

Last Reviewed: Apr 2013  
Next Review Due: Apr 2016

MSDS-P-011

## Material Safety Data Sheet PeriFlo Silicone Grease

### 1. Product and Company Identification

**Product Name:** Tribolube-110909C Lubricating Grease

**Identified Uses:** Lubricating Grease  
**Uses advised against:** None known.

**Company:** Aerospace Lubricants, Inc.  
1600 Georgesville Rd.  
Columbus, OH 43228  
USA

**Customer Service:** Tel: (614) 878-3600  
**General E-mail:** info@aerospacelubricants.com

**SDS Prepared by:** Joseph Heer, Ph.D.  
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**Emergency Phone Number:** Tel: (614) 878-3600

### 2. Hazards Identification

**Classification of the substance or mixture according to EU Directives 67/548/EEC or 1999/45/EC:** Non-hazardous.

#### Required Labeling Elements:

**GHS Label Elements, per (EC) No 1272/2008** No special labeling required.  
**OSHA/HCS Elements, per OSHA 29 CFR 1910.1200:** No special labeling required.  
**Risk Phrases:** None.  
**Safety Phrases:** S51 Only use in well-ventilated areas.

**Other Hazards:** Combustible.  
Not a PBT, vPvB substance as per the criteria of the REACH Ordinance.

### 3. Composition / Information on Ingredients

**Substance/Mixture:** Mixture  
**Chemical characterization:** PFPE-based Lubricant

Chemical Name	CAS number	EC Number	Classification		Concentration %
			67/548/ EEC	(EC)1272/2008	
Polydimethylsiloxane	63148-62-9	polymer	67/548/ EEC	(EC)1272/2008	80-90%
			Not classified.	Not classified.	
Polydimethylsiloxane, hydroxy-terminated	70131-67-8	polymer	Not classified.	Not classified.	< 10%
Amorphous Fumed Silica	112945-52-5 was: 7631-86-9	231-545-4	Not classified.	Not classified.	<= 5%

See section 15 for the full text of the R- & H-phrases declared above.

There are no additional ingredients present which are classified as hazardous to health or the environment and require reporting in this section. CLP classifications are based on all current available data including from known international organizations. These classifications are subject to revision as more information becomes available

## 4. First Aid Measures

### Description of Necessary First Aid Measures:

<b>General Advice:</b>	Get medical attention if symptoms occur. Contaminated clothing to be placed in closed container until disposal or decontamination.
<b>Eye Contact:</b>	Check for and remove any contact lenses. Immediately flush eyes, including under eyelids, with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
<b>Skin Contact:</b>	Remove contaminated clothing and shoes. Wash with soap and water as a precaution. Get medical attention if irritation persists.
<b>Inhalation:</b>	Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
<b>Ingestion:</b>	Do not induce vomiting. Rinse mouth thoroughly and drink plenty of water afterwards. Get medical attention if symptoms appear.



### Most important symptoms and effects, both acute and delayed

**Symptoms:** None known. Vapors from heated material may cause eye irritation, discomfort, blurred vision, cough & sneezing, headache, hoarseness, throat pain.

### Indication of any immediate medical attention and special treatment needed

<b>Specific treatments:</b>	Not applicable.
<b>Notes to physician:</b>	No special concerns. Treat symptomatically.
<b>Protection of first responders:</b>	No unusual fire or explosion hazards are expected. Make sure any action taken is done by personnel with suitable training

## 5. Fire-Fighting Measures

<b>Suitable extinguishing media:</b>	Extinguish with foam, carbon dioxide or dry powder.
<b>Unsuitable extinguishing media:</b>	Do not use water jet as an extinguisher, because this will spread the fire.
<b>Hazards during firefighting:</b>	In fire conditions, toxic decomposition products may be formed.
 <b>Hazardous Combustion Products:</b>	Carbon oxides, amorphous silica.
 <b>Flammability of the Product:</b>	Combustible.
<b>Special precautions for fire-fighters:</b>	Water spray should be used to cool containers.
<b>Special protective equipment for fire-fighters:</b>	No unusual fire or explosion hazards are expected. Fire fighters should wear appropriate protective equipment and self-contained respirator (SCBA) for surrounding conditions.
<b>Further Information:</b>	This material is not explosive as defined by established regulatory criteria. However, if a closed container of the lubricant is exposed to a fire or excessive heat, a pressure increase will occur and the container may burst. Cool containers with water or water spray.

## 6. Accidental Release Measures

**Personal Precautions protective equipment and emergency procedures:** Wear appropriate personal protection equipment (See Section 8.) Use local ventilation if necessary

**Environmental Precautions:** Prevent material from entering sewers, waterways, or low areas. Avoid other environmental releases. Collect spilled material.

**Methods for Containment and Clean-Up:** Containers with collected spillage must be properly labeled with correct contents and hazard symbol. Container must be kept tightly closed. Absorb with sand or other inert absorbent. To clean the floor and all objects contaminated by this material, use an appropriate solvent. Flush area with plenty of water. Incinerate in suitable combustion chamber

## 7. Handling and Storage

**Precautions for Safe Handling:** Take precautionary measures against static discharge. Use normal good hygiene practices.

### **Conditions for Safe Storage Including Incompatibilities:**

**Requirements for storage areas & containers:** Avoid discharge into drains, water courses or onto the ground. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Avoid contact with oxidizing agents. Suitable containers: Steel drums coated with epoxy-resin.

### **Other data:**

Storage temperature: Minimum 0 °C, Maximum 40 °C. Stable under recommended conditions. No decomposition will occur if stored and applied as directed.

**Specific Uses:** Lubricating grease. Refer to technical data sheet available on request.

## 8. Exposure Controls / Personal Protection

### **Control parameters:**

#### **Occupational exposure limit values:**

Amorphous fumed silica (CAS 112945-52 2) has TWA limits of:  
6 mg/m<sup>3</sup> inhalable dust; 2.4 mg/m<sup>3</sup> respirable dust.

### **Environmental exposure controls:**

#### **Engineering Controls:**

In the event that the material is heated above 300°C (572 °F) local ventilation should be used to avoid exposure to fumes.

### **Personal protection measures:**

#### **Hygiene measures:**

When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Wash contaminated clothing before reuse.

#### **Hand protection:**

Protective gloves made of Nitrile or Polyvinyl chloride (PVC). Use insulating gloves when handling hot material.

#### **Eye/face protection:**

Safety glasses with side shields.

#### **Skin & body protection:**

Minimize skin contact. Wear suitable protective clothing. Wash contaminated clothing before reuse.

#### **Respiratory protection:**

This product cannot normally be inhaled, and personal respiratory protective equipment is not normally required. In the case of hazardous fumes caused by overheating, wear self-contained breathing apparatus.

#### **Additional information:**

These precautions are for room temperature handling. Use at elevated temperatures or in aerosol / spray applications require added precautions.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

<b>Physical State:</b>	Grease
<b>Color:</b>	White
<b>Odor:</b>	None
<b>pH:</b>	Not applicable
<b>Melting Point (Dropping Point):</b>	> 304°C
<b>Flash Point:</b>	> 280°C
<b>Thermal Decomposition:</b>	> 200°C
<b>Vapor Pressure:</b>	≤ 0.1 hPa @ 20 °C
<b>Relative Density:</b>	0.95 - 1.00 at 25°C
<b>Water Solubility:</b>	Insoluble.
<b>Base Oil Solubility:</b>	Miscible with aliphatic & aromatic hydrocarbons, diethylether, chlorinated solvents. Very slightly soluble in acetone & ethanol.
<b>Oxidizing properties:</b>	Not considered as oxidizing.

### Other Information

No data available

The above information is not intended for use in preparing product specifications.

## 10. Stability and Reactivity

<b>Reactivity:</b>	No dangerous reactions under normal use.
<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Stable under recommended storage conditions.
<b>Conditions to avoid:</b>	Temperatures > 200 °C will cause decomposition.
<b>Materials to avoid:</b>	Strong oxidizing agents.
<b>Hazardous decomposition products:</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition or combustion may liberate carbon oxides, other toxic gases or vapors, and amorphous silica.

## 11. Toxicological Information

### Information on the likely routes of exposure

<b>Inhalation:</b>	Inhalation of vapors at elevated temperatures may cause respiratory irritation, coughing, sneezing, headache, and throat pain.
<b>Ingestion:</b>	No significant health effects or gastrointestinal irritation is expected.
<b>Skin contact:</b>	No significant health effects or irritation is expected.
<b>Eye contact:</b>	Contact with eyes under normal product use is not expected to cause irritation. Vapors from heated grease may cause eye irritation, including redness, swelling, pain, and blurred vision.

### Acute toxicity:

Product/Ingredient name		Result	Species	Dose	Exposure
Oral	Polydimethylsiloxane	LD50	Rat	>5000 mg/kg	-
	Polydimethylsiloxane, hydroxy-terminated	LD50	Rat	>5000 mg/kg	-
	Amorphous Fumed Silica	LD50	Rat	> 5000 mg/kg	-
Inhalation	Amorphous Fumed Silica	LC0	Rat	> 0.139 mg/L (4 hrs.)	Literature data
Dermal	Polydimethylsiloxane	LD50	Rat	> 2000 mg/kg	-
	Amorphous Fumed Silica	LD50	Rabbit	> 5000 mg/kg	Literature data

**Irritation:**

Product/Ingredient name		Species	Result	Classification
Skin Eye	Amorphous Fumed Silica	Rabbit / literature	No skin irritation	Non-irritating
	Amorphous Fumed Silica	Rabbit / literature	No eye irritation	Non-irritating

**Sensitization:**

Product/Ingredient name	Species	Result	Classification	Method
Skin	Polydimethylsiloxane	Human		Not a skin sensitizer

**Repeated dose toxicity:**

Product/Ingredient name	Test	Species	Result
Amorphous Fumed Silica	Inhalative	Rat	No irreversible changes and no indication of silicosis.
Amorphous Fumed Silica	Oral	Rat	No negative effects

**Mutagenicity Assessment:**

Product/Ingredient name	Result
Polydimethylsiloxane	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Amorphous Fumed Silica	Experiments showed mutagenic effects in cultured bacterial cells.

**Carcinogenicity Assessment:**

Product/Ingredient name	Result
Polydimethylsiloxane	Not classifiable as a human carcinogen.
Amorphous Fumed Silica	No negative effects.

**Toxicity to Reproduction Assessment:**

Product/Ingredient name	Result
Polydimethylsiloxane	No toxicity to reproduction.
Amorphous Fumed Silica	No negative effects.

**Teratogenicity Assessment:**

Product/Ingredient name	Result
Polydimethylsiloxane	No data available.
Amorphous Fumed Silica	No evidence of mutagenetic effects.

**Human Experience:**

Excessive exposure via eye contact may cause irritation, discomfort, and blurred vision.

**Other Health Hazard Information:**

This product contains powders hazardous by inhalation. However, this is not relevant to the current physical form of the product, which is not in a respirable form.

Based on product test data from this and similar products.

## 12. Ecological Information

### Aquatic Ecotoxicity effects

Not readily biodegradable. This product shows a low bioaccumulation potential.

Product/Ingredient name	Result	Species	Exposure
Polydimethylsiloxane	The substance is a polymer and is not expected to produce toxic effects to fish.		
Amorphous Fumed Silica	LC50 >10 000 mg/L (OECD 202)	Fish - Brachydanio rerio	96 hours
	EC50 > 10 000 mg/L (OECD 202)	Invertebrate - Daphnia magna (water flea)	24 hours

### Persistence and degradability

#### Conclusion / Summary:

Semi-solid material, insoluble in water. Not readily biodegradable.

#### Bioaccumulative Potential

No data available.

#### Mobility in Soil

No data available.

#### Results of PBT and vPvB assessment:

No data available.

#### Germany water class (GKW):

1

#### Other adverse effects:

No known significant effects or critical hazards.

## 13. Disposal Considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

#### Product disposal:

Dispose of in accordance with all applicable local and national regulations.

#### Packaging disposal:

Dispose of container properly. Recycle or dispose of in compliance with local regulations.

#### Hazardous waste:

Not considered a hazardous waste.

#### Special precautions:

Use good environmental practice. No special precautions necessary. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14. Transportation Information

### International transport regulations

Not classified as hazardous in the meaning of transportation regulations (UN, ADR/RID, DOT, TDG, Mexico, IMO/IMDG, IATA/ICAO)

## 15. Regulatory Information

### Safety, health and environmental regulations / legislation specific for the substance or mixture

HCS Classification:

Not regulated

### North American Regulations:

United States inventory (TSCA 8b):

All components are listed or exempted.

Clean Water Act (CWA) 307 / 311 :

No products were found.

CERCLA Reportable Quantities:

Not reportable.

Canadian Regulations (WHMIS):

Not a WHMIS controlled material

## Clean Air Act (CAA) 112

Accidental release prevention:	No products were found.
Regulated flammable substances:	No products were found.
Regulated toxic substances:	No products were found.
Hazardous air pollutants (HAPs):	Not listed.

## SARA302/304/311/312

Extremely hazardous substances:	No products were found.
Emergency planning and notification:	No products were found.
Hazardous chemicals:	No products were found.
MSDS distribution/chemical inventory/ hazard identification:	No products were found.
SARA 313 Form R	No reportable components

## US State Regulations:

Connecticut Carcinogen Reporting	None of the components are listed.
Connecticut Hazardous Material Survey	None of the components are listed.
Florida substances	None of the components are listed.
Illinois Chemical Safety Act	None of the components are listed.
Illinois Toxic Substances Disclosure Act	None of the components are listed.
Louisiana Reporting	None of the components are listed.
Louisiana Spill	None of the components are listed.
Massachusetts Spill	None of the components are listed.
Massachusetts Substances	None of the components are listed.
Michigan Critical Material	None of the components are listed.
Minnesota Hazardous Substances	None of the components are listed.
New Jersey Hazardous Substances	None of the components are listed.
New Jersey Spill	None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act	None of the components are listed.
New York Acutely Hazardous Substances	None of the components are listed.
New York Toxic Chemical Release Reporting	None of the components are listed.
Pennsylvania RTK Hazardous Substances	None of the components are listed.
Rhode Island Hazardous Substances	None of the components are listed.

## EU Regulations:

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

REACH Candidate List of Substances of Very High Concern (EC 1907/2006):

None of the components are listed on the 19 Dec 2012 SVHC Candidate List.

Major Accident Hazard Legislation:  
Water contaminating class (Germany):

Directive 96/82/EC Update: 2003 does not apply.  
WGK 1 Slightly hazardous to waters.  
Not a PBT, vPvB substance as per the criteria of the REACH

Ordinance. Hazard symbols or phrases:  
Risk phrases:  
Safety phrases:

None  
None  
None

## International regulations:

Australia Inventory (AICS):	All ingredients listed, exempt or notified.
Canada Inventory (DSL/NDL):	All ingredients listed, exempt or notified.
China Inventory (IECSC):	All ingredients listed or exempt.
European Inventory (EINECS):	All ingredients listed, exempt or notified (ELINCS).

Korea Inventory (KECI):

All ingredients listed, exempt or notified.

Japan Inventory (ENCS/ISHL):

All ingredients listed, exempt or notified.

New Zealand Inventory (NZIoC):

All ingredients listed, exempt or notified.

Philippines Inventory (PICCS):

All ingredients listed, exempt or notified.

United States Inventory (TSCA 8b):

All ingredients listed, exempt or notified.

**Chemical Safety Assessment:** This product contains substances for which Chemical Safety Assessments are required.

## 16. Other Information

**Hazardous Material Information System: HMIS (USA):**

<b>Health</b>	<b>1</b>
<b>Flammability</b>	<b>1</b>
<b>Physical Hazards</b>	<b>0</b>
<b>Personal Protection</b>	<b>B</b>

**National Fire Protection Association (U.S.A.) NFPA (USA):**

<b>Health</b>	<b>1</b>
<b>Flammability</b>	<b>1</b>
<b>Reactivity</b>	<b>0</b>
<b>Special</b>	

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