

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**

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E-MAIL: info@mgchemicals.comE-MAIL (Competent Person): 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

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Section 2: Hazards Identification

WHMIS Classification

Not classified as hazardous according to WHMIS criteria

GHS Categories

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

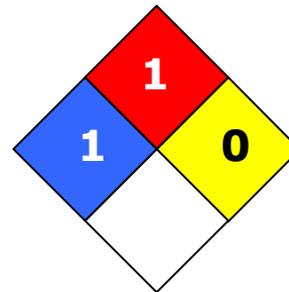
Note: The degree of severity in a category is ranked from 1 (Highest Severity) to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions.

Other Classifications

HMIS® RATING

HEALTH:	1
FLAMMABILITY:	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)

Label Elements

Signal Word	WARNING
Pictograms	Hazard Statements
	H410: Very toxic to aquatic life with long lasting effects
	Precautionary Statements
Prevention	P273: Avoid release to the environment
Response	P391: Collect Spillage
Disposal	P501: Dispose of contents/container in accordance to local/regional/national/international regulations.

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Other Hazards

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: Hazardous Ingredients

CAS #	Chemical Name	Wt%
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. P338: 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, P310 <i>(Not a likely route of exposure under normal use)</i>
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 <i>(Not a likely route of exposure under normal use)</i>
Immediate Symptoms	<i>None known or expected</i>
Response	Rinse mouth with water. Do NOT induce vomiting. Get medical advice/attention if feeling unwell.

Section 5: Fire Fighting Measures

Auto-ignition Temperature	Not available	Flash Point ^{a)}	>260 °C [500 °F]	LFL [LEL] ^{b)}	Not available
UFL [UEL]					available
In case of fire	P370 +P378				
Response	Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.				
Combustion Products	Produces SiO ₂ and carbon oxides (CO, CO ₂), formaldehyde, toxic fumes				
Fire-Fighter	Wear self-contained breathing apparatus for fire fighting				
General Information	Formaldehyde and toxic metal fumes may be released in fire. Prevent fire-fighting wash from entering waterway or sewer system.				

a) Cleveland open cup

b) LF[E]L = Lower Flammability [or Explosion] Limit (in volume %);

UF[E]L = Upper Flammability [or Explosion] Limit (in volume %)

Section 6: Accidental Release Measures

Personal Protection	See Section 8.
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 Do not get in eye, on skin, or on clothing.

Handling Wear protective gloves/eye protection.

Storage No special storage instructions needed.

RECOMMENDATION: Keep in a dry and clean area, away from incompatible substances.

Section 8: Exposure Controls/Personal Protection

Routes of Entry

skin, eyes

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	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
fumes	Canada QC	2 mg/m ³	10 mg/m ³
dust	Canada QC	10 mg/m ³	Not established
amorphous silica	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	Appearance	White
Odor	None	Odor Threshold	Not applicable
pH	Not available	Specific Gravity	2.40
Solubility in Water @ 25 °C	Insoluble	Melting/Freezing Point	Not available
Boiling Point	>300°C [572 °F]	Evaporation Rate	Not available
Flash Point ^{a)}	260°C [500 °F]	Vapor Pressure @ 25 °C	Not available
Lower Flammability Limit	Not available	Upper Flammability Limit	Not available
Auto-ignition Temperature	Not available	Decomposition Temperature	Not available
Viscosity	Not available	Vapor Density	Not available
Partition Coefficient	Not available		

a) Cleveland open cup

Section 10: Stability and Reactivity

Stabilities	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

Eyes, inhalation, and skin

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	TCLo inhalation
zinc oxide	7 950 mg/kg Rat	Not established	2 500 mg/m ³ mouse	Not established
amorphous silica	3 160 mg/kg Rat	Not available	Not available	154 mg/m ³ 6 h 4 w Rat

Note: Representative toxicity data from by RTECS database of the Canadian Centre for Occupational Health and Safety (CCOHS)¹ data from supplier MSDS 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) Not available
- 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) Not available
- Reproductive Toxicity** (risk to sex functions) Not available

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Teratogenicity (risk of fetus malformation)	Not available
STOT-single exposure	Not available
STOT-repeated exposure	Not available
Aspiration hazard	Not classified as aspiration hazard: the mixture does not contain Class 1 aspiration toxicant and its viscosity is >20.5 mm ² /s at 40 °C

Section 12: Ecological Information

The IMDG Code criteria and the raw-material MSDS along with supporting data for the classification of registered substances from the European Chemical Agency database (<http://echa.europa.eu>) were used.

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

GHS Code: Hazard Statement

H400: Very toxic to aquatic life

P273: Avoid release to the environment

P391: Collect spillage

Chronic Ecotoxicity

Category 1

GHS Code: Hazard Statement

H410: Very toxic to aquatic life with long lasting effects

P273: Avoid release to the environment

P391: 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 liters and under

Limited Quantity



Sizes greater than 5 liters

UN number: UN3077

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

Class: 9

Packing Group: III

Marine Pollutant: Yes



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 30 g /30 mL 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 LIQUID,
N.O.S. (Zinc oxide)

Class: 9

Packing Group: III

Marine Pollutant: Yes



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SILICONE HEAT TRANSFER COMPOUND**860****Sea****Refer to IMDG regulations.**

Sizes 5 liters and under

Limited Quantity

Sizes greater than 5 liters

UN number: UN3077**Shipping Name:** ENVIRONMENTALLY
HAZARDOUS SUBSTANCE LIQUID,
N.O.S. (Zinc oxide)**Class:** 9**Packing Group:** III**Marine Pollutant:** Yes

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

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

All hazardous ingredients are listed on the DSL/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

This product is not classified under the DPD regulations.

Section 16: Other Information

MSDS Prepared by Michel Hachey
Date of Issue 15 November 2013
Supersedes 17 October 2013
Reason for Changes: Change to HCS2012 GHS format

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)
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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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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