

## Description

The 8617 *Super Thermal Grease—Zinc Oxide Free* is a low thermal resistance, non-corrosive grease. It uses an extremely thermal stable synthetic oil base that is electrically insulating. 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**
- **Silicone and ZnO Free**
- **Lowers the contact resistance between irregular surfaces.**
- **Extends the life of electronic components**
- **High dielectric strength**
- **Non-bleeding**
- **Safe on plastics**

## Application and Storage Conditions

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

## Temperature Service Ranges

<i>Properties</i>	<i>Value</i>
Service Temperature	-68 to +165 °C [-90 to +329 °F]
Maximum coverage per 85 mL for 25 µm [1.0 mil] thickness <sup>a)</sup>	<33 500 cm <sup>2</sup> [<36 ft <sup>2</sup> ]

a) Theoretical coverage per 85 mL [2.9 fl oz] assuming 100% transfer efficiency.

## Properties

<i>Conductivity Properties</i>	<i>Method</i>	<i>Value</i>
Thermal Conductivity @25 °C	ASTM E 1461	≥1.0 W/(m·K) ≥6.5 Btu·in/(h·ft <sup>2</sup> ·°F)
Heat Capacity @25 °C		1.11 J/(g·°C)

<i>Physical Properties</i>	<i>Method</i>	<i>Value</i>
Color		White
Filler		Aluminum oxide and boron nitride
Odor		Odorless
Density @25 °C		1.96 g/mL
Viscosity		thixotropic grease
Drop Point	ASTM D 2265	>300°C [>572 °F]
Oil Separation (Boeing test) <sup>b)</sup>		None
Corrosivity		Non-corrosive
Lubricant		No
Bleed resistant		Yes

a) Brookfield viscometer @ 6 rpm with spindle RV # 7

b) After ten cycles from -40 °C to 121 °C.

c) Aluminum 2024 coupons with 254 µm [10 mil] film thickness and 1000 hours exposure to 5% salt spray

d) According to WHIMS regulation

<i>Synthetic Oil Properties</i>	<i>Method</i>	<i>Value</i>
Oil viscosity index <sup>a)</sup>	ASTM D 2270	>110
Fire Point <sup>b)</sup>	ASTM D 92	321 °C [559 °F]
Flash Point	ASTM D 92	>290 °C [550 °F]

*Note:* Values based on synthetic oil component only.

a) High oil viscosity index of more than a 100 indicate small oil viscosity change with temperature.

b) Temperature at which oil will continue to burn for at least 5 s after ignition with an open flame.

## Storage

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

## Health, Safety, and Environmental Awareness

Please see the 8617 **Safety Data Sheet** (SDS) for greater details on transportation, storage, handling and other security guidelines.

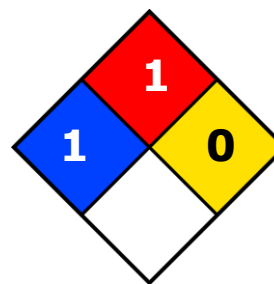
**Environmental Impact:** The volatile organic content is 8% by WHMIS and European standards. Not regulated as a dangerous good for transport.

**Health and Safety:** Wear safety glasses and disposable gloves to avoid exposures.

### HMIS® RATING

<b>HEALTH:</b>	<b>1</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)

## 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

- Wear gloves and protective clothing.
- 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 401B Nutrol Control 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, spread grease in a thin layer onto the surface.

## Packaging and Supporting Products

<i>Cat. No.</i>	<i>Form</i>	<i>Net Volume</i>		<i>Net Weight</i>	
<b>8617-85ML</b>	Grease	85 mL	2.9 fl oz	180 g	5.82 oz
<b>8617-1P</b>	Grease	517 mL	1.1 pt	1.10 kg	2.42 lb
<b>8617-1G</b>	Grease	3.78 L	1.0 gal	8.10 kg	17.9 lb

## 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](http://www.mgchemicals.com).

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## Warranty

*M.G. Chemicals Ltd.* warrants 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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