Copper Molybdate	Pricing >
Copper Molybdate Sputtering Target	Pricing >

Linear Formula	$CuMoO_4$
Pubchem CID	16217046
MDL Number	MFCD00016057
EC No.	237-378-3
IUPAC Name	copper dioxido(dioxo) molybdenum
Beilstein/Reaxys No.	N/A
SMILES	[O-][Mo](=O)(=O)[O-].[Cu+2]
Inchl Identifier	InChI=1S/Cu.Mo.4O/q+2;;;;2*-1
Inchl Key	IKUPISAYGBGQDT-UHFFFAOYSA-N

Signal Word	N/A
Hazard Statements	N/A
Hazard Codes	N/A
Risk Codes	N/A
Safety Statements	N/A
Transport Information	N/A

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SAFETY DATA SHEET

Date Accessed: 08/07/2022
Date Revised: 05/15/2015

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #13767-34-5

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

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
GHS08 Health hazard
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
GHS07
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.
Hazards not otherwise classified
No data available
GHS label elements
GHS label elements, including precautionary statements
Hazard pictograms

GHS07 GHS08
Signal word
Warning
Hazard statements
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
P260
Do not breathe dust/fume/gas/mist/vapors/spray.
P261
Avoid breathing dust/fume/gas/mist/vapors/spray.
P280
Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405
Store locked up.
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 (acute effects) = 1
Flammability = 0
Physical Hazard = 0
Other hazards
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:
13767-34-5 Copper molybdenum oxide
Identification number(s):
EC number:
237-378-3

SECTION 4. FIRST AID MEASURES

Description of first aid measures
If inhaled:
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
Seek immediate medical advice.
In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.
If swallowed:
Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed
No data available
Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions:
Do not allow material to be released to the environment without official permits.
Methods and materials for containment and cleanup:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards:
No special measures required.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Prevent formation of dust.
Information about protection against explosions and fires:
The product is not flammable
Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
Not required.
Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters
Components with limit values that require monitoring at the workplace:
Copper
mg/m3
ACGIH TLV 1 (dust, mist)
0.2 (fume)
Austria MAK 1
0.1 (fume)
Belgium TWA 0.2 (fume)
1 (dust)
Denmark TWA 0.1
Finland TWA 0.2 (fume)
1 (dust)
France VME 0.1 (fume)
1 (dust)
1; 2-STEL (dust)
Germany MAK 0.1 (fume)
1 (dust)
Hungary TWA 0.2; 0.4-STEL (dust)
Korea TLV 1 (dust, mist)
0.2 (fume)
Netherlands MAC-TGG 1 (dust)
Norway TWA 0.05
0.1 (fume)
Poland TWA 0.1; 0.3-STEL (fume)
1; 2-STEL (dust)
Russia 1-STEL (dust)
Sweden NGV 0.2 (resp. dust)
1 (total dust)
Switzerland MAK-W 0.1; 0.2-KZG-W (fume)
1; 1-KZG-W
United Kingdom TWA 0.2 (fume)
1; 2-STEL (dust, mist)
; 3-STEL
USA PEL TWA 0.1 (fume)
1 (dust, mist)
Copper
mg/m3
ACGIH TLV 1 (dust, mist); 0.2 (fume)

Austria MAK 1
0.1 (fume)
Belgium TWA 0.2 (fume); 1 (dust)
Denmark TWA 0.1
Finland TWA 0.2 (fume); 1 (dust)
France VME 0.2 (fume); 1 (dust)
1; 2-STEL (dust)
Germany MAK 0.1 (fume); 1 (dust)
Hungary TWA 0.2; 0.4-STEL (dust)
Netherlands MAC-TGG 1 (dust)
Norway TWA 0.05
0.1 (fume)
Poland TWA 0.1; 0.3-STEL (fume)
1; 2-STEL (dust)
Russia 1-STEL (dust)
Sweden NGV 0.2 (resp. dust); 1 (total dust)
Switzerland MAK-W 0.1; 0.2-KZG-W (fume)
1; 1-KZG-W
United Kingdom TWA 0.2 (fume)
1; 2-STEL (dusts and mists as Cu)
1; 3-STEL
USA PEL 0.1 (fume, dusts & mists)
Molybdenum and compounds (as Mo)
mg/m3
ACGIH TLV 5
Austria MAK 15
Belgium TWA 5
Denmark TWA 5
Finland TWA 5
France VME 5
Germany MAK 5
Netherlands MAC-TGG 5
Sweden NGV 10 (total dust)
5 (respirable dust)
Switzerland TWA 5
United Kingdom TWA 10; 20-STEL
USA PEL 5
Additional information:
No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Use suitable respirator when high concentrations are present.
Protection of hands:

Impervious gloves
Inspect gloves prior to use.
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.
Penetration time of glove material (in minutes)
Not determined
Eye protection:
Safety glasses
Body protection:
Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Powder
Color: Green
Odor: Odorless
Odor threshold: Not determined.
pH: N/A
Melting point/Melting range: ca. 5 °C (ca. 41 °F)
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined
Flash point: N/A
Flammability (solid, gas)
Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Autoignition: Not determined.
Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined
Upper: Not determined
Vapor pressure: N/A
Density at 20 °C (68 °F): 3.4 g/cm³ (28.373 lbs/gal)
Relative density
Not determined.
Vapor density
N/A
Evaporation rate
N/A
Solubility in Water (H_2O): Insoluble
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
No data available
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
No dangerous reactions known
Conditions to avoid
No data available
Incompatible materials:
No data available
Hazardous decomposition products:
Metal oxide fume

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
No effects known.
LD/LC50 values that are relevant for classification:
No data
Skin irritation or corrosion:
Irritant to skin and mucous membranes.
Eye irritation or corrosion:
Causes serious eye irritation.
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
No effects known.
Specific target organ system toxicity - repeated exposure:
May cause damage to organs through prolonged or repeated exposure.
Specific target organ is not known.
Specific target organ system toxicity - single exposure:
May cause respiratory irritation.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:

Acute molybdenum poisoning may cause severe gastrointestinal irritation, diarrhea, coma and death from cardiac failure.
Chronic molybdenum poisoning in laboratory animals has caused loss of weight, anorexia,
anemia, deficient lactation, male sterility, osteoporosis and bone joint abnormalities.
Copper compounds may be irritating to the skin, eyes and respiratory tract. They may cause metal fume fever, hemolysis of the red blood cells and injury to the liver, lungs, kidneys and pancreas. Ingestion may also cause vomiting, gastric pain, dizziness, anemia, cramps, convulsions, shock, coma and death.
Subacute to chronic toxicity:
No effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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
Additional ecological information:
Do not allow material to be released to the environment without official permits.
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A
Other adverse effects
No data available

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.

SECTION 14. TRANSPORT INFORMATION

Not a hazardous material for transportation.
UN-Number
DOT, IMDG, IATA
None
UN proper shipping name
DOT, IMDG, IATA
None
Transport hazard class(es)
DOT, ADR, IMDG, IATA
Class
None
Packing group
DOT, IMDG, IATA
None
Environmental hazards:
N/A
Special precautions for user
N/A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
Not dangerous according to the above specifications.
DOT
Marine Pollutant (DOT):
No

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS GHS label elements, including precautionary statements
Hazard pictograms
GHS07
GHS08
Signal word
Warning
Hazard statements
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through

prolonged or repeated exposure.
Precautionary statements
P260
Do not breathe dust/fume/gas/mist/vapors/spray.
P261
Avoid breathing dust/fume/gas/mist/vapors/spray.
P280
Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405
Store locked up.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations
This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.
SARA Section 313 (specific toxic chemical listings)
13767-34-5 Copper molybdenum oxide
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.
This product contains copper and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
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.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

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.