



XI'AN FUNCTION MATERIAL GROUP CO., LTD
Material Safety Data Sheet
Molybdenum Oxide

1. Product and Company Identification

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| Trade Name: | Molybdenum oxide |
| Chemical Formula: | MoO ₃ |
| Manufacturer/Supplier: | XI'AN FUNCTION MATERIAL GROUP CO., LTD |
| Street: | No. 69, Gazelle Valley, High-Tech Zone |
| City: | XI'AN |
| State: | Shaanxi |
| Zip Code: | 710077 |
| Country: | China |
| Tel #: | +86-29-88993870/+86-13519132051 |

2. Hazards Identification

Signal Word: Danger



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

Precautionary Statements: P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
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. P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):
Health:
Flammability:
Physical:

2
0
1

3. Composition

Chemical Family: Ceramic
Additional Names: Molybdenum trioxide, Molybdic anhydride, Molybdite, Molybdic trioxide, Molybdenum(VI) oxide

Molybdenum oxide (MoO₃):
Percentage: 100 wt%
CAS #: 1313-27-5
EC #: 215-204-7

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion: Seek medical attention.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability: Non-flammable
Extinguishing Media: No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. 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.

6. Accidental Release Measures

If Material Is Released/Spilled: 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. Do not let product enter drains.

7. Handling and Storage

Handling Conditions: Wash thoroughly after handling.
Storage Conditions: Store in a cool dry place in a tightly sealed container. Prevent formation of dust. Store apart from materials and conditions listed in section 10.
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.

8. Exposure Controls and Personal Protection

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| Permissible Exposure Limits: | 0.5 mg/m ³ as Mo total dust, long-term value |
| Threshold Limit Value: | 10 mg/m ³ as Mo inhalable, long-term value 3 mg/m ³ as Mo respirable, long-term value |
| Special Equipment: | None |
| Respiratory Protection: | Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. |
| Protective Gloves: | Nitrile rubber, NBR 0.11mm thick. |
| Penetration time of glove material: | 480 minutes |
| Eye Protection: | Safety glasses or goggles |
| Body Protection: | Protective work clothing. Wear close-toed shoes and long sleeves/pants. |

9. Physical and Chemical Characteristics

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|---------------------------|--|
| Color | light grey |
| Form: | Powder, Granules, Pellets, Sputtering target, Custom parts |
| Odor: | Odorless |
| Water Solubility: | 0.5 g/l at 20° C |
| Boiling Point: | 1155 °C |
| Melting Point: | 795 °C |
| Flash Point: | N/A |
| Autoignition Temperature: | N/A |
| Density: | 6.47 g/cc (at 20°C) |
| Molecular weight: | 143.94 g/mol |

10. Reactivity

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| Stability: | Stable under recommended storage conditions |
| Reacts With: | N/A |
| Incompatible Conditions: | Acids, Oxidizing agents |
| Hazardous Decomposition Products: | Metal oxide fume |

11. Toxicological Information

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| Potential Health Effects: | |
| Eyes: | Causes serious eye 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: | 188 mg/kg for rat by mouth |
| Carcinogen: | Carcinogenicity - Rat - Inhalation Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Limited evidence of a carcinogenic effect. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. . Ecological Information

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| Aquatic Toxicity: | Low |
| Persistent Bioaccumulation Toxicity: | No |
| Very Persistent, Very Bioaccumulative: | No |
| Notes: | Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system. Avoid Transfer to the environment. |

13. Disposal Considerations

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

14. Transportation Data

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|-----------------------|----------------------------------|
| Hazardous: | Not hazardous for transportation |
| Hazard Class: | N/A |
| Packing Group: | N/A |
| UN Number: | N/A |
| Proper Shipping Name: | N/A |

15. . Regulatory Information

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| Sec 302 Extremely Hazardous: | No |
| Sec 304 Reportable Quantities: | N/A |
| Sec 313 Toxic Chemicals: | Yes |

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.

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