statements |
|-----------------|---|
| P501 | Dispose of contents/container in accordance to local/regional/national/international regulations. |

Hazards Not Otherwise Specified

When the product is exposed to very high heat such as welding, this may cause harmful zinc oxide fumes.

Inhalation of fumes may cause metal fever and irritate the respiratory tract. The flu-like symptoms of metal fume fever may be delayed, occurring 4–12 hours after exposure.

Section 3: Composition/Information on Ingredients

| CAS # | Chemical Name | %(weight) |
|--------------|----------------------|------------------|
| 1314-18-2 | zinc oxide | 60–80% |
| 112945-52-5 | amorphous silica | 1–5% |

Section 4: First-Aid Measures

| <i>Exposure Condition</i> | <i>GHS Code: Precautionary Statement</i> |
|---------------------------|---|
| IF IN EYES | P305 + P351+ P338, P337 + P313 |
| Immediate Symptoms | <i>mild irritation (discomfort)</i> |
| Response | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention if irritation persists. |
| IF ON SKIN | P302 + P352, P332 + P313 |
| Immediate Symptoms | <i>mild irritation</i> |
| Response | Wash with plenty of water and water. Get medical advice/attention if skin irritation occurs. |
| IF INHALED | P304 + P340, P314 |
| Immediate Symptoms | <i>Irritation of nose, throat, lungs</i> |
| Delayed Symptoms | If exposed to metal fumes, chills and fever-like symptoms may occur 24 hours after exposure. |
| Response | Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing. If feeling unwell: Get medical advice/attention |

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| IF SWALLOWED | P301, P330, P310 |
| Immediate Symptoms | <i>None known or expected</i> |
| Response | Rinse mouth with water. Do NOT induce vomiting. |

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 | Formaldehyde and toxic metal fumes may be released in fire. Prevent fire-fighting wash from entering waterway or sewer system. |
| Combustion Products | Produces SiO ₂ and carbon oxides (CO, CO ₂), formaldehyde, toxic 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 | Not available |
| Environmental Precautions | Avoid releasing to the environment. |
| Containment | Contain the spill and cover drains. |
| Cleaning | The material presents a slip hazard and must be cleaned thoroughly. Collect liquid in a sealable container. Scoop into the container. Wipe up further residue with paper towel and place dirty towels in container. Wash spill area with steam, solvents, or detergents to remove the last traces of residue. |
| Disposal | Dispose of spill waste according to Section 13. |

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Section 7: Handling and Storage

- Prevention** Avoid release to the environment.
- Handling** Wear protective gloves/eye protection.
Collect spillage.
- Storage** No special storage instructions needed.
- RECOMMENDATION:** Keep in a dry and clean area, away from 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) |
|--|-------------------|---------------------------------|-----------------------------------|
| zinc oxide, dust/mist " " " fumes dust | ACGIH | 2 mg/m ³ | Not established |
| | U.S.A. OSHA PEL | 2 mg/m ³ | 10 mg/m ³ |
| | Canada AB | 2 mg/m ³ | 10 mg/m ³ |
| | Canada BC | 2 mg/m ³ | 10 mg/m ³ |
| | Canada ON | 2 mg/m ³ | 10 mg/m ³ |
| | Canada QC | 2 mg/m ³ | 10 mg/m ³ |
| amorphous silica | Canada QC | 10 mg/m ³ | Not established |
| | ACGIH | 10 mg/m ³ | Not established |
| | U.S.A. NIOSH | 6 mg/m ³ | Not established |
| | Canada AB | 10 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 by RTECS database² of the Canadian Centre for Occupational Health and Safety (CCOHS) a 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.

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SILICONE HEAT TRANSFER COMPOUND**860****Engineering Controls****Ventilation**

Normal ventilation is generally adequate. The zinc oxide and silica dust are bound in the grease matrix and are not available as a respiration hazard under normal conditions.

If the product is exposed to extreme heats or combustion conditions, keep airborne concentrations below exposure limits.

Personal Protective Equipment**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

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

Skin Protection

Wear appropriate protective clothing to prevent skin contact.

Respiratory Protection

If exposed to metal fumes, wear oil resistant or oil proof particulate respirators or filter masks.

RECOMMENDATION: Consult your local safety supply store to ensure your respirator or mask.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

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Section 9: Physical and Chemical Properties

| | | | |
|----------------------------------|---------------------|----------------------------------|---------------|
| Physical State | Solid, paste | Lower Flammability Limit | Not available |
| Appearance | White | Upper Flammability Limit | Not available |
| Odor | none | Vapor Pressure @20 °C | Not available |
| Odor Threshold | Not applicable | Vapor Density | Not available |
| pH | Not available | Specific Gravity @25 °C | 2.40 |
| Freezing/Melting Point | Not available | Solubility in Water | Insoluble |
| Boiling Point | >300°C [>572 °F] | Partition Coefficient | Not available |
| Flash Point ^{a)} | 260°C [500 °F] | Auto-ignition Temperature | Not available |
| Evaporation Rate | Not available | Decomposition Temperature | Not available |
| Flammability (solid, gas) | Not available | Viscosity @40 °C | Not available |

a) Cleveland open cup

Section 10: Stability and Reactivity

| | |
|----------------------------|--|
| Reactivity | None known |
| Chemical Stability | Chemically stable at normal temperatures and pressures |
| Conditions to Avoid | Ignition sources, excessive heat, and incompatible substances. |
| 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. |

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Section 11: Toxicological Information

Routes of Exposure

Eye contact, Inhalation, Ingestion, and Skin contact

Symptoms Summary

- Eyes** May cause mild eye irritation.
- Skin** May cause mild skin irritation.
- Inhalation** No known significant effects.
- Ingestion** No known significant effects.
- Chronic** No known long term effect.

Acute Toxicity (Lethal Exposure Concentrations)

| Chemical Name | LD50 oral | LD50 dermal | LC50 inhalation |
|------------------|--------------------|---------------|----------------------------------|
| zinc oxide | 7 950 mg/kg Rat | Not available | 2 500 mg/m ³ mouse |
| amorphous silica | 3 160 mg/kg Rat | Not available | Not available |

Note: Representative toxicity data from by RTECS database of the Canadian Centre for Occupational Health and Safety (CCOHS)¹ data from supplier (M)SDS were also consulted.

Other Toxicological Effects

- Skin corrosion/irritation** May cause mild skin irritation.
- Serious eye damage/irritation** May cause mild eye irritation.
- Sensitization**
(allergic reactions) Based on available data, the classification criteria are not met.
- 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 met.
- Reproductive Toxicity**
(risk to sex functions) Based on available data, the classification criteria are not met.

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| 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 | Not classified as aspiration hazard: the mixture does not contain category 1 aspiration toxicant and its 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.

Contains zinc oxide which is an acute and chronic category 1 solid (non-biodegradable, minimal EC50 of 0.042 mg/L *Pseudokrichneriella subcapita*) that is harmful to the environment.

The polydimethyl siloxane fluid and amorphous silica are not classifiable as ecotoxic hazards under GHS criteria.

Acute Ecotoxicity

Category 1

Very toxic to aquatic life

Avoid release to the environment

Collect spillage

Chronic Ecotoxicity

Category 1

Very toxic to aquatic life with long lasting effects

Avoid release to the environment

Collect spillage

Biodegradability

Not readily biodegradable

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Global Warming Potential

Not applicable

Other Effects

VOC exempt (by EPA and WHIMS guidelines)

*VOC = Regulated Volatile Organic Content

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 CFR 49 Regulations (Parts 100 to 185).

Sizes 5 kg and under

Limited Quantity



Sizes greater than 5 kg

UN number: UN3077

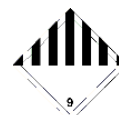
Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, SOLID
N.O.S. (Zinc oxide)

Class: 9

Packing Group: III

Marine Pollutant: Yes

Flash Point 260 °C [500 °F]



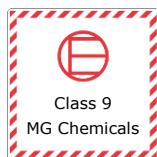
Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 30 g and under

Excepted Quantity

Document as class **E1**
Refer to Package
Mark 2.6.7.1 in **IATA**
for further instruction



Sizes greater than 30 g up to 30 kg

Limited Quantity

UN number: UN3077

Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, SOLID
N.O.S. (Zinc oxide)

Class: 9

Packing Group: III

Marine Pollutant: Yes

Flash Point 260 °C [500 °F]






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Sea

| | |
|--|--|
| Refer to IMDG regulations. | |
| <p>Sizes 30 g and under</p> <p>Excepted Quantity Document as class E1</p>  <p>Class 9 shipper</p> | <p>Sizes greater than 5 kg</p> <p>UN number: UN3077 Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (Zinc oxide) Class: 9 Packing Group: III Marine Pollutant: Yes</p>  |
| <p>Sizes 5 kg and under</p> <p>Limited Quantity</p>  | <p>Flash Point 260 °C [500 °F]</p> |

Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

Section 15: Regulatory Information

Canada

WHMIS 1988 Classification

Not classified as hazardous according to WHMIS criteria

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.

Health Canada

Products produced by MG Chemicals intended for retail display conform to the Canadian Consumer Labeling Regulations.

USA

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.

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SILICONE HEAT TRANSFER COMPOUND**860****EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains zinc compounds 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.

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**CLP/DPD**

This product is not classified under the CLP or DPD regulations.

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 Issue** 16 June 2015**Supersedes** 19 August 2014**Reason for Changes:** Correction to shipping section and corrections to better meet HCS 2012 and WHMIS 2015.**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®)

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SILICONE HEAT TRANSFER COMPOUND**860****Abbreviations**

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