

## GC HEAT SINK COMPOUNDS

### Meets Your Great Demands

The technology of today's electronic devices has increased current handling capacity. The additional heat buildup places great demands on heat sink materials. GC offers a complete line of heat sink compounds to meet these demands. The HTC product offers over twice the thermal conductivity of conventional products and is available in silicone and non-silicone versions. The water-soluble heat sink grease offers excellent thermal conductivity and easy cleanup. The standard silicone and non-silicone products continue to meet most requirements. See chart for typical properties.



### Silicone (Z9)



Industry standard zinc oxide filled silicone heat sink grease for most applications. Will not soften at elevated temperatures or dry out or harden. Meets Mil. Spec. C-47113.

<b>Part No. 10-8109</b>	1 fl. oz. Tube
<b>Part No. 10-8108</b>	6.5 gms. Tube
<b>Part No. 10-8106</b>	1 lb. Can
<b>Part No. 10-8106-5GL</b>	5 gal. can



### Water Soluble



Easy clean-up, non-migrating. Eliminates use of solvents, is non-reactive, exhibits excellent dielectric properties.

<b>Part No. 10-8132</b>	1 oz. Syringe
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### Type 44 Non-Silicone



Compounded with 100% synthetic base stocks. Features excellent heat transfer efficiency, thermal stability, high flow rate, no separation, bleed or migration typical of silicone based greases. MIL-C-47113 Type 2.

<b>Part No. 10-8118</b>	1/2 fl. oz. Jar
<b>Part No. 10-8120</b>	1 fl. oz. Tube
<b>Part No. 10-8126</b>	1 lb. Jar



### HTC (High Thermal Conductivity)

Higher thermal conductivity formula has all the same benefits of conventional heat sink greases, plus is exceptionally stable in high humidity applications. Available in silicone and non-silicone versions.

<b>Part No. 10-8135</b>	Silicone Based, 1 oz. Syringe
<b>Part No. 10-8135-1</b>	Silicone Based, 1lb. Jar

### Heat Sink Properties (Typical)

Tests	Test Methods	10-8106 10-8108 10-8109 Standard Silicone	10-8118 10-8120 10-8126 Standard Non-Silicone	10-8135 H.T.C. Silicone	10-8132 Water Soluble Non-Silicone
Appearance	Visual	White Paste	White Paste	Off-White Paste	White Paste
Consistency Penetration 60 Strokes @ 77°F	ASTM D-217	290	260	250-350	250-350
Specific Gravity	ASTM D-70	2.4	2.5	2.7	2.8
Bleed, 24 Hrs. %Wt. 150°C 200°C	FTM-321 PTM-791.321	1/10%	<0.5	0.3	1.00
Evaporation, 24 Hr. %Wt. 150°C 200°C	FTM-321 PTM-791.321-3M	3/10%	0.1	0.3	1.00
Thermal Conductivity CAL/SEC cm °K	Modified DSC	1.8 x 10 <sup>-3</sup>	1.8 x 10 <sup>-3</sup>		
	Hot Wire Method			4.35 x 10 <sup>-3</sup>	2.82 x 10 <sup>-3</sup>
Dielectric Strength 0.050" gap volts/mil.	ASTM D-149	400	420	343	265
Dielectric Constant 1000 Hz	ASTM D-150	4.9	4.5	5.14	
Dissipation Factor 50 Hz, Ohm-cm 1,000 Hz, Ohm-cm	ASTM D-150	0.005 0.001	0.0029 0.0029	0.0031	0.0022
Volume Resistivity Ohm-cm	ASTM D-257	2 x 10 <sup>15</sup>	2 x 10 <sup>15</sup>	1 x 10 <sup>15</sup>	3.36 x 10 <sup>13</sup>
Operating Range		-40°F to 400°F	-22°F to 390°F	-55°C to 205°C	-40°C to 150°C
Arc Resistance, RT Unit: SEC	ASTM D-495	77	130	250	
Shelf Life Months		60	60	60	

**MATERIAL SAFETY DATA SHEET**

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Heat Sink Compound  
 Product Name: **Heat Sink Type 44 Non-Silicone**  
 Part Number(s): **10-8118**  
**10-8120**  
**10-8126**

**Section 1 - Identification of Product**

HMIS Ratings:	NFPA	Least	0
	Fire	Slight	1
Health	1	Moderate	2
Flammability	0	High	3
Reactivity	0	Extreme	4
PPI	Spec.Hzd	Gloves, Safety Glasses B	
			No

**Section 2 - Hazardous Ingredients**

		CAS #
Zinc Oxide*		1314-13-2
00840600	#5000P	(Trade Secret)
00840600	#5001P	(Trade Secret)
00840600	#5002P	(Trade Secret)

\*The Zinc Oxide in this product is in paste form and will not pose a threat.

•Based on the data available to GC Electronics, this product is not considered a hazard under OSHA Hazard Communication Standard 29 CFR 1910.1200.

**Section 3 - Physical Data**

Specific Gravity:	2.7 (H <sub>2</sub> O=1)	Vapor Pressure:	<0.1 mm Hg
Physical Appearance:	White paste	pH:	Not relevant
Odor:	Odorless	Boiling Point:	>400°F/>204°C
Water Solubility:	Insoluble	Evaporation Rate:	<0.01 (butyl acetate=1)
Freezing Point:	Not relevant	Vapor Density:	Not relevant

**Section 4 - Fire & Explosion Hazard Data**

Flash Point Method: 565° F/296°C (COC)  
Flammable Limits: LEL: N/A UEL: N/A  
Extinguishing Agents: Dry chemical (X) CO<sub>2</sub> (X) Foam (X)  
Unusual Fire & Explosion Hazards: None known.  
Fire-fighting Instructions: Wear self-contained breathing apparatus for enclosed or confined areas.

**Section 5 - Health Hazard Data**

Potential Health Effects:  
Eyes: May cause irritation.  
Skin: Prolonged exposure may cause irritation.  
Inhalation: None known.  
Ingestion: Unknown.

**Emergency & First Aid Procedures**

Eyes: Flush eyes with water.  
Skin: Wash skin  
Inhalation: Not available.  
Ingestion: If ingested, do not induce vomiting. Consult a physician.  
Note to Physician: No further data known.

**Section 6 - Reactivity Data**

General: Product is stable, hazardous polymerization will not occur.  
Materials and Conditions to Avoid: Strong oxidizing agents.  
Hazardous Decomposition Products: None known.

**Section 7 - Spill or Leak Procedures**

Steps to be taken in case of spill: Collect product and repackage in a container.  
Handling:  
Storage Temperature: Ambient.  
Storage Pressure: Atmospheric  
Waste Disposal Method: Incinerate or dispose of materials in accordance with local, state and federal regulations.  
Precautions in Storage: Keep containers closed when not in use.

**Section 8 - Special Protection Information**

Respiratory Protection:	Not necessary.
Ventilation	Under normal conditions, no special ventilation is needed.
Skin Protection:	Gloves are not necessary
Eye Protection:	Safety glasses are not necessary.
Work Hygienic Practices:	Safety glasses and gloves are recommended.

**Section 9 – Special Precautions**

Precautions in Storage:	
Storage Temperature:	Ambient
Storage Pressure:	Atmospheric
General:	Keep containers closed when not in use.

**Section 10 - Regulatory Information**

Federal Regulations:	
Toxic Substances Control Act:	All ingredients are on the Toxic Substances Control Act (TSCA) Inventory list or are not required to be listed. If you export this product, please ensure that the ingredients meet the inventory listing requirement of the receiving company.
DOT Hazardous Material Information:	
Shipping Name:	Not regulated
Hazard Class:	None
UN#:	None
Packing Group:	None
Carton Marking:	None

UNK means unknown  
EST means estimated