

Description

The 846 *Carbon Conductive Grease* is an electrically conductive silicone grease for improving electrical connections between sliding surfaces and parts. The 846 grease is designed to lubricate while maintaining good grounding connection. It inhibits corrosion and repels humidity providing an economical way to protect switches or to bridge the gap between contacting surfaces for EMI shielding applications. It is also great for providing electrical continuity between irregular or pitted surfaces.

Applications & Usages

The 846 paste improves electrical conductivity between electrical contacts and inhibits corrosion.

Features and Benefits

- **Improves electrical connections between irregular surfaces**
- **Extends the life of contacts**
- **Safe on plastics**
- **Ensures electrical contact between loose or vibrating parts and small gaps**
- **Volume resistivity of 114 Ω ·cm**

Usage Parameters

| <i>Properties</i> | <i>Value</i> |
|--------------------------|--------------|
| Shelf Life ^{a)} | 5 y |

a) Reported shelf life assumes room temperature storage and unopened container.

Temperature Ranges

| <i>Properties</i> | <i>Value</i> |
|--|----------------------------------|
| Constant Service Temperature | -50 to 200 °C [-58 to 392 °F] |
| Storage Temperature Limits ^{b)} | -40 to 40 °C [-40 to 104 °F] |

b) Room temperature is acceptable. Cold storage avoids material separation and settling. If storing at 25 °C, mix thoroughly to disperse filler before use.

Principal Components

| Name | CAS Number |
|----------------------|-------------------|
| Polydimethylsiloxane | 63148-62-9 |
| Carbon Black | 1333-86-4 |

Properties

| <i>Electrical Properties</i> | <i>Method</i> | <i>Value</i> |
|---|----------------------------|------------------------------|
| Volume Resistivity (ρ_v) | Mil-Std-883J Method 5011.6 | 114 $\Omega \cdot \text{cm}$ |
| Volume Conductivity (σ_v) | " | 0.009 S/cm |
| <i>Grease Properties</i> | <i>Method</i> | <i>Value</i> |
| Evaporation Loss, 22 h @165 °C [329 °F] | ASTM D 2595 | 2.6% |
| Oil Separation, 30 h @165 °C [329 °F] | ASTM D 6184 | 0.4% |
| Dropping Point | ASTM D 2265 | >304 °C [>579 °F] |
| Water Washout @38 °C [100 °F] | ASTM D 1264 | 1.3% |
| Worked Penetration, 60 strokes, 1/2 scale | ASTM D 1403 | 269 |
| Emcor Rust Test, distilled water | IP 220 | #1 ^{a)} |

a) Not more than three rust spots visible to the naked eye

| <i>Physical Properties</i> | <i>Method</i> | <i>Value</i> |
|---------------------------------|-----------------------|-------------------|
| Color | Visual ASTM D 1475 | Black |
| Odor | | Odorless |
| Density @25 °C [77 °F] | | 1.05 g/mL |
| Viscosity | | Thixotropic paste |
| Lubricant | | Yes |
| Bleed Resistant | | No |
| Corrosion Resistant | | Yes |
| VOC (Volatile Organic Compound) | | 0% |

Storage

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

Health, Safety, and Environmental Awareness

Please see the 846 **Safety Data Sheet** (SDS) for greater details on transportation, storage, handling and other security guidelines.

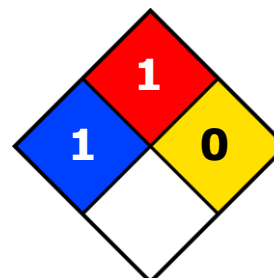
Environmental Impact: The VOC (Volatile Organic Compound) content is 0% by WHMIS and European standards.

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

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)

Application Instructions

The conductive paste performance depends on mainly on surface preparation. Improperly prepared contact surfaces can degrade the pastes' 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 (see 846 SDS). This product is extremely messy.
- Clean and dry the surface of the substrate to remove other oils, greases, dust, water, solvents, or any other contaminants.

Recommendation: Use 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

NOTE: Avoid oil-based cleaners (like WD-40) that are designed to leave a film on the metal surface. Contaminant oil or grease films may act like barriers reducing the electrical contact between the conductive paste and the metallic substrate.



Carbon Conductive Grease 846 Technical Data Sheet

ISO 9001:2008 Registered Quality System. Burlington, Ontario, CANADA SAI Global File: 004008

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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, apply the paste with the application tool to the contact, ensuring adequate coverage and desired thickness.

ATTENTION!

DO NOT apply or smooth grease with bare finger. Carbon black is hard to clean and may transfer to other surfaces by touch. Further, you may introduce contaminants that degrade the overall performance of the grease.

Packaging and Supporting Products

| <i>Cat. No.</i> | <i>Packaging</i> | <i>Net Volume</i> | | <i>Net Weight</i> | | <i>Packaging Weight</i> | |
|------------------|------------------|-------------------|------------|-------------------|---------|-------------------------|---------|
| 846-80G | Tube | 76.2 mL | 2.58 fl oz | 80 g | 2.82 oz | 0.7 kg | 1.5 lb |
| 846-1P | Jar | 495 mL | 1 pt | 520 g | 1.1 lb | 0.55 kg | 1.2 lb |
| 846-3.78L | Pail | 3.78 L | 1 gal | 3.97 kg | 8.75 lb | TBD | |
| 846-18.9L | Pail | 18.9 L | 5 gal | 19.8 kg | 43.7 lb | 21.4 kg | 47.2 lb |

Contact MG Chemicals if custom packaging or sizes are required

TBD=To be determined

Supporting Products

- *Isopropyl Alcohol*: Cat. No.824

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.

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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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