
1. Product and Company Identification

Trade Name: Molybdenum Telluride
Chemical Formula: MoTe₂
Recommended Use: Scientific research and development

Manufacturer/Supplier: Stanford Advanced Materials

Street: 23661 Birtcher Dr.
City: Lake Forest
State: California
Zip Code: 92630
Country: USA
Tel #: (949) 407-8904

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H301 Toxic if swallowed
H332 Harmful if inhaled

Precautionary Statements: P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health: 2
Flammability: 0
Physical: 0

3. Composition

Chemical Family: Ceramic
Additional Names: Molybdenum Ditelluride

Molybdenum Telluride (MoTe₂):
Percentage: 100 wt.%
CAS #: 12058-20-7
EC #: 235-028-4

4. First Aid Procedures

General Treatment: Seek medical attention.
Special Treatment: None
Important Symptoms: None
Inhalation: Ingestion: Remove victim to fresh air. Supply oxygen if breathing is difficult. Never induce vomiting or give anything by mouth to an unconscious person. Rinse mouth.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

5. Firefighting Measures

Flammability: Non-flammable
Extinguishing Media: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
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.

7. Handling and Storage

Handling Conditions: Storage Conditions: Wash thoroughly after handling. Store in a cool dry place in a tightly sealed container. 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

Permissible Exposure Limits:	0.1 mg/m ³ as MoTe ₂ , long-term value
Threshold Limit Value:	0.1 mg/m ³ as MoTe ₂ , long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Metallic
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	7.78 g/cc
Molecular weight:	351.16 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts with:	Stable and Non-reactive under normal conditions of use
Incompatible Conditions:	Strong Oxidizing agents
Hazardous Decomposition Products:	Metal oxide fume

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	Toxic
Inhalation:	Harmful
Chronic:	N/A
Signs & Symptoms: Aggravated	N/A
Medical Conditions: Median	N/A
Lethal Dose: Carcinogen:	2420 mg/kg for rat by mouth N/A

12. Ecological Information

Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	N/A

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous for transportation as powder only



Hazard Class: Packing 6.1 Toxic substances
Group: III
UN Number: UN3284
Proper Shipping Name: Tellurium compound, n.o.s. (Molybdenum Telluride)

15. Regulatory Information

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

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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