

MOLYKOTE(R) D-29 LUBOLID ADDITIVE POWDER

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

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.: 02871599

Revision Date: 2006/06/29

Generic Description: Inorganic salt

Physical Form: Fine Powder

Color: Gray

Odor: Odorless

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTSAcute Effects

Eye: Direct contact may cause moderate irritation.

Skin: May cause moderate irritation.

Inhalation: Dust may irritate nose and throat.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation: Inhalation overexposure may aggravate pre-existing lung disorders.

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,

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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>
7782-42-5	40.0 - 70.0	Graphite
7778-18-9	30.0 - 60.0	Calcium sulfate
1314-98-3	10.0 - 30.0	Zinc sulfide
7789-75-5	5.0 - 10.0	Calcium fluoride
7601-54-9	3.0 - 7.0	Trisodium phosphate
10102-40-6	3.0 - 7.0	Sodium molybdate dihydrate
None	1.0 - 5.0	Vendor proprietary ingredient

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.
Oral:	Get 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:	3,632 °F / 2,000 °C
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.

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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:	Static electricity may accumulate and ignite suspended dust, causing an explosion. Bond and ground containers and equipment as appropriate. Also refer to standards that describe appropriate explosion prevention practices.

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. Sweep, mop or wipe up and contain for salvage or disposal. Fine powders may require special vacuum filters; damp mopping or washing is preferred. 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.
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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 dust. Keep container closed. Do not take internally. Use proper ventilation and good housekeeping procedures to avoid accumulation of dust that can form ignitable dust/air mixtures. See Section 8 for ventilation and inhalation recommendations. See Section 5 for unusual fire and explosion hazard comments.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
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.
7778-18-9	Calcium sulfate	OSHA PEL (final rule): TWA 15 mg/m ³ total dust, 5 mg/m ³ respirable dust. ACGIH TLV: TWA 10 mg/m ³ inhalable fraction.

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1314-98-3	Zinc sulfide	Observe particulate limits. OSHA PEL: TWA 15 mg/m ³ total dust, 5 mg/m ³ respirable fraction. ACGIH TLV: TWA 10 mg/m ³ inhalable particulate, 3 mg/m ³ respirable particulate.
7789-75-5	Calcium fluoride	Observe fluoride limits. OSHA PEL and ACGIH TLV, as fluorine: TWA 2.5 mg/m ³ .
7601-54-9	Trisodium phosphate	AIHA WEEL: 5 mg/m ³ Ceiling.
10102-40-6	Sodium molybdate dihydrate	Observe molybdenum limits. OSHA PEL (final rule): TWA 5 mg/m ³ and ACGIH TLV: TWA 0.5 mg/m ³ respirable fraction for soluble compounds as Mo. OSHA PEL (final rule): TWA 15 mg/m ³ total dust and ACGIH TLV: TWA 10 mg/m ³ inhalable fraction, 3 mg/m ³ respirable fraction for metal and insoluble compounds as Mo.
None	Vendor proprietary ingredient	Observe graphite limits. OSHA PEL: TWA 2.5 mg/m ³ respirable dust. ACGIH TLV: TWA 2 mg/m ³ respirable fraction.

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: Butyl Rubber. Neoprene Rubber(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

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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 dust. 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:	Fine Powder
Color:	Gray
Odor:	Odorless
Specific Gravity @ 25°C:	2.43
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:	3,632 °F / 2,000 °C
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.

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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. Sulfur oxides. Metal oxides. Phosphorous oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATIONSpecial Hazard Information on Components**Reproductive Effects**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
10102-40-6	3.0 - 7.0	Sodium molybdate dihydrate	Evidence of reproductive effects in laboratory animals.

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)

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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):

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7601-54-9	4.0	Trisodium phosphate

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):

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<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
1314-98-3	10.0	Zinc sulfide

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

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7782-42-5	40.0 - 70.0	Graphite
7778-18-9	30.0 - 60.0	Calcium sulfate
7601-54-9	3.0 - 7.0	Trisodium phosphate
7704-34-9	1.0 - 5.0	Sulphur

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7782-42-5	40.0 - 70.0	Graphite
7778-18-9	30.0 - 60.0	Calcium sulfate
1314-98-3	10.0 - 30.0	Zinc sulfide
7789-75-5	5.0 - 10.0	Calcium fluoride
7601-54-9	3.0 - 7.0	Trisodium phosphate
10102-40-6	3.0 - 7.0	Sodium molybdate dihydrate
7704-34-9	1.0 - 5.0	Sulphur

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Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7782-42-5	40.0 - 70.0	Graphite
7778-18-9	30.0 - 60.0	Calcium sulfate
1314-98-3	10.0 - 30.0	Zinc sulfide
7789-75-5	5.0 - 10.0	Calcium fluoride
7601-54-9	3.0 - 7.0	Trisodium phosphate
10102-40-6	3.0 - 7.0	Sodium molybdate dihydrate
7704-34-9	1.0 - 5.0	Sulphur

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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