DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

MOLYKOTE(R) L-0501 HIGH PERFORMANCE PENETRATING LUBRICANT

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 04041435 Revision Date: 2009/08/05

Generic Description: Organic compounds in mineral oil
Physical Form: Liquid
Color: Amber
Odor: Slight odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause mild irritation.

Skin: May cause mild irritation.

Inhalation: Vapor and/or mist may irritate respiratory tract. Vapor overexposure may cause drowsiness.

Oral: Aspiration of liquid while vomiting may injure lungs seriously.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.

Inhalation**:** No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
64742-47-8	40.0 - 70.0	Hydrotreated light petroleum distillate
64742-52-5	40.0 - 70.0	Hydrotreated heavy naphthenic petroleum distillate
57855-77-3	1.0 - 5.0	calcium bis(dinonylnaphthalenesulphonate)

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes.
Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
Inhalation:	Remove to fresh air. Get medical attention if ill effects persist.
Oral:	Get immediate medical attention. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	215 °F / 101.7 °C (Pensky-Martens Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

MOLYKOTE(R) L-0501 HIGH PERFORMANCE PENETRATING LUBRICANT

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
64742-47-8	Hydrotreated light petroleum distillate	Observe petroleum distillates limits. OSHA PEL (final rule): TWA 400 ppm.
64742-52-5	Hydrotreated heavy naphthenic petroleum distillate	Observe petroleum distillates limits. OSHA PEL (final rule): TWA 400 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Suitable Gloves:	Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Amber
Odor:	Slight odor
Specific Gravity @ 25°C:	0.86
Viscosity:	32.1 mPa s
Freezing/Melting Point:	Not determined.
Boiling Point:	> 65 °C

Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	215 °F / 101.7 °C (Pensky-Martens Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Sulfur oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):
Acute: Yes
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

CAS Number	Wt %	Component Name
4259-15-8	5.0	Zinc Di(2-ethylhexyl) Dithiophosphate

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

CAS Number	Wt %	Component Name
64742-47-8	40.0 - 70.0	Hydrotreated light petroleum distillate
64742-52-5	40.0 - 70.0	Hydrotreated heavy naphthenic petroleum distillate
4259-15-8	5.0 - 10.0	Zinc Di(2-ethylhexyl) Dithiophosphate
None	1.0 - 5.0	Vendor proprietary ingredient
57855-77-3	1.0 - 5.0	calcium bis(dinonylnaphthalenesulphonate)

Pennsylvania

MOLYKOTE(R) L-0501 HIGH PERFORMANCE PENETRATING LUBRICANT

CAS Number	Wt %	Component Name
64742-47-8	40.0 - 70.0	Hydrotreated light petroleum distillate
64742-52-5	40.0 - 70.0	Hydrotreated heavy naphthenic petroleum distillate
4259-15-8	5.0 - 10.0	Zinc Di(2-ethylhexyl) Dithiophosphate

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

Version: 2.2
Revision Date: 2011/04/26

DOW CORNING(R) OS-2 SILICONE CLEANER & SOLVENT

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 03162397
Revision Date: 2011/04/26

Generic Description: Methyl Siloxane
Physical Form: Liquid
Color: Colorless
Odor: Slight odor

NFPA Profile: Health 1 Flammability 3 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause mild irritation.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: Irritates respiratory passages very slightly. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.

Oral: Overexposure by ingestion may cause drowsiness, dizziness, confusion or loss of coordination.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.

Inhalation**:** No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
107-46-0	55.0 - 75.0	Hexamethyldisiloxane (HMDS)
107-51-7	30.0 - 50.0	Octamethyltrisiloxane

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

Eye:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes while holding the eyelid(s) open. Obtain medical attention.
Skin:	Remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Flush with lukewarm gently flowing water for 15 minutes. If irritation persists, repeat flushing. If irritation persists, obtain medical advice.
Inhalation:	Remove from the source of contamination or move to fresh air. If irritation persists, obtain medical advice.
Oral:	Never give anything by mouth if victim is rapidly losing consciousness or convulsing. DO NOT INDUCE VOMITING. Have victim drink 2 to 8 oz. (60 to 240 mL) of water. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Have victim rinse mouth with water again. Immediately obtain medical attention.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	26.6 °F / -3 °C (Closed Cup)
Autoignition Temperature:	662 °F / 350 °C
Flammability Limits in Air:	Lower Limit: 0.9 % Upper Limit: 13.8 %

Extinguishing Media:	On large fires use AFFF alcohol compatible foam or water spray (fog). On small fires use AFFF alcohol compatible foam, CO2 or water spray (fog). Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	Vapors are heavier than air and may travel to a source of ignition and flash back. Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Fire burns more vigorously than would be expected.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact. Avoid skin contact. Do not breathe vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits

107-46-0	Hexamethyldisiloxane (HMDS)	Dow Corning guide: TWA 200 ppm.
107-51-7	Octamethyltrisiloxane	Dow Corning guide: TWA 200 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.

Inhalation: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes: Use full face respirator.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Inhalation/Suitable Respirator: Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Precautionary Measures: Avoid eye contact. Avoid skin contact. Do not breathe vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Colorless
Odor:	Slight odor
Specific Gravity @ 25°C:	0.78
Viscosity:	0.75 mm2/s
Freezing/Melting Point:	Not determined.
Boiling Point:	110 °C
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	26.6 °F / -3 °C (Closed Cup)
Autoignition Temperature:	662 °F / 350 °C
Flammability Limits in Air:	Lower Limit: 0.9 % Upper Limit: 13.8 %

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

This material contains octamethyltrisiloxane (L3). Repeated exposure in rats to L3 resulted in what appears to be

protoporphyrin accumulation in the liver at dose levels that exceed typical workplace or consumer exposures. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown. Industrial, commercial, or consumer intended uses of products containing L3 do not represent a risk to humans.

A 2-year combined chronic/carcinogenicity study was conducted on HMDS in Fischer 344 rats. A dose related increase in Leydig cell tumors was observed at the end of one year. Nearly 100% of the male rats in the control and treated groups had Leydig cell tumors at the end of 2 years, which is an expected observation in this strain of rat. The early onset of Leydig cell tumors in this study may have little or no relevance to humans. Also at the end of two years there was a dose related increase in kidney tumors in male rats at the two highest exposure concentrations (1,600 and 5,000 ppm). Additional work indicates that the kidney tumors in the male rats are mediated through a-2u-globulin. This is considered a rat-specific mode of action with no relevance to humans. The lack of relevance of these findings from this study to humans supports the use of HMDS in its intended applications.

This material contains hexamethyldisiloxane (HMDS). Repeated exposure in rats to HMDS resulted in what appears to be protoporphyrin accumulation in the liver at dose levels that exceed typical workplace or consumer exposures. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown. Industrial, commercial, or consumer intended uses of products containing HMDS do not represent a risk to humans.

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Air:	Low molecular weight volatile siloxanes in air are degraded by reaction with hydroxyl radicals, which is the dominant degradation process for most chemicals in the atmosphere.
Water:	Low molecular weight volatile siloxanes have very low water solubility and evaporate to air.
Soil:	Low molecular weight volatile siloxanes in soil are removed by several simultaneously occurring processes including volatilization, hydrolysis, and clay-catalyzed degradation.

Environmental Effects

Toxicity to Water Organisms:	Based on analogy to similar materials this product is expected to exhibit low toxicity to aquatic organisms. This product is volatile and has a very short half life in the aquatic environment and therefore does not present a risk to aquatic organisms.
Toxicity to Soil Organisms:	Due to its volatility, this product is unlikely to be found in the terrestrial compartment.
Bioaccumulation:	Low molecular weight volatile siloxanes bioconcentrate in fish exposed under controlled laboratory conditions that are not representative of conditions found in the environment.

Fate and Effects in Waste Water Treatment Plants

Low molecular weight volatile siloxanes are efficiently removed (>90%) during wastewater treatment with approximately equal amounts going to the atmosphere and the sludge. Low molecular weight volatile siloxanes in treated wastewater effluent will be bound to particulate matter because of very low water solubility.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

Characteristic Waste:
Ignitable: D001
State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Proper Shipping Name: Flammable liquids, n.o.s.

Hazard Technical Name: Hexamethyldisiloxane / Octamethyltrisiloxane

Hazard Class: 3

UN/NA Number: UN 1993

Packing Group: II

Hazard Label(s): Flammable Liquid

Ocean Shipment (IMDG)

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.

Hazard Technical Name: Hexamethyldisiloxane / Octamethyltrisiloxane

Hazard Class:	3
UN/NA Number:	UN 1993
Packing Group:	II
Hazard Label(s):	flammable liquid
Marine Pollutant:	Hexamethyldisiloxane

Air Shipment (IATA)

Proper Shipping Name:	Flammable liquid, n.o.s.
Hazard Technical Name:	Hexamethyldisiloxane / Octamethyltrisiloxane
Hazard Class:	3
UN/NA Number:	UN 1993
Packing Group:	II
Hazard Label(s):	Flammable Liquid

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute:	Yes
Chronic:	No
Fire:	Yes
Pressure:	No
Reactive:	No

Section 313 Toxic Chemicals (40 CFR 372):
None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

CAS Number	Wt %	Component Name
107-46-0	55.0 - 75.0	Hexamethyldisiloxane (HMDS)
107-51-7	30.0 - 50.0	Octamethyltrisiloxane

Pennsylvania

CAS Number	Wt %	Component Name
107-46-0	55.0 - 75.0	Hexamethyldisiloxane (HMDS)
107-51-7	30.0 - 50.0	Octamethyltrisiloxane

DOW CORNING(R) OS-2 SILICONE CLEANER & SOLVENT

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

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Material Safety Data Sheet

November 14, 2013
Revision 003

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Information	
Trade Name	**EZ Reach**
Recommended Use	**Industrial lubricant**
Company	**FirstPower Group LLC** **8941 Dutton Drive** **Twinsburg, OH 44087** **330-963-2050**

2. HAZARDS IDENTIFICATION

Classification	Chronic aquatic toxicity, Category 4 May cause long lasting harmful effects to aquatic life May cause long-term adverse effects in the aquatic environment
Risk Phrases	Harmful: May cause lung damage if swallowed
Safety Phrases	Avoid contact with skin and eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.
Precautionary Statements	Avoid release to the environment Dispose of contents/container to an approved waste disposal plant.
Poisons Schedule	S5 Caution

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Component Name
151006-62-1, 151006-63-2	Synfluid (Polyalphaolefin Oil, PAO)
14324-55-1	ZDDP (Antioxidant)
6683-19-8	1010 (Antioxidant)
52829-07-9	770 (Antioxidant)

Molecular Formula Mixture

Risk Phrases R65

4. FIRST AID MEASURES

Inhalation Move to fresh air in case of accidental inhalation of vapors
Consult a physician after significant exposure

Skin Contact Remove contaminated clothing and wash skin with soap and water.
If irritation occurs, seek medical advice

Eye Contact Flush eyes with water as a precaution. Keep eyes wide open while flushing. If irritation persists, seek medical assistance.

Ingestion Rinse mouth with water. Do not induce vomiting. Give a glass of water. Seek immediate medical assistance

5. FIRE FIGHTING MEASURES

Hazards Combustible liquid. Flash point 246 – 271 deg C

Extinguishing Media Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

Protective Equipment Wear self contained breathing apparatus

Hazardous Decomposition Products Carbon Oxides

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation Evacuate personnel to safe areas Shut off all possible sources of ignition
Methods for Clean Up	Keep in suitable closed containers for disposal Clean contaminated floors and objects thoroughly while observing environmental regulations.

7. HANDLING AND STORAGE

Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940.

Safe Handling	Do not breathe vapors/dust. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations
Storage	Keep container tightly closed in a dry and well-ventilated place. Observe label precautions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment:

Respiratory	In case of vapor formation use a respirator with an approved filter
Hand	Chemically resistant protective gloves
Eye	Eye wash bottle with pure water. Tightly fitting safety goggles
Skin and Body	Impervious clothing.
Hygiene Measures	When using do not eat or drink. Wash hands before breaks and at the end of the workday
Protective Measures	Wear suitable protective equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Colorless
Odor	Odorless
Flash Point	505 deg F
Boiling Point	260 deg C
Solubility	Soluble in hydrocarbon solvents, insoluble in water
Viscosity	23.6 – 52.9 cSt at 40 deg C (ASTM D 445)
Volatility,	Noack, wt% = 3.5
Specific gravity	at 60 degrees F = 0.8326
PAO density	0.8326 grams/mL

10. STABILITY AND REACTIVITY

Chemical Stability	Stable at ambient temperatures
Conditions to Avoid	Avoid exposure to heat, sources of ignition
Incompatible Materials	Incompatible with strong oxidizing agents
Hazardous Decomposition	Oxides of carbon
Hazardous Reactions	Hazardous polymerization will not occur

11. TOXICOLOGICAL INFORMATION

Ingestion	Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression, there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia.
Eye Contact	May be an eye irritant
Skin Contact	May result in irritation

Inhalation	Breathing in vapor can result in headaches, dizziness, drowsiness and possible nausea.

Long Term Effects:

Carcinogenicity	Not classifiable as a human carcinogen
Mutagenicity	No mutagenic effects in animal testing
Teratogenicity	No effects in animal experiments
Reproductive	No toxicity to reproduction

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways
Biodegradability	This material is not expected to be readily biodegradable. Expected to be ultimately biodegradable.

13. DISPOSAL CONSIDERATIONS

Product	Dispose of wastes in an approved waste disposal facility
Contaminated Packaging	Empty remaining contents. Dispose of an unused product. Do not re-use empty containers
Methods	Suitable for incineration by approved agent.

14. TRANSPORT INFORMATION

Land – TDG	Not classified as dangerous goods
Sea – IMDG	Not classified as dangerous goods
Air – IATA/C|ICAO	Not classified as dangerous goods

15. REGULATORY INFORMATION

Classification	This material is hazardous according to criteria of ASCC; HAZARDOUS SUBSTANCE

Category	Xn: Harmful
Risk Phrases	R65: Harmful: May cause lung damage if swallowed
Safety Phrases	S24/25: Avoid contact with skin and eyes S36: Wear suitable protective clothing S38: In case of insufficient ventilation, wear suitable respiratory equipment S62: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.
Poison Schedule	S5 Caution

16. OTHER INFORMATION

This material safety data sheet has been prepared by FirstPower Group LLC

This MSDS summarizes to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since FirstPower Group LLC cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, asses and control the risks arising from its use of the material.

FirstPower Group LLC's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

Version: 1.4
Revision Date: 2010/04/13

MOLYKOTE(R) 3451 CHEMICAL RESISTANT BEARING GREASE

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01889851 Revision Date: 2010/04/13

Generic Description: Fluorosilicone grease.
Physical Form: Grease
Color: White
Odor: Slight odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation**:** No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions,

component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

4. FIRST AID MEASURES

Eye:	If irritation occurs, flush eye(s) with lukewarm gently flowing water for 5 minutes. Obtain medical attention.
Skin:	No health effects expected. If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.
Inhalation:	If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Oral:	If irritation or discomfort occur, obtain medical advice.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	> 213.8 °F / > 101 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. At temperatures above 482F/250C this material may produce highly toxic gaseous compounds such as hydrogen fluoride and perfluorohydrocarbons. Provide adequate ventilation or use the appropriate respiratory protection if the possibility of exceeding 482F/250C exists. Avoid contamination of tobacco products. Fluoropolymers on tobacco goods may cause adverse health effects by inhalation of the decomposition products. Employees should wash their hands and face before eating, drinking or using tobacco products. This material may form highly toxic vapors of trifluoropropionaldehyde if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established). Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation:	None should be needed.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Suitable Gloves:	Handle in accordance with good industrial hygiene and safety practices.
Inhalation:	No respiratory protection should be needed.

Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Use reasonable care.
Comments:	At temperatures above 482F/250C this material may produce highly toxic gaseous compounds such as hydrogen fluoride and perfluorohydrocarbons. Provide adequate ventilation or use the appropriate respiratory protection if the possibility of exceeding 482F/250C exists. Avoid contamination of tobacco products. Fluoropolymers on tobacco goods may cause adverse health effects by inhalation of the decomposition products. Employees should wash their hands and face before eating, drinking or using tobacco products. This material may form highly toxic vapors of trifluoropropionaldehyde if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established).

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Grease
Color:	White
Odor:	Slight odor
Specific Gravity @ 25°C:	1.4
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	> 213.8 °F / > 101 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Fluorine compounds. Silicon dioxide. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

This material may form highly toxic vapors of Trifluoropropionaldehyde if heated in air above 300 (degrees) F (149 degrees C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established).

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100

Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):
None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

CAS Number	Wt %	Component Name
63148-56-1	> 60.0	Trifluoropropylmethyl siloxane, trimethyl-terminated
9002-84-0	30.0 - 60.0	Polytetrafluoroethylene

Pennsylvania

CAS Number	Wt %	Component Name
63148-56-1	> 60.0	Trifluoropropylmethyl siloxane, trimethyl-terminated
9002-84-0	30.0 - 60.0	Polytetrafluoroethylene

MOLYKOTE(R) 3451 CHEMICAL RESISTANT BEARING GREASE

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING CORPORATION
Material Safety Data Sheet

MOLYKOTE(R) G-N METAL ASSEMBLY PASTE

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 02076683 Revision Date: 2010/11/18

Generic Description: Inorganic compounds in mineral oil
Physical Form: Paste
Color: Charcoal gray
Odor: Slight odor

NFPA Profile: Health 1 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause mild irritation.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor concentration is attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion or loss of coordination.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.

Inhalation**:** No known applicable information.

Oral: Overexposure by ingestion may injure the following organ(s): Kidneys.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
7446-26-6	10.0 - 30.0	Zinc pyrophosphate
7784-30-7	1.0 - 5.0	Aluminum phosphate

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

Eye:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes while holding the eyelid(s) open. Obtain medical attention.
Skin:	Remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Flush with lukewarm gently flowing water for 15 minutes. If irritation persists, repeat flushing. If irritation persists, obtain medical advice.
Inhalation:	If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Oral:	If irritation or discomfort occur, obtain medical advice.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	> 212 °F / > 100 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.

Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact.

Use reasonable care and store away from oxidizing materials. This material in its finely divided form presents an explosion hazard. Follow NFPA 654 (for chemical dusts) or 484 (for metal dusts) as appropriate for managing dust hazards to minimize secondary explosion potential.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
7784-30-7	Aluminum phosphate	Observe aluminum (soluble salts) limits. OSHA PEL (final rule) and ACGIH TLV, as aluminum: TWA 2 mg/m3.

Engineering Controls

Local Ventilation:	Recommended.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Suitable Gloves:	Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Respiratory protection is not needed under ambient conditions. If vapor is generated when material is heated or handled, the following is advised. General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	Charcoal gray
Odor:	Slight odor
Specific Gravity @ 25°C:	1.35

Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	> 212 °F / > 100 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Sulfur oxides. Phosphorous oxides. Nitrogen oxides. Silicon dioxide. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Remarks: (APPLIES ONLY TO CONTAINERS LESS THAN 119 GALLONS OR 450 LITERS.)

Ocean Shipment (IMDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Hazard Technical Name: Zinc pyrophosphate / Tallowalkyltriethylene diamineoleate

Hazard Class: 9

UN/NA Number: UN 3077

Packing Group: III

Hazard Label(s): miscellaneous

Marine Pollutant: Zinc pyrophosphate
Tallowalkyltriethylene diamineoleate

Air Shipment (IATA)

Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s.
Hazard Technical Name:	Zinc pyrophosphate / Tallowalkyltriethylene diamineoleate
Hazard Class:	9
UN/NA Number:	UN 3077
Packing Group:	III
Hazard Label(s):	Miscellaneous dangerous goods
	Apply Gross Wt Supplemental Label to Outer Package if shipping Limited Quantity

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute:	No
Chronic:	Yes
Fire:	No
Pressure:	No
Reactive:	No

Section 313 Toxic Chemicals (40 CFR 372):

CAS Number	Wt %	Component Name
7446-26-6	13.0	Zinc pyrophosphate

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

CAS Number	Wt %	Component Name
64741-89-5	40.0 - 70.0	Solvent-refined light paraffinic petroleum distillate
1317-33-5	15.0 - 40.0	Molybdenum disulfide

New Jersey

CAS Number	Wt %	Component Name
64741-89-5	40.0 - 70.0	Solvent-refined light paraffinic petroleum distillate
1317-33-5	15.0 - 40.0	Molybdenum disulfide
7446-26-6	10.0 - 30.0	Zinc pyrophosphate
1306-06-5	10.0 - 30.0	Tricalcium phosphate, hydrated
110-30-5	1.0 - 5.0	Ethylene distearylamide
7784-30-7	1.0 - 5.0	Aluminum phosphate

Pennsylvania

CAS Number	Wt %	Component Name
64741-89-5	40.0 - 70.0	Solvent-refined light paraffinic petroleum distillate
1317-33-5	15.0 - 40.0	Molybdenum disulfide
7446-26-6	10.0 - 30.0	Zinc pyrophosphate
1306-06-5	10.0 - 30.0	Tricalcium phosphate, hydrated

MOLYKOTE(R) G-N METAL ASSEMBLY PASTE

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

Version: 1.2
Revision Date: 2009/10/20

MOLYKOTE(R) 1292 LONG LIFE BEARING GREASE

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01908260 Revision Date: 2009/10/20

Generic Description: Fluorosilicone grease.
Physical Form: Grease
Color: White
Odor: Slight odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause mild irritation.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: Irritates respiratory passages very slightly.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged exposure may cause irritation.

Inhalation**:** No known applicable information.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions,

component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

4. FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes.
Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
Inhalation:	No first aid should be needed.
Oral:	Get medical attention.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	> 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Determine the need to evacuate or isolate the area according to your local emergency plan.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. This material may form highly toxic vapors of trifluoropropionaldehyde if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established). Avoid eye contact. Avoid skin contact. Do not take internally.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation:	None should be needed.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Suitable Gloves:	Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.

Inhalation:	No respiratory protection should be needed.
Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Do not take internally. Use reasonable care.
Comments:	Traces of benzene (carcinogen) may form if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. This material may form highly toxic vapors of trifluoropropionaldehyde if heated in air above 300 F (149 C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established).

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Grease
Color:	White
Odor:	Slight odor
Specific Gravity @ 25°C:	1.28
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	> 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Fluorine compounds. Nitrogen oxides. Silicon dioxide. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

This material may form highly toxic vapors of Trifluoropropionaldehyde if heated in air above 300 (degrees) F (149 degrees C). Provide ventilation to control vapor exposure (inhalation guidelines have not been established).

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100

Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):
None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

CAS Number	Wt %	Component Name
63148-56-1	> 60.0	Trifluoropropylmethyl siloxane, trimethyl-terminated
272777-01-2	15.0 - 40.0	Alkyl/fluoroalkyl- substituted arylamine diisocyanate reaction produc

Pennsylvania

CAS Number	Wt %	Component Name
63148-56-1	> 60.0	Trifluoropropylmethyl siloxane, trimethyl-terminated
272777-01-2	15.0 - 40.0	Alkyl/fluoroalkyl- substituted arylamine diisocyanate reaction produc

MOLYKOTE(R) 1292 LONG LIFE BEARING GREASE

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

Version: 1.6
Revision Date: 2011/12/02

MOLYKOTE(R) 33 EXTREME LOW TEMP. BEARING GREASE, MEDIUM

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01889788
Revision Date: 2011/12/02

Generic Description: Silicone grease.
Physical Form: Grease
Color: White
Odor: Slight odor

NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged exposure may cause irritation.

Inhalation**:** No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

4. FIRST AID MEASURES

Eye:	If irritation occurs, flush eye(s) with lukewarm gently flowing water for 5 minutes. Obtain medical attention.
Skin:	No health effects expected. If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.
Inhalation:	If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Oral:	If irritation or discomfort occur, obtain medical advice.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	> 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Traces of benzene (carcinogen) may form if heated in air above 300°F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements. Avoid eye contact. Avoid skin contact.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation:	None should be needed.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Suitable Gloves:	Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.
Inhalation:	No respiratory protection should be needed.

Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Use reasonable care.
Comments:	Traces of benzene (carcinogen) may form if heated in air above 300°F (149°C). Provide ventilation to control vapor exposure within inhalation guidelines when handling at elevated temperatures. Review the OSHA benzene regulation for detailed information on safe handling requirements.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Grease
Color:	White
Odor:	Slight odor
Specific Gravity @ 25°C:	1.1
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	> 214 °F / > 101.1 °C (Closed Cup)
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Metal oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal. Call (989) 496-6315, if additional

information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):
None.

Section 311/312 Hazard Class (40 CFR 370):

Acute:	No
Chronic:	No
Fire:	No
Pressure:	No
Reactive:	No

Section 313 Toxic Chemicals (40 CFR 372):
None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

CAS Number	Wt %	Component Name
4485-12-5	15.0 - 35.0	Lithium stearate

New Jersey

CAS Number	Wt %	Component Name
63148-52-7	70.0 - 90.0	Dimethyl, phenylmethyl siloxane, trimethyl-terminated
4485-12-5	15.0 - 35.0	Lithium stearate

Pennsylvania

CAS Number	Wt %	Component Name
63148-52-7	70.0 - 90.0	Dimethyl, phenylmethyl siloxane, trimethyl-terminated
4485-12-5	15.0 - 35.0	Lithium stearate

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING CORPORATION
Material Safety Data Sheet

MOLYKOTE(R) 1000 PASTE

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900
Customer Service: (989) 496-6000
Product Disposal Information: (989) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01444310 Revision Date: 2009/10/26

Generic Description: Inorganic and organic compounds in mineral oil
Physical Form: Paste
Color: Brown
Odor: Slight odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause moderate irritation.

Skin: May cause moderate irritation.

Inhalation: Vapor may irritate nose and throat. Vapor overexposure may cause drowsiness.

Oral: May cause vomiting. Aspiration of liquid while vomiting may injure lungs seriously.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.

Inhalation**:** Overexposure by inhalation may injure the following organ(s): Liver. Kidneys. Spleen.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
64742-56-9	<=42.0	Paraffinic petroleum distillates
7789-75-5	15.0 - 40.0	Calcium fluoride
7440-50-8	7.0 - 13.0	Copper
17265-14-4	3.0 - 7.0	Disodium sebacate

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes. Get medical attention.
Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
Inhalation:	Remove to fresh air. Get medical attention if ill effects persist.
Oral:	Get medical attention. Do not induce vomiting.
Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

MOLYKOTE(R) 1000 PASTE

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
7789-75-5	Calcium fluoride	Observe fluoride limits. OSHA PEL and ACGIH TLV, as fluorine: TWA 2.5 mg/m3.
7440-50-8	Copper	OSHA PEL (final rule), as copper: fume - TWA 0.1 mg/m3, dusts and mists - TWA 1 mg/m3. ACGIH TLV, as copper: fume - TWA 0.2 mg/m3; dusts and mists - TWA 1 mg/m3.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Suitable Gloves:	Teflon(R). Silver Shield(R). Viton(R). 4H(R).
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use chemical worker's goggles.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	Brown
Odor:	Slight odor
Specific Gravity @ 25°C:	1.26
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.

Volatile Content:	Not determined.
Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Sulfur oxides. Metal oxides. Nitrogen oxides. Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde. Fluorine compounds.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

Inhalation of fumes may result in metal fume fever, a flu-like illness with symptoms of metallic taste, fever and chills, aches, chest tightness, and cough.

Long term exposure to fluorides can cause fluorosis with bone changes, mottled teeth, weight loss and anemia.

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.

Hazard Technical Name: Tallowalkyltriethylene diamineoleate / Zinc

Hazard Class: 9

UN/NA Number: UN 3077

Packing Group: III

Hazard Label(s): Class 9

Remarks: Above applies only to containers over 119 gallons or 450 liters.

Ocean Shipment (IMDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Hazard Technical Name: Tallowalkyltriethylene diamineoleate / Zinc

Hazard Class:	9
UN/NA Number:	UN 3077
Packing Group:	III
Hazard Label(s):	miscellaneous
Marine Pollutant:	Tallowalkyltriethylene diamineoleate Zinc

Air Shipment (IATA)

Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s.
Hazard Technical Name:	Tallowalkyltriethylene diamineoleate / Zinc
Hazard Class:	9
UN/NA Number:	UN 3077
Packing Group:	III
Hazard Label(s):	Miscellaneous dangerous goods
	Apply Gross Wt Supplemental Label to Outer Package if shipping Limited Quantity

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):
None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

CAS Number	Wt %	Component Name
7440-50-8	8.0	Copper
7440-66-6	4.0	Zinc

Section 311/312 Hazard Class (40 CFR 370):

Acute: Yes
Chronic: Yes
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

CAS Number	Wt %	Component Name
7440-50-8	8.0	Copper
7440-66-6	4.0	Zinc

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

CAS Number	Wt %	Component Name
64742-56-9	<=42.0	Paraffinic petroleum distillates
7782-42-5	10.0 - 30.0	Graphite
7440-50-8	7.0 - 13.0	Copper
7440-66-6	3.0 - 7.0	Zinc
7631-86-9	1.0 - 5.0	Silica, amorphous

New Jersey

CAS Number	Wt %	Component Name
64742-65-0	<=42.0	Solvent dewaxed heavy paraffinic petroleum distillate

64742-56-9	<=42.0	Paraffinic petroleum distillates
7789-75-5	15.0 - 40.0	Calcium fluoride
7782-42-5	10.0 - 30.0	Graphite
7440-50-8	7.0 - 13.0	Copper
9003-29-6	5.0 - 10.0	Polybutene
7440-66-6	3.0 - 7.0	Zinc
7631-86-9	1.0 - 5.0	Silica, amorphous

Pennsylvania

CAS Number	Wt %	Component Name
64742-65-0	<=42.0	Solvent dewaxed heavy paraffinic petroleum distillate
64742-56-9	<=42.0	Paraffinic petroleum distillates
7789-75-5	15.0 - 40.0	Calcium fluoride
7782-42-5	10.0 - 30.0	Graphite
7440-50-8	7.0 - 13.0	Copper
9003-29-6	5.0 - 10.0	Polybutene
17265-14-4	3.0 - 7.0	Disodium sebacate
7440-66-6	3.0 - 7.0	Zinc
7631-86-9	1.0 - 5.0	Silica, amorphous

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

FIRSTPOWER

MATERIAL SAFETY DATA SHEET

SECTION I: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTITY:
No-Ox-Id Grease "A",
C&D Part Nos. RG -19, 25, 26

MANUFACTURER NAME: Sanchem, Inc.

ADDRESS:
1600 South Canal Street
Chicago, Illinois 60616

TELEPHONE: (312) 733-6100
EMERGENCY: (312) 733-6100

SUPPLIER NAME: FIRSTPOWER GROUP LLC
ADDRESS: 8941 Dutton Drive
Twinsburg, OH 44087

TELEPHONE: 330-963-2050

SECTION II: COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT

	CAS#	OSHA PEL	ACGIH TLV	% BY WEIGHT
Petroleum Wax	64742-61-6	N/A	N/A	85%
Light Napthenic Oil	64741-52-2	N/A	N/A	15%

SECTION 313 (40 CFR 372) LISTED TOXIC CHEMICALS ARE PRECEDED BY AN *.

SECTION III: HAZARDS IDENTIFICATION

Rating Codes	0=Insignificant	1=Slight
	2=Moderate	3=High
	4=Extreme	
HMIS RATING	Health: 0	Reactivity: 1
	Flammability: 0	Other: 0
NFPA RATING	Health: 0	Reactivity: 1
	Flammability: 0	Other: 0

SECTION IV: FIRST AID MEASURES

Skin Contact: May cause minor skin irritation. Wash well with soap and water.

Eye Contact: Flush with water for 15 minutes, consult a Physician.

Ingestion: Induce vomiting, seek medical attention immediately.

SECTION V: FIREFIGHTING MEASURES

FIRE AND EXPLOSIVE PROPERTIES:

Flash Point: 450 F (C. O. C.)

EXTINGUISHING MEDIA: Dry Chemical, Sand or Foam

Flammable Limits LEL: 0.9% UEL: 6.0%

SPECIAL FIREFIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION VI: ACCIDENTAL RELEASE MEASURES

DOES NOT APPLY

SECTION VII: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND USE:

If material is spilled: Scoop up spill and store in sealed drums, wash spill area with detergent and water.

STORAGE: Store in cool, dry area away from flames, sparks and oxidizers.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION: N/A	**RESPIRATORY PROTECTION**: Not Required
EYE WEAR: Safety Goggles	**GLOVES**: Rubber
WORK PRACTICES: Wash hands before eating.	**OTHER PROTECTIVE CLOTHING**: Not Required

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 450 F **SPECIFIC GRAVITY**: (Water = 1)0.86

MELTING POINT: 140 - 150 F

VAPOR PRESSURE: N/A

EVAPORATION RATE: NA

VAPOR DENSITY: N/A

SOLUBILITY: (Water : Insoluble)APPEARANCE / ODOR: dark brown firm grease, odorless

SECTION X: STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Open Flame or Excessive Heat

INCOMPATIBILITY: (Material to avoid) Strong oxidizers

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: None

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION XI: TOXICOLOGICAL INFORMATION

CARCINOGENICITY: None known at this time

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None Known

SECTION XII: ECOLOGICAL INFORMATION

NOT APPLICABLE

SECTION XIII: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Incineration or reclaim Consult Federal, State and Local regulations.

RCRA Waste Disposal No.: N/A

SECTION XIV: TRANSPORT INFORMATION

NOT APPLICABLE

SECTION XV: REGULATORY INFORMATION

NOT APPLICABLE

SECTION XVI: OTHER INFORMATION

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