

Products / Interface Materials / Greases

Thermal Greases

- » [Sil-Free™ RoHS Compliant](#)
silicone-free synthetic thermal grease
- » [Ther-O-Link RoHS Compliant](#)
silicone-based thermal grease
- » [Ultrastick RoHS Compliant](#)
silicone-free solid phase change compound in convenient application bar
- » [Conducta-Cote™ RoHS Compliant](#)
Conductive thermal grease on a pre-coated alum carrier
- » [Thermalcote™ RoHS Compliant](#)
silicone-based thermal compound in a synthetic base fluid for efficient application
- » [Thermalcote™II RoHS Compliant](#)
silicone-free thermal compound in a synthetic base fluid for efficient application

Sil-Free™

Sil-Free™ 1020 is a metal-oxide-filled, silicone-free synthetic grease specially formulated to enhance heat transfer across the interface between the semiconductor case and the heat sink without the migration or contamination associated with silicone-based products.



Dry interface case-to-sink thermal resistance is typically reduced 50% to 75% with proper application of Sil-Free™ 1020.

This virtually "no-bleed", high-performance compound will not dry out, harden, melt, or run, even after long-term continuous exposure to temperatures up to 200°C. Even in a vacuum atmosphere (10⁻⁵ Torr, 24 hours@100°C), Sil-Free™ 1020 exhibits virtually "no bleed" or evaporation.

» [MSDS Safety Sheet for Sil-Free in PDF format 104K](#)

Color	White
Thermal Conductivity	0.79 W/(m·°C)

Operating Temperature Range	-40°C to 200°C
Volume Resistivity	2.3 x 10 ¹² Ohm-cm
Weight	47.5 grams
Dielectric Strength	225 Volts/mil
Consistency	Paste
Bleed	0.09 max
Specific Gravity	2.8
Shelf Life	Indefinite ¹ (unopened) One Year (opened)

(1) It is recommended that the containers be turned over every 6 months to minimize settling for ease of mixing.






Sil-Free™ Resistance Calculator

Enter the area of the device that will contact the heat sink:	mm ²
Enter the grease thickness:	mm
Interface Resistance =	

Formula

$$\text{interface resistance} = \frac{\text{interface thickness (mm)} * 1000}{\text{thermal conductivity (W/m-K)} * \text{contact area (mm}^2\text{)}}$$

Ordering Information

Part Number	RoHS	PCN	Package	Size
101700F00000G	RoHS ✓ Compliant		Syringe	43 grams (1.5 Oz.)
101800F00000G	RoHS ✓ Compliant		Tube	57 grams (2.0 Oz.)
101900F00000G	RoHS ✓ Compliant		Jar	57 grams (2.0 Oz.)
102000F00000G	RoHS ✓ Compliant		Tube	143 grams (5.0 Oz.)
102100F00000G	RoHS ✓ Compliant		Jar	457 grams (16.0 Oz.)

RESIN TECHNOLOGY GROUP, LLC

MATERIAL SAFETY DATA SHEET

1. MATERIAL IDENTIFICATION

Product Name: **THEROLINK 1000**

2. COMPOSITION

HAZARDOUS COMPONENTS	CAS NO.	PERCENT	Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL
Zinc Oxide as Zinc	1314-13-2	< 80	10 mg/m ³	N.E.

Abbreviations: N.E. = Not Established

3. HEALTH HAZARDS IDENTIFICATION

Routes of Exposure: Eyes: Yes Skin: Yes Inhalation: No

Eye Contact: May cause irritation.

Skin Contact: Effects are not known.

Inhalation: Effects are not known.

Ingestion: Effects are not known.

4. FIRST AID MEASURES

Eyes: Flush eyes with water for at least 15 minutes while holding eyelids open. Seek medical attention if symptoms persist.

Skin: Remove contaminated clothing, wipe excess from skin, and flush with water for 15 minutes. Follow by washing with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists, obtain medical attention.

Inhalation: Remove to fresh air, and provide oxygen or artificial respiration if needed.

Ingestion: Do not induce vomiting. Give milk or water. Get immediate medical attention. Careful evacuation of stomach by medical personnel imperative.

5. FIRE FIGHTING MEASURES**FLAMMABLE PROPERTIES**

Flashpoint:	>300 °F, estimated
Explosive Limits:	Not determined
Auto-Ignition Temperature:	Not determined
Hazardous Decomposition Products:	Zinc fumes, oxides of carbon, zinc, and silicone

Fire Fighting Instructions: When sufficiently large quantities are present, firefighters should be equipped with full bunker gear, including a positive pressure, NIOSH approved, self-contained breathing apparatus.

Extinguishing Media: Use water fog, carbon dioxide, dry chemical, or an appropriate foam.

6. ACCIDENTAL RELEASE MEASURES

Ventilate the spill area, and evacuate if necessary. Remove all ignition sources. Absorb with a suitable material, and dispose of properly. Clean-up personnel should use adequate protective equipment, including respiratory protection.

7. HANDLING AND STORAGE

Store in a cool, dry place. Keep away from ignition sources and high temperatures. Avoid contact with incompatible materials. Wear protective eyewear, chemical-resistant gloves, and other protective clothing as appropriate.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering/Ventilation Controls: General ventilation and local exhaust may be required to maintain airborne concentrations below the established exposure limits exposure when generating vapors or mists.

Respiratory Protection: When local ventilation is unavailable and airborne limits are exceeded, a NIOSH-approved respirator, a supplied-air respirator, or a self-contained breathing apparatus is required.

Skin Protection: Impervious gloves and protective clothing should be worn as necessary.

Eye Protection: Chemical splash goggles or safety glasses with side shields should be worn as appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/State:	Soft white paste
Odor:	Not determined
Specific Gravity:	2.58
Solubility in Water:	Negligible
pH:	Not determined
Boiling Point:	Not determined
Freezing Point:	Not determined
Vapor Pressure (mmHg):	Not determined
Vapor Density (air=1):	Not determined