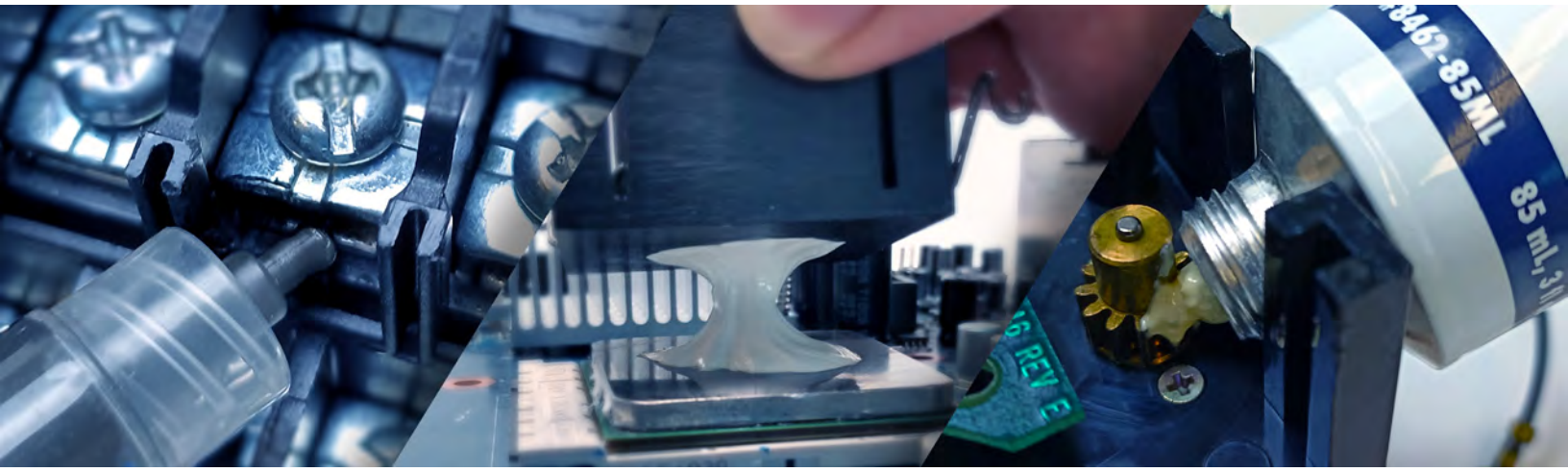
Greases for Electronics



MG Chemicals' comprehensive line of greases and lubricants address the many needs of the electronic components industry, such as, improving electrical and thermal conductivity, protection against mositure, corrosion and electrical shorts from arcing, and lubrication for moving parts

Applications

- Prevents pitting and arcing caused by voltage surges
- Forms electrical bridges ideal for connecting components or making ground connections
- Conducts heat away from circuits preventing overheating

Industries

- Aerospace
- Automotive
- Communications
- Consumer Electronics
- Electric Vehicles
- Instrumentation
- Medical Equipment
- Research

Dielectric Grease

8462
- Silicone grease that repels water and protects against corrosion
- Service temperature range of -50 to 250 °C

Electrically Conductive Grease

846
- Silicone-based, carbon-filled, lubricating grease
- Resistivity of 63 Ω·cm

8463A
- Silicone-based, silver-filled, lubricating grease
- Resistivity of <0.2 Ω·cm
- Service temperature range of -50 to 200 °C

8481
- Silicone-free, carbon-filled, lubricating grease
- Resistivity of 160 Ω·cm

847
- Silicone-free, carbon-filled, non-lubricating paste
- Resistivity of 23 Ω·cm

Lubricating Grease

8461
- White lithium grease with excellent lubrication and corrosion protection

Thermal Paste

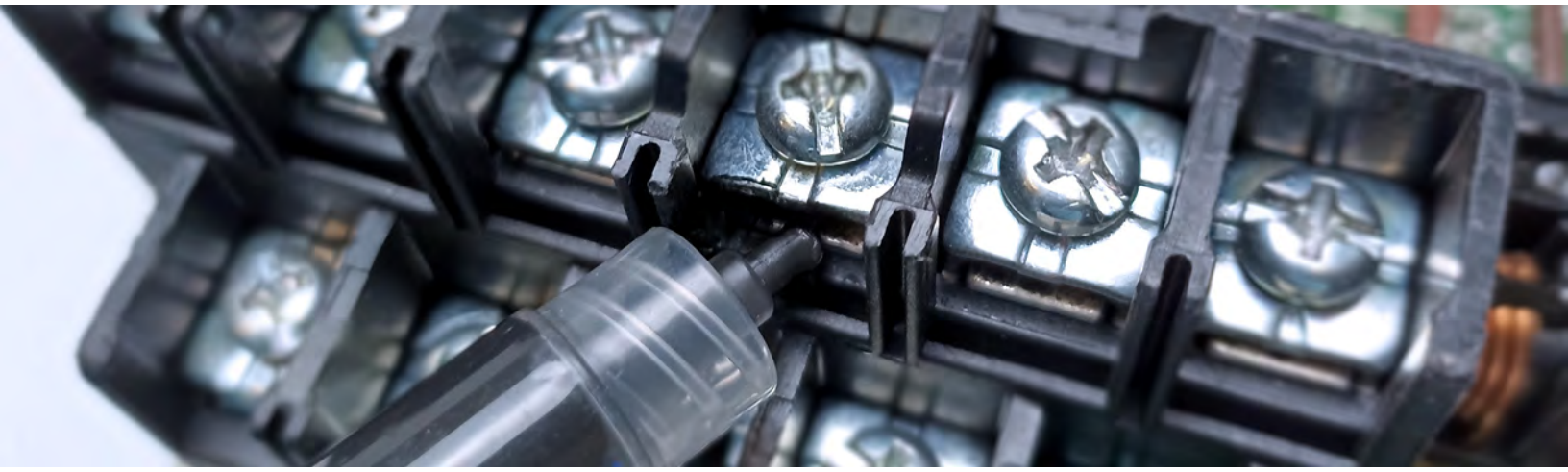
860
- Silicone-based
- Service temperature range of -40 to 200 °C
- Thermal conductivity of 0.7 W/(m·K)

8616
- Silicone-free
- Service temperature range of -70 to 165 °C
- Thermal conductivity of 2.0 W/(m·K)

8617A
- Silicone-free
- Service temperature range of -55 to 200 °C
- Thermal conductivity of 3.0 W/(m·K)

8618
- Silicone-free
- Service temperature range of -55 to 200 °C
- Thermal conductivity of 6.0 W/(m·K)

Electrically Conductive Greases



MG Chemicals offers a full line of electrically conductive greases as easy-to-use options when a contact grease for electrical connection between neighboring components is required. Conductive greases for electronics efficiently lubricate moving parts, offer superior protection against corrosion and help ensure electrical continuity between irregular surfaces.

Features & Benefits

- Excellent corrosion resistance
- RoHS and REACH compliant
- Lubricates moving parts
- Prevents pitting and hotspots
- Wide operating temperature

Applications

- Connecting battery terminals
- Bridging electrical gaps on tracks
- Electrical bridging for moving parts, such as rotary switches, connectors, and potentiometers

Silicone-Based

846
- Economical, carbon-filled, conductive lubricating grease
- Resistivity of 63 Ω·cm
- Broad service temperature range of -50 to 200 °C

8463A
- Silicone-based, silver-filled, conductive lubricating grease
- Broad service temperature range of -70 to 200 °C

Silicone-Free

8481
- Carbon-filled, conductive lubricating grease
- Resistivity of 104 Ω·cm

847
- Carbon-filled, conductive, non-lubricating paste
- Resistivity of 23 Ω·cm

Emcor Rust Rating

0 No corrosion

1 No more than 3 rust spots visible to the eye

2 Small corroded areas covering <1% of the running track surface

3 Corroded areas covering >1% and <5% of the running track surface

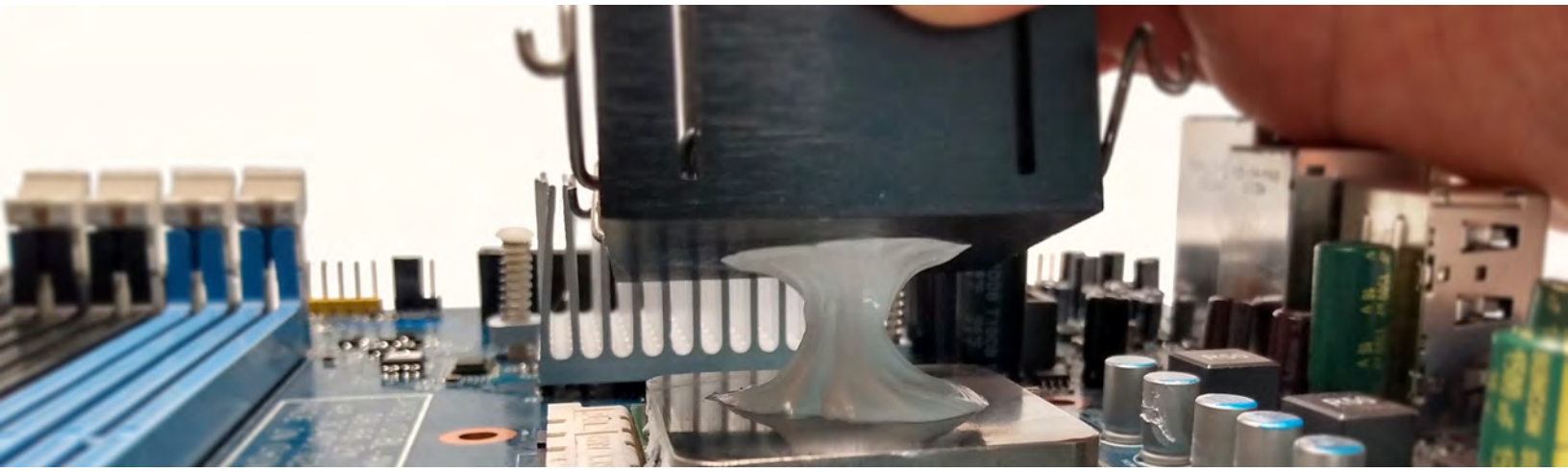
4 Corroded areas covering >5% and <10% of the running traack surface

See comparison chart on the next page for MG Chemical's product Emcor Rust rating.

Electrically Conductive Greases

	846	8463A	8481	847
PROPERTIES				
Color	Black	Greyish yellow	Black	Black
Filler	Carbon	Silver-coated aluminum	Carbon, graphite	Carbon, graphite
Base Material	Silicone oil	Silicone oil	Synthetic oil	Synthetic oil
Density	1.1 g/mL	1.8 g/mL	1.0 g/mL	1.1 g/mL
Viscosity	80.3 Pa·s	—	128 Pa·s	—
Resistivity	63 Ω·cm	<0.2 Ω·cm	104 Ω·cm	23 Ω·cm
Thermal Conductivity @ 25 °C	—	1.0 W/(m·K)	0.29 W/(m·K)	—
Evaporation Loss, 22 h @ 165 °C	2.6%	1.0%	2%	0.3%
Oil Separation, 30 h @ 165 °C	0.4%	0.11%	5%	1.8%
Dropping Point	>304 °C	—	—	>304 °C
Worked Penetration, ½ scale	269	335	—	174
Water Washout @ 38 °C Bearing Dried @ 77 °C	1.3%	—	0.9%	0.2%
Rust Preventive, 48 h @ 52 °C Bearing A Bearing B Bearing C	Fail Pass Fail Fail	—	Pass Pass Pass Pass	Fail Fail Fail Fail
Emcor Rust Test, DI Water, Bearing A	1	—	0	3
Service Temperature	-50 to 200 °C	-70 to 200 °C	-70 to 165 °C	-70 to 165 °C
AVAILABLE PACKAGING				
Net contents	76.2 mL (Tube) 495 mL (Jar) 3.78L (Pail) 18.9L (Pail)	3 mL (Syringe)	85 mL (Tube) 462 mL (Jar) 3.78L (Pail)	25 mL (Jar) 466 mL (Jar) 3.78L (Pail)

Thermal Pastes



MG Chemicals offers a full line of thermal pastes with a range of operating temperatures and thermal conductivities that enable the end-user to select the best thermal paste based on their needs. When placed between heat-generating components and heat sinks, a thermal paste displaces air pockets, which ensures full contact between the two surfaces, and prevents overheating

Features & Benefits

- High thermal conductivity
- Non-electrically conductive
- Excellent corrosion resistance
- Thixotropic, non-sagging
- Odorless

Applications

- Thermal management for computers and game system consoles
- Heat-dissipation for motors and LEDs

Silicone

860
- Service temperature range of -40 to 200 °C
- Thermal conductivity of 0.7 W/(m·K)

Silicone-Free

8616
- Service temperature range of -70 to 165 °C
- Thermal conductivity of 2.0 W/(m·K)

8617A
- Service temperature range of -55 to 200 °C
- Thermal conductivity of 3.0 W/(m·K)

8618
- Service temperature range of -55 to 200 °C
- Thermal conductivity of 6.0 W/(m·K)

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Thermal Pastes

	SILICONE	SILICONE-FREE		
	860	8616	8617A	8618
PROPERTIES				
Color	White	White	White	Grey
Filler	Zinc oxide	Zinc oxide, alumina, boron nitride	—	—
Base Material	Silicone oil	Synthetic oil	Synthetic oil	Synthetic oil
Density	2.4 g/mL	2.6 g/mL	2.7 g/mL	2.4 g/mL
Viscosity	490 Pa·s	365 Pa·s	220 Pa·s	700 Pa·s
Resistivity	1.5×10^{15} Ω·cm	1.8×10^{11} Ω·cm	10^{14} Ω·cm	10^{9} Ω·cm
Thermal Conductivity @ 25 °C	0.7 W/(m·K)	2.0 W/(m·K)	3.0 W/(m·K)	6.0 W/(m·K)
Dissipation Factor	0.003 @ 1 000 cps	0.01 @ 1 000 cps	0.017 @ 1 kHz	0.12 @ 1 kHz
Service Temperature	-40 to 200 °C	-70 to 165 °C	-55 to 200 °C	-55 to 200 °C
AVAILABLE PACKAGING				
Net contents	860-4G, 1.7 mL (Pouch)	8616-3ML, 3 mL (Syringe)	8617A-3ML, 3 mL (Syringe)	8618-3ML, 3 mL (Syringe)
	860-60G, 25 mL (Jar)	8616-25ML, 25 mL (Jar)	8617A-10ML, 10 mL (Syringe)	8618-10ML, 10 mL (Syringe)
	860-150G, 62.5 L (Tube)	8616-85ML, 86 L (Tube)	8617A-85ML, 85 mL (Tube)	8618-85ML, 85 mL (Tube)
	860-1P, 470 mL (Jar)	8616-1P, 483 mL (Jar)	8617A-300ML, 300 mL (Cartridge)	8618-300ML, 300 mL (Cartridge)
	860-3.78L, 3.78 L (Pail)	8616-1G, 3.78 L (Pail)