

Specialty Lubricants

MOLYKOTE® P-37 Paste

Prevents seize of austenite steel and high nickel chromium steel alloy screws used at high temperatures

FEATURES

- Compatible with high temperatures (1400°C)
- Excellent load-carrying capacity and seize protection
- Sulphur content of less than 250ppm, with a total halogen content (including chlorine) of less than 200ppm
- Low seepage, so it can be used in places wherein cleanliness is required
- Allows screws to be removed easily even after extended periods of use at high temperatures
- Does not include components that become brittle at high temperatures

COMPOSITION

- Mineral oil
- Special solid lubricants

APPLICATIONS

- Prevents seize of screws used at high temperatures.
- Approved for use by many manufacturers of set screws used in power plant turbines, and manufacturers of steam valve joints

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

Standard*	Parameter	Unit	Value
	Appearance		Gray black
JIS K 2220	Penetration (worked 60 times)	mm/10	310 to 340
	NLGI class		1
	Service temperature range	°C	-30 to 1400
	Density	g/cm ³	1.21
ASTM D 2596	Four ball weld load (1500rpm/1minute)	N	4000
ASTM D 2266	Four ball wear scar (1200rpm, 392N, 1 hour)	mm	0.75
	Total halogen	ppm	200 (max)
	Sulphur content	ppm	250 (max)

*JIS: Japanese Industrial Standard.

ASTM: American Society for Testing and Materials.

HOW TO USE

Clean and degrease the location of use before applying this product. Use a wire brush to remove any sludge or rust on the screws. Carefully apply the paste to fully coat the screws. Do not mix with other lubricants.

HANDLING PRECAUTIONS

This product may irritate the skin or eyes. Wear safety equipment as necessary when handling this product. In the event of contact with skin or eyes, immediately rinse thoroughly with water and seek medical care if necessary. Wash hands thoroughly after handling.

USABLE LIFE AND STORAGE

When stored, unopened in a cool, dark place this product, has a usable life of 60 months from the date of production.

PACKAGING

This product is available in 500g cans with brushes (10cans/case).

CAUTION

1. Data included in this document are average values, not specification values. Any applications for this product given in this document are merely examples. Perform thorough evaluations to confirm functionality, effectiveness, and safety before use.
2. No guarantees are made that the applications described in this document are free from infringements of any patent.
3. This product was developed for industrial use, and is not intended for use in medical equipment, pharmaceutical products, etc.
4. Be sure to read the material safety data sheet (MSDS) and container label for this product before use.
5. Contact Dow Corning Asia, Ltd., before reproducing any data from this document.

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DOW CORNING CORPORATION
Material Safety Data Sheet

MOLYKOTE(R) P-37 ANTISEIZE PASTE

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.: 02322374

Revision Date: 2008/06/06

Generic Description: Mixture of inorganic and organic compounds

Physical Form: Paste

Color: Gray

Odor: Odorless

NFPA Profile: Health 1 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTSAcute Effects

Eye: Direct contact may cause mild irritation.

Skin: May cause mild irritation.

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,

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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>
1305-62-0	15.0 - 40.0	Calcium hydroxide

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:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
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 (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. 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

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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.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact.

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>
1305-62-0	Calcium hydroxide	ACGIH TLV: TWA 5 mg/m3.

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.

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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:	When heated to temperatures above 150 C (300 F) in the presence of air, product can form formaldehyde vapors. Physical and health hazard information is readily available from Dow Corning Corporation and the Material Safety Data Sheet.

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:	Gray
Odor:	Odorless
Specific Gravity @ 25°C:	1.21
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:	0 g/l
pH:	Not determined.
Volatile Content:	0.00 %
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

MOLYKOTE(R) P-37 ANTISEIZE PASTE

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. 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.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

MOLYKOTE(R) P-37 ANTISEIZE PASTE

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

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.

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<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7782-42-5	15.0 - 40.0	Graphite
1305-62-0	15.0 - 40.0	Calcium hydroxide
1314-23-4	10.0 - 30.0	Zirconium oxide
7631-86-9	1.0 - 5.0	Silica, amorphous

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
8042-47-5	40.0 - 70.0	Mineral oil
7782-42-5	15.0 - 40.0	Graphite
1305-62-0	15.0 - 40.0	Calcium hydroxide
1314-23-4	10.0 - 30.0	Zirconium oxide
9003-29-6	5.0 - 10.0	Polybutene
7631-86-9	1.0 - 5.0	Silica, amorphous

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
8042-47-5	40.0 - 70.0	Mineral oil
7782-42-5	15.0 - 40.0	Graphite
1305-62-0	15.0 - 40.0	Calcium hydroxide
1314-23-4	10.0 - 30.0	Zirconium oxide
9003-29-6	5.0 - 10.0	Polybutene
7631-86-9	1.0 - 5.0	Silica, amorphous

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MOLYKOTE(R) P-37 ANTISEIZE 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.

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