Silicone Heat Transfer Compound 860 Technical Data Sheet

Description

The 860 *Silicone Heat Transfer Compound* is a low thermal resistance grease with a silicone base that is electrically insulating and non-corrosive. It is used to improve the thermal interface contact conductivity between heat sinks, LEDs, motors, and heat-generating electronic components such as CPUs, GPU chipsets, power components, and so on. It improves the thermal interface between irregular and pitted surfaces.

Benefits & Features

- **High thermal conductivity**
- **Lowers the contact resistance between irregular surfaces.**
- **Extends the life of electronic components**
- **High dielectric strength**
- **Safe on plastics**

Application and Storage Conditions

Properties	*Value*
Shelf Life	5 year
Storage Temperature Limits	-10 to +40 °C [14 to +104°F]

Temperature Service Ranges

Properties	*Value*
Service Temperature	-40 to +200 °C [-40 to +392 °F]
Maximum coverage for 254 µm [10 mil] thickness a)	<118 cm^2 [<0.127 ft^2]

a) Theoretical coverage per 3 mL [0.1 fl oz] assuming 100% transfer efficiency.

Principal Components

Name	***CAS Number***
Polydimethyl siloxane fluids	*proprietary*
Zinc oxide (thermally conductive filler)	*1314-13-2*
Amorphous silica (filler)	10043-*11-5*

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Properties

Conductivity Properties	*Method*	*Value*
Thermal Conductivity @25 °C	Hot Wire Method Heat Flow	0.66 W/(m·K) 4.6 Btu·in/(h·ft²·°F)
Volume resistivity(ρ_v)		1.5×10^{15} Ω/cm³
Dielectric strength @ 0.254 mm [0.01 mil]	ASTM D 149	16 kV/mm [400 V/mil]
Dielectric Constant	ASTM D 150	3.81
Dissipation Factor	"	0.0032

Physical Properties	*Method*	*Value*
Color		White
Filler		Zinc oxide, Silica
Odor		Odorless
Density @25 °C		2.3—2.4 g/mL
Drop Point	ASTM D 566	>260°C [>500 °F]
Corrosivity		Non-corrosive
%Evaporation weight loss @ 200 °C, 24 h		<2%
Lubricant		No
Bleed @200 °C, 24 h		≤2% by weight

Storage

Store between -10 °C and +40 °C [14°F and 104 °F] in dry area.

Health, Safety, and Environmental Awareness

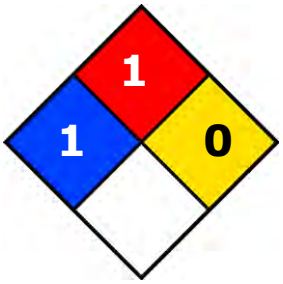
Please see the 860 **Safety Data Sheet** (SDS) for greater details on transportation, storage, handling and other security guidelines.

Health and Safety: This product presents low physical and health hazards. Follow good hygiene practices.

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)

Environmental Impact: The zinc oxide is classified as a marine pollutant by IMDG criteria. All standard sizes provided can ship as limited quantity products. The 4 g pouch sizes can ship as exempted quantity for dangerous good.

Application Instructions

The conductive grease performance depends on mainly on surface preparation. Improperly prepared contact surfaces can degrade the paste's stability, conductivity, and lubrication characteristics. While the thickness and coverage are also important, the application method itself can easily be adjusted according to performance and application needs.

Prerequisites

- Clean and dry the surface of the substrate to remove other oils and greases, as well as dust, water, solvents, or any other contaminants.

Recommendations: Use MG 4050 Safety Wash Cleaner, MG406B Super Wash Cleaner, or MG 824 Isopropyl Alcohol.

Equipment

- Lint free cloth (for cleaning contact and for wiping excess residue)
- Spatula or stick application tools (sized appropriately for your application).
- Isopropyl alcohol or other residue-free organic solvents.

To apply the grease

1. Wipe the contact with a lint-free cloth
2. Clean the contacts with isopropyl alcohol or other non-oil based cleaner.
3. Once dry, dispense grease onto the surface.

Packaging and Supporting Products

Cat. No.	*Format*	*Net Volume*		*Net Weight*		*Transport Weight*	
860-4G	Pouch	1.7 mL	0.06 fl oz	4 g	0.13 oz	0.56 kg [a)]	1.2 lb
860-60G	Jar	25 mL	0.85 fl oz	60 g	1.8 oz	0.59 kg [a)]	1.3 lb
860-150G	Tube	62.5 mL	2.11 fl oz	150 g	4.82 oz	0.18 kg	0.40 lb
860-1P	Can	417 mL	14.1 fl oz	1.0 kg	2.2 lb	1.06 kg	2.34 lb

a) Case pack of 100 pouches
b) Case pack of 5

Cleaning Fluids

- *Super Wash Liquid*: Cat. No. 4050-1L, and so on
- *Super Wash Electronic Cleaner*: Cat. No. 406B-425G
- *Isopropyl Alcohol (anhydrous, high purity)*: Cat. No. 824-W or 824-100ML, and so on.

Technical Support

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

Phone: 1-800-340-0772 Ext. 1030 (Canada, Mexico & USA)
1-905-331-1396 Ext. 1030 (International)
Fax: 1-905-331-2862 or 1-800-340-0773

Mailing address:

Manufacturing & Support
1210 Corporate Drive
Burlington, Ontario, Canada
L7L 5R6

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

Warranty

M.G. Chemicals Ltd. warranties this product for 12 months from the date of purchase by the end user. *M.G. Chemicals Ltd.* makes no claims as to shelf life of this product for the warranty. The liability of *M.G. Chemicals Ltd.* whether based on its warranty, contracts, or otherwise shall in no case include incidental or consequential damage.

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