

MOLYBDENUM OXIDE
SAFETY DATA SHEET

DATE OF LAST REVISION: 09/15/15

Section 1: Identification

Product Name: Molybdenum Oxide
CAS Number: 1313-27-5 / **EC Number:** 215-204-7
Company: Angstrom Sciences, Inc.
40 South Linden Street
Duquesne, PA 15110
For more information call: 412-469-8466
(Monday - Friday 9-5:00 EST)

Section 2: HAZARD IDENTIFICATION

Signal Word: Warning



Hazard Statements: H319 Causes serious eye irritation
H335 May cause respiratory irritation
H351: Suspected of causing cancer

Precautionary Statements: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash skin thoroughly after handling
P271: Use only outdoors or in a well-ventilated area.
P280: Wear eye protection/face protection
P281: Use personal protective equipment as required.
P304 + P340 + P312: If Inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Center or doctor/physician if you feel unwell.
P305 + P351 + P338: if In Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313: If exposed or concerned: Get medical advice/attention.
P337 + P313: If eye irritation persists: Get medical advice/attention.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to an approved waste disposal plant.

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HMIS Health Ratings (0-4):

Health: 2
Flammability: 0
Physical: 0

Section 3: Composition/Information on Ingredients

Chemical Family: Ceramic
Additional Names: Molybdenum trioxide, Molybdic anhydride, Molybdite, Molybdic trioxide
Molybdenum sulfide (MoS₂)
Percentage: 100 wt%
CAS#: 1313-27-5
EC number: 215-204-7

Section 4: FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.

Special Treatment: None

Important Symptoms: None

Eye Contact: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Skin Contact: Wash affected area with mild soap and water. Remove any contaminated clothing.

Inhalation: Remove to fresh air. If required, give artificial respiration. Seek medical advice.

Ingestion: Seek medical attention.

Section 5: FIRE FIGHTING MEASURES

Flammability: Non-Flammable, except as powder.

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedure: Use full-face, self contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.

Environmental Precautions: Isolate runoff to prevent environmental pollution.

Section 7: HANDLING AND STORAGE

Handling Precautions for safe handling: Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in Section 10.

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Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Permissible Exposure Limits: 15 mg/m³ as Mo total dust, long-term value

Threshold Limit Value: 10 mg/m³ as Mo inhalable, long-term value
3 mg/m³ as Mo respirable

Special Equipment: None

Respiratory Protection: Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protective Gloves: Nitrile rubber, NBR gloves

Eye Protection: Safety glasses or goggles

Body Protection: Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Powder, Granules, Pellets, Sputtering target, Custom parts

Color: Light grey

Odor: Odorless

Water Solubility: 1 g/l at 20°C

Boiling Point: N/A

Melting Point: 795°C

Flash Point: N/A

Autoignition Temperature: N/A

Density: 6.47 g/cc

Molecular Weight: 143.94 g/mol

Section 10: STABILITY AND REACTIVITY

Reactivity: Reacts with oxidizing agents

Chemical Stability: Stable under recommended storage conditions

Incompatible Conditions: None

Hazardous Decomposition Products: Metal oxide fume

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Section 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eyes: Cause serious irritation

Skin: May cause irritation

Ingestion: May cause irritation

Inhalation: May cause irritation

Chronic: N/A

Signs & Symptoms:

N/A

Aggravated Medical Conditions:

N/A

Median Lethal Dose:

2689 mg/kg for rat by mouth

Carcinogen:

Suspected of causing cancer by RTECS

Section 12: ECOLOGICAL INFORMATION

Aquatic Toxicity: Low

Persistence Bioaccumulation Toxicity: No

Very Persistent, Very Bioaccumulative: No

Notes: N/A

Section 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, national, and international regulations

Section 14: TRANSPORT INFORMATION

Hazardous: Not hazardous for transportation.

Hazard Class: N/A

Packing Group: N/A

UN Number: N/A

Proper Shipping Name: N/A

Section 15: REGULATORY INFORMATION

Sec 302 Extremely Hazardous: No

Sec 304 Reportable Quantities: N/A

Sec 313 Toxic Chemicals: Yes

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Section 16: OTHER INFORMATION

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.