Carbon Conductive Assembly Paste 847 Technical Data Sheet

Description

The 847 *Carbon Conductive Assembly Paste* is an electrically conductive, low-cost, non-silicone product for applications needing stability over wide thermal ranges. The synthetic oil that is used has a low evaporation rate that lets the paste withstand high temperatures without drying. Further, the paste resists separation and bleeding very well, so it is unlikely to contaminate onto nearby areas.

Applications & Usages

The 847 paste improves electrical conductivity between electrical contacts and inhibits corrosion.

Features and Benefits

- **High conductivity** of 0.012 S/cm **and low volume resistivity** of 82 Ω·cm
- **Doesn't separate or bleed like silicone-based oil**
- **Withstands high temperature without drying, bleeding, flowing, or chemical degradation**
- **Lubricates even at low temperature**
- **Non-Corrosive**
- **Zero VOC**

Application and Storage Conditions

Properties	*Value*
Shelf Life	5 y
Maximum coverage for 25 μm [1.0 mil] thickness [a)]	<9 800 cm^2 [<10.6 ft^2]
Storage Temperature Limits	-40 to +40 °C [-40 to +104 °F]

a) Theoretical coverage per 25 mL tube assuming 100% transfer efficiency.

Temperature Service Ranges

Properties	*Value*
Constant Service Temperature	-50 to +175 °C [-58 to +347 °F]
Maximum Withstand Temperature	+200 °C [+392 °F]

Principal Components

Name	***CAS Number***
High Temperature, Synthetic Oil (Non-silicone based)	*proprietary*
Carbon Black	*1333-86-4*

Rev. Date: 26 January 2016 / Ver. 1.06

Properties

Electric Properties	*Value*
Volume resistivity (ρ_v)	82 Ω·cm
Volume Conductivity (σ_v)	0.012 S/cm
Surface resistivity (ρ_s)	271 Ω/sq
Surface Conductivity (σ_s)	0.037 S/sq

Physical Properties	*Value*
Color	Black
Odor	Odorless
Density @25 °C	1.07 g/mL
Oil viscosity index [a), b)]	>110
Viscosity	Paste-like
Pour Point [a)]	≥-34 °C [≥-29 °F]
Fire Point [a)]	~300 °C [~572 °F]
Flash Point [a)]	>290 °C [>554 °F]
Lubricant	Yes
Bleed resistant	Yes
Run resistant	Yes
Corrosive	No

a) Value based on synthetic oil component
b) High oil viscosity index of over 100 indicates small oil viscosity changes with temperature.

Storage

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

Health, Safety, and Environmental Awareness

Please see the 847 **Safety Data Sheet** (SDS) for greater details on transportation, storage, handling and other security guidelines.

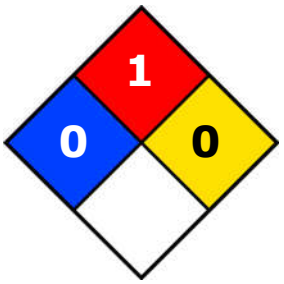
Environmental Impact: The volatile organic content is 0% by WHMIS and European standards.

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

HMIS® RATING

HEALTH:	**0**
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 847-Liquid SDS).
- Clean and dry the surface of the substrate to remove other oils and greases, as well as dust, water, solvents, or any other contaminants.

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.

To apply the paste

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

Cat. No.	*Form*	*Net Volume*		*Net Weight*	
847-25ML	Grease	25 mL	0.85 fl oz	26.8 g	0.86 oz
847-1P	Grease	466 mL	15.7 fl oz	500 g	16 oz
847-1G	Grease	3.7 L	1.0 gal	4.0 kg	8.9 lb
Contact MG Chemicals if custom packaging or sizes are required					

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.

Email: support@mgchemicals.com

Phone: 1-800-340-0772 (Canada, Mexico & USA)
1-905-331-1396 (International)
Fax: 1-905-331-2862 or 1-800-340-0773

Mailing address:

Manufacturing & Support
1210 Corporate Drive
Burlington, Ontario, Canada
L7L 5R6

Head Office
9347–193rd Street
Surrey, British Columbia, Canada
V4N 4E7

Warranty

M.G. Chemicals Ltd. warranties 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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