



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Molybdenum (VI) Oxide**
PRODUCT NUMBER: 2609
CAS NUMBER: 1313-27-5
SYNONYMS: Molybdic anhydride, molybdenum trioxide, molybdite

MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Warning

Hazard Statements

| | |
|------|-----------------------------------|
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |

Precautionary Phrases

| | |
|----------------|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear eye protection/face protection. |
| 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. |

HMIS CLASSIFICATION:

Health: 2 Chronic: * Fire: 0 Reactivity Hazard: 0

NFPA RATING:

Health: 2 Flammability: 0 Reactivity Hazard: 0

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

EYE CONTACT: Causes slight to mild irritation of the eyes.

SKIN CONTACT: Causes slight to mild irritation of the skin.

INHALATION: The material is a fine powder. Irritating to the nose, mucous membranes, and respiratory tract.

INGESTION: Harmful if swallowed. Ingestion may lead to vomiting and diarrhea.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: MoO₃

Molecular Weight: 143.95

| CHEMICAL NAME | CAS# | % |
|-----------------------|-----------|-----|
| Molybdenum (VI) Oxide | 1313-27-5 | 100 |

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

SKIN EXPOSURE: Wash affected area with soap and plenty of water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases, seek immediate medical assistance.

INGESTION: Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not applicable. This product is not flammable.

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Not available

EXTINGUISHING MEDIUM: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Molybdenum oxides

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust.

ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Mix spill with vermiculite or sodium carbonate. Sweep up and place in suitable container for proper disposal.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Ensure adequate ventilation. Avoid contact with skin and eyes.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:

| Component | Exposure Limits | Basis | Entity |
|-----------------------|-----------------------|-------|--------|
| Molybdenum (VI) Oxide | 5 mg/m ³ | TWA | OSHA |
| | 0.5 mg/m ³ | TLV | OSHA |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

EYE PROTECTION: Wear chemical safety glasses or goggles and face shield.

SKIN PROTECTION: Wear nitrile or rubber gloves, and a complete suit protecting against chemicals.

VENTILATION: Provide local exhaust, preferably mechanical.

RESPIRATOR: Use an approved respirator.

ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Pale green powder

ODOR: None

MOLECULAR WEIGHT: 143.95

BOILING POINT: 1155° C (subl.)

MELTING POINT: 795° C

SPECIFIC GRAVITY: 4.69 gm/ml

VAPOR DENSITY: No data available

SOLUBILITY: Very slightly soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: None

INCOMPATIBILITY: Strong oxidizing agents and strong acids.

DECOMPOSITION PRODUCTS: Molybdenum oxides

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: LD50 Oral – rat – male – 2,689 mg/kg. LD50 Oral – rat – female – 3,830 mg/kg. LC50 Inhalation – rat – male and female – 4 h - > 5.05 mg/l. LD50 Dermal – rat – male and female - > 2,000 mg/kg.

CARCINOGENIC EFFECTS: No component of this product present at levels greater than or equal to 0.1% is identified as a human carcinogen.

MUTAGENIC EFFECTS: Not available

TETRAOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Not available

RTECS: QA4725000

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

TOXICITY TO FISH: Static test LC50 – Pimephales promales (fathead minnow) – 577 mg/l – 96 h.

TOXICITY TO DAPHNIA AND OTHER AWUATIC INVERTEBRATES: Static test LC50 – Daphnia magna (Water flea) – 206.8 mg/l – 48 h.

TOXICITY TO BACTERIA: Respiration inhibition EC50 – Sludge Treatment – 820 mg/l – 3 h.

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local, state, and federal regulations.

SECTION 14 TRANSPORTATION DATA

Not a dangerous good

SECTION 15 REGULATORY INFORMATION

SARA 302/304: Not Listed

SARA 311/312: Acute Health Hazard, Chronic Health Hazard

SARA (TITLE 313): Molybdenum (VI) Oxide

CALIFORNIA PROP. 65: Not Listed

MASSACHUSETTS RIGHT TO KNOW COMPONENTS: Molybdenum (VI) Oxide

NEW JERSEY RIGHT TO KNOW COMPONENTS: Molybdenum (VI) Oxide

PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Molybdenum (VI) Oxide

SECTION 16 OTHER INFORMATION

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DATE PREPARED: 03/15

SDS DEPT.