

DOW CORNING CORPORATION

Material Safety Data Sheet

MOLYKOTE(R) 321 DRY FILM LUBRICANT (AEROSOL)

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.: 02413159

Revision Date: 2011/05/11

Generic Description: Hydrocarbon aerosol propellant

Physical Form: Aerosol

Color: Charcoal

Odor: Solvent odor.

NFPA Profile: Health 2 Flammability 4 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

- Eye:** Direct contact may cause mild irritation. Vapor may cause eye irritation.
- Skin:** No significant irritation expected from a single short-term exposure.
- Inhalation:** Vapor may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.
- 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:** Exposures to high concentrations may cause cardiac sensitization.
- Oral:** Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

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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

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68476-86-8	40.0 - 60.0	Sweetened liquified petroleum gas (LPG)
8052-41-3	30.0 - 50.0	Stoddard solvent
1317-33-5	7.0 - 13.0	Molybdenum disulfide
9022-96-2	3.0 - 7.0	Polybutyl titanate
7782-42-5	1.0 - 5.0	Graphite

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

4. FIRST AID MEASURES

Eye:	Remove from the source of contamination or move to fresh air 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 to fresh air. Get immediate medical attention.
Oral:	Never give anything by mouth if victim is rapidly losing consciousness or convulsing. Have victim rinse mouth thoroughly with water 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:	Not applicable.
Autoignition Temperature:	Not determined.

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Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO ₂), 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:	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.

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. 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. Product evolves n-butyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-butyl alcohol within exposure guidelines or use respiratory protection. Avoid eye exposure. Avoid skin contact. Do not breathe vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Contents under pressure. Do not store above 120F/49C or in direct sunlight. 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**

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
8052-41-3	Stoddard solvent	OSHA PEL (final rule): TWA 500 ppm and ACGIH TLV: TWA 100 ppm.

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1317-33-5	Molybdenum disulfide	Observe molybdenum (insoluble compounds) limits. OSHA PEL (final rule): TWA 10 mg/m ³ total dust. ACGIH TLV: TWA 10 mg/m ³ inhalable fraction, 3 mg/m ³ respirable fraction.
9022-96-2	Polybutyl titanate	See n-butyl alcohol comments.
7782-42-5	Graphite	OSHA PEL (final rule): TWA 15 mg/m ³ total dust, 5 mg/m ³ respirable fraction. ACGIH TLV: TWA 2 mg/m ³ respirable fraction.

n-Butyl alcohol is formed on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL (final rule): TWA 100 ppm and ACGIH TLV: 20 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

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.

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.

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

Comments: Product evolves n-butyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-butyl alcohol within exposure guidelines or use respiratory protection.

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: Aerosol
 Color: Charcoal
 Odor: Solvent odor.
 Specific Gravity @ 25°C: 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: 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.

MOLYKOTE(R) 321 DRY FILM LUBRICANT (AEROSOL)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. Nitrogen oxides. Sulfur oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATIONSpecial Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATIONEnvironmental 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 CONSIDERATIONSRCRA 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.

MOLYKOTE(R) 321 DRY FILM LUBRICANT (AEROSOL)**14. TRANSPORT INFORMATION****DOT Road Shipment Information (49 CFR 172.101)**

Proper Shipping Name: Consumer Commodity
Hazard Class: ORM
Hazard Label(s): ORM-D (Other Regulated Materials)

Ocean Shipment (IMDG)

Proper Shipping Name: AEROSOLS
Hazard Class: 2.1
UN/NA Number: UN 1950

Air Shipment (IATA)

Proper Shipping Name: Aerosols, flammable
Hazard Class: 2.1
UN/NA Number: UN 1950
Hazard Label(s): Flammable Gas
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.

MOLYKOTE(R) 321 DRY FILM LUBRICANT (AEROSOL)**Section 311/312 Hazard Class (40 CFR 370):**

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

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8052-41-3	30.0 - 50.0	Stoddard solvent
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7782-42-5	1.0 - 5.0	Graphite

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68476-86-8	40.0 - 60.0	Sweetened liquified petroleum gas (LPG)
8052-41-3	30.0 - 50.0	Stoddard solvent
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MOLYKOTE(R) 321 DRY FILM LUBRICANT (AEROSOL)**Pennsylvania**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
68476-86-8	40.0 - 60.0	Sweetened liquified petroleum gas (LPG)
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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