

<a href="#">Molybdenum Telluride</a>	<a href="#">Pricing &gt;</a>
<a href="#">Molybdenum Telluride Crystal</a>	<a href="#">Pricing &gt;</a>
<a href="#">Molybdenum Telluride Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<b>Linear Formula</b>	MoTe <sub>2</sub>
<b>Pubchem CID</b>	64728
<b>MDL Number</b>	MFCD00014217
<b>EC No.</b>	235-028-4
<b>IUPAC Name</b>	bis(tellanylidene)molybdenum
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Te]=[Mo]=[Te]
<b>Inchl Identifier</b>	InChI=1S/Mo.2Te
<b>Inchl Key</b>	HITXEXPSQXNMAN-UHFFFAOYSA-N
<b>Signal Word</b>	N/A
<b>Hazard Statements</b>	N/A
<b>Hazard Codes</b>	N/A
<b>Risk Codes</b>	N/A
<b>Safety Statements</b>	N/A
<b>Transport Information</b>	N/A

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## SAFETY DATA SHEET

Date Accessed: 08/13/2022

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### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #12058-20-7

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024

Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
Classification according to Regulation (EC) No  
1272/2008

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Classification according to Directive 67/548/EEC or  
Directive 1999/45/EC

Xn; Harmful

R20/21/22: Harmful by inhalation, in contact with skin  
and if swallowed.

N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause  
long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human  
and environment:

N/A

Hazards not otherwise classified

No data available

Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to  
the CLP regulation.

Hazard pictogram



GHS07

Signal word

Warning

Hazard statements

H302+H312+H332 Harmful if swallowed, in contact  
with skin or if inhaled.

Precautionary statements

P261 Avoid breathing  
dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye  
protection/face protection.

P304+P340 IF INHALED: Remove person to fresh air  
and keep comfortable for breathing.

P301+P312 IF SWALLOWED: Call a POISON  
CENTER/doctor/.../if you feel unwell.

P312 Call a POISON CENTER/doctor/.../if you feel unwell.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.  
WHMIS classification  
D2A - Very toxic material causing other toxic effects  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
2  
0  
1  
Health (acute effects) = 2  
Flammability = 0  
Physical Hazard = 1  
Other hazards  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

MOLYBDENUM TELLURIDE  
Cas Number: 12058-20-7

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### **SECTION 4. FIRST AID MEASURES**

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
Inhalation: Move to fresh air. Call a physician immediately.  
Skin contact: Rinse immediately with plenty of water and seek medical advice  
Ingestion: Do not induce vomiting without medical advice.  
Eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Protection of first-aiders: No data available  
Medical conditions aggravated by exposure: None known

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## **SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media:

Use dry chemical, CO<sub>2</sub>, water spray or "alcohol" foam

Specific hazards:

Burning produces irritant fumes.

Unusual hazards:

None known

Special protective equipment for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Specific methods:

Water mist may be used to cool closed containers.

Flash point:

No data available

Autoignition temperature:

No data available

NFPA rating:

NFPA Health: 4

NFPA Flammability: 0

NFPA Reactivity: 0

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions:

Use personal protective equipment.

Environmental precautions:

Prevent product from entering drains.

Methods for cleaning up:

Sweep up and shovel into suitable containers for disposal.

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## **SECTION 7. HANDLING AND STORAGE**

Storage:

ROOM TEMPERATURE

Handling:

Use only in area provided with appropriate exhaust ventilation.

Safe handling advice:

Wear personal protective equipment.

Incompatible products:

Oxidising and spontaneously flammable products

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Engineering measures:

Ensure adequate ventilation.

**PERSONAL PROTECTIVE EQUIPMENT**

Respiratory protection:

Breathing apparatus only if aerosol or dust is formed.

Hand protection:

Pvc or other plastic material gloves

Skin and body protection:

Usual safety precautions while handling the product will provide adequate protection against this potential effect.

Eye protection:

Safety glasses with side-shields

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state: Solid

Formula: MoTe<sub>2</sub>

Molecular weight: 351.14

Melting point/range: No data available at this time.

Boiling point/range: No Data available at this time.

Density: No data available

Vapor pressure: No data available

Evaporation rate: No data available

Vapor density: No data available

Solubility (in water): No data available

Flash point: No data available

Autoignition temperature: No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Stability:

Stable under recommended storage conditions.

Polymerization:

None under normal processing.

Hazardous decomposition products:

Tellurium (Te)

Materials to avoid:

Hazards vary depending upon specific compound. (as Te)

Conditions to avoid:

Exposure to air or moisture over prolonged periods.

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Product Information

Acute toxicity

Components

RTECS Number: Selected LD50s and LC50s

MOLYBDENUM TELLURIDE

Not Available Inhalation LC50 Rat : >2420 mg/m<sup>3</sup>/4H

Oral LD50 Rat : >5 gm/kg

Oral LD50 Mouse : >5 gm/kg

Chronic toxicity:

Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.

Local effects:

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Specific effects:

May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.

Primary irritation:

No data is available on the product itself.

Carcinogenic effects:

No data is available on the product itself.

Mutagenic effects:

No data is available on the product itself.

Reproductive toxicity:

No data is available on the product itself.

Components

NIOSH - Health Effects

MOLYBDENUM TELLURIDE

Malaise; CNS and red blood cell effects in animals

NIOSH - Target Organs

skin, CNS, blood

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Ecotoxicological effects:

Remark:

Very toxic for aquatic organisms

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

Other adverse effects

No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## **SECTION 14. EXPOSURE CONTROLS/PERSONAL PROTECTION**

UN-Number

DOT, IMDG, IATA

UN3077

UN proper shipping name

DOT

Environmentally hazardous substances, solid, n.o.s.  
(Molybdenum telluride)

IMDG, IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S. (Molybdenum telluride)

Transport hazard class(es)

DOT, IMDG

Class

9 Miscellaneous dangerous substances and articles.

Label

9

Class

9 (M7) Miscellaneous dangerous substances and

articles  
Label  
9  
IATA  
Class  
9 Miscellaneous dangerous substances and articles.  
Label  
9  
Packing group  
DOT, IMDG, IATA  
III  
Environmental hazards: Special marking (ADR):  
Symbol (fish and tree)  
Special marking (IATA):  
Symbol (fish and tree)  
Special precautions for user  
Warning: Miscellaneous dangerous substances and  
articles  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information: DOT  
Marine Pollutant (DOT): No  
UN "Model Regulation":  
UN3077, Environmentally hazardous substances,  
solid, n.o.s. (Molybdenum telluride),  
9, III

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## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental  
regulations/legislation specific for the substance or  
mixture  
National regulations  
All components of this product are listed in the U.S.  
Environmental Protection Agency Toxic Substances  
Control Act Chemical substance Inventory.  
All components of this product are listed on the  
Canadian Non-Domestic Substances List (NDSL).  
SARA Section 313 (specific toxic chemical listings)  
Substance is not listed.  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
Substance is not listed.  
Prop 65 - Developmental toxicity  
Substance is not listed.  
Prop 65 - Developmental toxicity, female  
Substance is not listed.  
Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.



Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.