

SUPER THERMAL GREASE II

8616

Safety Data Sheet

Section 1: Product and Company Identification

Product Identifier and Other Means of Identification

Product Name: Super Thermal Grease II**MSDS Code:** 8616**Related Part #:** 8616-3ML

Recommended Use and Restriction on Use

Use: Thermal interface grease for improving heat flow between the CPU and heat sink**Uses Advised Against:** Not applicable

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**☎** 1-905-331-1396**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 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

Classification of Hazardous Chemical

WHMIS Classification

Not classified as hazardous under WHMIS

GHS Categories

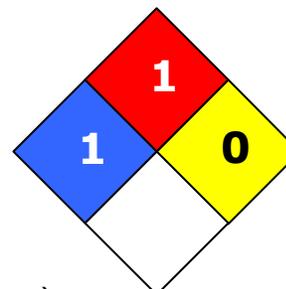
Criteria	Category	Signal Word	Pictograms
Environmental Hazard Chronic Aqua. Tox.	1	Warning	

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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SUPER THERMAL GREASE II**8616****Other Hazards**

When the product is exposed to very high heat such as welding or when mechanically aerosolized, this may cause harmful zinc oxide and aluminum 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. Repeated or prolonged exposure to aluminum oxide fumes may also lead to staining, pulmonary fibrosis (lung scarring), and pneumoconiosis (reaction to the deposition of dust in the lungs).

Section 3: Hazardous Ingredients

CAS #	Chemical Name	Wt%
1344-28-1	aluminum oxide	35–45%
1314-13-2	zinc oxide	35–40%

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Section 4: First Aid Measures

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
IF IN EYES	P305, P351, P338, P313
Immediate Symptoms	<i>mild irritation, redness, pain</i>
Response	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists	Get medical advice/attention
IF ON SKIN	P302, P352, P362+P364, P313
Immediate Symptoms	<i>mild irritation</i>
Response	Wash with plenty of water. Take off contaminated clothing and wash before reuse.
If exposed or concerned	Get medical advice/attention
IF INHALED	P304, P340, P312 <i>(Not a likely route of exposure under normal use)</i>
Immediate Symptoms	<i>none known</i>
Response	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing.
If feeling unwell	Call a POISON CENTRE/doctor
IF SWALLOWED	P301, P330, P331, P312 <i>(Not a likely route of exposure under normal use)</i>
Symptoms	<i>none known</i>
Response	Rinse mouth. Do NOT induce vomiting.
If feeling unwell	Call a POISON CENTRE/doctor.

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Section 5: Fire Fighting Measures

Auto-ignition Temperature	Not established	Flash Point ^{a)}	>550 °C [>1022 °F]	LFL [LEL] ^{b)} UFL [UEL]	Not established
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In case of fire P370

Response P378: Use carbon dioxide, dry chemical, chemical foam, or water spray to extinguish. Use water spray to cool containers.

Combustion Products Produces carbon oxides (CO,CO₂), nitrogen oxides (NO_x), aluminum oxides, boron oxides, toxic fumes, and smoke.

Fire-Fighter Wear self-contained breathing apparatus for fire fighting

General Information Toxic metal fumes may be released in fire. Prevent fire-fighting wash from entering waterway or sewer system.

a) Based on synthetic oil component Cleveland open cup value

b) LFL = Lower Flammability [or Explosion] Limit (in volume %);

UFL = Upper Flammability [or Explosion] Limit (in volume %)

Section 6: Accidental Release Measures

Personal Protection: See Section 8. Avoid breathing the mist/vapors.

Containment Remove all sources of ignition.

Cleaning Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe up further residue with paper towel and place dirty towels in container. Wash spill area with soap and water 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 P270: Do not eat, drink, or smoke when using this product.

Handling P280: Wear protective gloves/clothing/eye protection.

RECOMMENDATION: Wear neoprene, butyl rubber, nitrile or other impervious gloves with breakthrough time greater than intended use period.

P264: Wash hands thoroughly after handling.

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	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
aluminum oxide (dust/mist)	ACGIH	1 mg/m ³	Not established
	U.S.A. OSHA PEL	15 mg/m ³ a)	—
	Canada AB	10 mg/m ³	Not established
	Canada BC	3 mg/m ³	10 mg/m ³
	Canada ON	Not established	Not established
	Canada QC	10 mg/m ³	Not established
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 dust	Canada QC	2 mg/m ³	10 mg/m ³
	Canada QC	10 mg/m ³	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH², OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS database¹ 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.

a) Total dust limit allowed

b) Respirable airborne particles

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SUPER THERMAL GREASE II**8616****Engineering Controls**

Ventilation 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.

RECOMMENDATION: Use of protective gloves in butyl rubber, latex, neoprene, or other chemically resistant gloves.

Respiratory Protection In the unlikely event of exposure to mist, 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	Liquid	Appearance	White, grease
Odor	Low odor	Odor Threshold	Not available
pH	Not available	Specific Gravity	2.74
Solubility in Water	<0.1%	Freezing/Melting Point	Not available
Boiling Point	Not available	Evaporation Rate	Not available
Flash Point ^{a)}	>550 °C [>1022 °F]	Vapor Pressure @ 20 °C	Not available
Lower Flammability Limit	Not applicable	Upper Flammability Limit	Not applicable
Auto-ignition Temperature	Not available	Decomposition Temperature	Not available
Viscosity @25 °C	1 000 000 mm ² /s	Vapor Density	Not available
Partition Coefficient	Not available		

a) Based on synthetic oil component Cleveland open cup value

Section 10: Stability and Reactivity

Stabilities	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Very high heat (such as soldering or welding) and incompatible substances.
Incompatibilities	Halogenated compounds, strong oxidizing agents, strong acids, strong bases
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5

SUPER THERMAL GREASE II**8616****Section 11: Toxicological Information****Likely Routes of Exposure**

Eyes, skin, and inhalation

Symptoms Summary

Eyes May cause mild eye irritation, redness or pain. The aluminum oxide and zinc oxide are mechanically abrasive.

Skin May causes mild skin irritation.

Inhalation Fumes or gases from product when heated to extreme temperatures can cause metal fume fever and toxic gas emissions.

Ingestion No acute toxicity effect known. May cause irritation.

Chronic Prolonged or repeated inhalation exposure to aluminum oxide particles may lead to lung scarring and reaction to dust deposition in the lungs.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation
aluminum oxide	>5 000 mg/kg Rat ^{a)}	Not established	Not established	Not established
zinc oxide	7 950 mg/kg Rat	Not established	2 500 mg/m ³ mouse	Not established

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.

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SUPER THERMAL GREASE II**8616****Other Toxicological Effects**

Skin corrosion/irritation	No data available
Serious eye damage/irritation	Severe to moderate eye irritants.
Sensitization (allergic reactions)	No data 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)	No data available
Reproductive Toxicity (risk to sex functions)	No data available
Teratogenicity (risk of fetus malformation)	No data available
STOT-single exposure	No data available
STOT-repeated exposure	No data 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 LC50 of 0.042 mg/L) that is harmful to the environment.

The synthetic is reported by the supplier to be a Category 4 chronic aquatic toxicant.

Acute Ecotoxicity

Category 1

GHS Code: Hazard Statement

H400: Very toxic to aquatic life

P273: Avoid release to the environment

P391: Collect spillage

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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

Other Effects

Regulated Volatile Organic Content (VOC) = 18% (485 g/L)

Section 13: Disposal Information

P501: 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 5 liters and under

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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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



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.

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SUPER THERMAL GREASE II**8616****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.

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.

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

This product does not contain any of the listed substances.

Europe**RoHS**

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, and complies with European RoHS regulations.

WEEE

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

MSDS Prepared by	Michel Hachey
Date of Issue	15 October 2013
Supersedes	01 October 2013
Reason for Changes:	Change manufacturer part number in Section 1.

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SUPER THERMAL GREASE II**8616****Reference**

- 1) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)
- 2) 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 (2011).

Abbreviations

ACGIH American Conference of Governmental Industrial Hygienists
GHS: Globally Harmonized System of Classification of Labeling of Chemicals
LC50 Lethal Concentration 50%
LCLo Lowest published lethal concentration
LD50 Lethal Dose 50%
N/A Not Applicable
N/E Not Estimated
PEL Permissible Exposure Limit
STEL Short-Term Exposure Limit
TCLo Lowest published toxic concentration
TWA Time Weighted Average
VOC Volatile Organic Content
WEEL Workplace Environmental Exposure Levels

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.

Email: support@mgchemicals.com

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