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# Material Safety Data Sheet

## Molybdenum disulfide MSDS

### Section 1: Chemical Product and Company Identification

<b>Product Name:</b> Molybdenum disulfide <b>Catalog Codes:</b> 10986 <b>CAS#:</b> [1317-33-5] <b>RTECS:</b> Not available <b>TSCA:</b> Not available <b>CI#:</b> Not available <b>Synonym:</b> DAG 325; Molybdenum(iv) sulfide, Molykote Mopol M; Mopol S <b>Chemical Formula:</b> MoS <sub>2</sub>	<b>Contact Information:</b> <b>Finar Limited</b> 184-186/P, Chacharwadi Vasna, Sarkhej-Bavla Highway, Ta.: Sanand, Dist.: Ahmedabad, Email: info@finarchemicals.com Web: www.finarchemicals.com
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### Section 2: Composition and Information on Ingredients

Composition:	CAS #	% by Weight
<b>Name</b> Molybdenum disulfide	1317-33-5	98.5

### Section 3: Hazards Identification

<b>Potential Acute Health Effects:</b> <b>Eye:</b> Dust may cause mechanical irritation. The toxicological properties of this material have not been fully investigated. <b>Skin:</b> May cause skin irritation. The toxicological properties of this material have not been fully investigated. <b>Ingestion:</b> May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated. <b>Inhalation:</b> Dust is irritating to the respiratory tract. The toxicological properties of this substance have not been fully investigated. <b>Potential Chronic Health Effects:</b> No information found.
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### Section 4: First Aid Measures

<b>Eyes:</b> Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. <b>Skin:</b> Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. <b>Ingestion:</b> If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. <b>Inhalation:</b> Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. <b>Notes to Physician:</b> Treat symptomatically and supportively.
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### Section 5: Fire and Explosion Data

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressuredemand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: ; Flammability: ; Instability:

### Section 6: Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

### Section 7: Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8: Exposure Controls/Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

**OSHA Vacated PELs:** Molybdenum (IV) sulfide: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Section 9: Physical and Chemical Properties

**Physical State:** Powder

**Appearance:** dark gray

**Odor:** None reported.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** 5.51

**Evaporation Rate:**Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:**2375 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Soluble in aqua regia and sulfuric acid

**Specific Gravity/Density:** Not available.

**Molecular Formula:**MoS2

**Molecular Weight:**160.07

### Section 10: Stability and Reactivity Data

**Chemical Stability:** Stability unknown.

**Conditions to Avoid:** Incompatible materials, dust generation, strong oxidants.

**Incompatibilities with Other Materials:** Strong oxidizing agents, hydrogen peroxides, potassium nitrate.

**Hazardous Decomposition Products:** Oxides of sulfur, hydrogen sulfide, oxides of molybdenum.

**Hazardous Polymerization:** Has not been reported.

### Section 11: Toxicological Information

**RTECS#:**

**CAS# 1317-33-5: QA4697000**

**LD50/LC50:**

**CAS# 1317-33-5:**

Inhalation, rat: LC50 = >2820 mg/m<sup>3</sup>/4H;

**Carcinogenicity:**

**CAS# 1317-33-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.**

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

### Section 12: Ecological Information

No information available.

### Section 13: Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series: None listed.**

**RCRA U-Series: None listed.**

### Section 14: Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available
Hazard Class:		
UN Number:		
Packing Group:		

### Section 15: Other Regulatory Information

**US FEDERAL**

**TSCA**

CAS# 1317-33-5 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

Section 313 No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 1317-33-5 can be found on the following state right to know lists: California, (listed as Molybdenum), California, (listed as Molybdenum compounds, n.o.s.), New Jersey, (listed as Molybdenum), Pennsylvania, (listed as Molybdenum), Minnesota, (listed as Molybdenum), Minnesota, (listed as Molybdenum insoluble compounds), Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

**Risk Phrases:****Safety Phrases:**

S 22 Do not breathe dust.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 28A After contact with skin, wash immediately with plenty of water.

**WGK (Water Danger/Protection)**

CAS# 1317-33-5: 0

**Canada - DSL/NDSL**

CAS# 1317-33-5 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of Not controlled.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 1317-33-5 (listed as Molybdenum) is listed on the Canadian Ingredient Disclosure List.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/06/2010

**Last Updated:** 24/11/2012

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Finar Limited be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Finar Limited has been advised of the possibility of such damages.*