

MATERIAL SAFETY DATA SHEET

NOAH TECHNOLOGIES
TELEPHONE 210-691-2000

1 Noah Park, San Antonio, TX 78249
EMERGENCY CALL CHEMTREC 800-424-9300

The following information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.

PRODUCT INFORMATION

PRODUCT NAME: MOLYBDENUM (VI) OXIDE

Chemical Name: Molybdenum (IV) Oxide
Formula: MoO₃
Synonyms: Molybdenum trioxide, molybdc anhydride
CAS #: 1313-27-5 Chemical Family: Metal oxide

HAZARDOUS INGREDIENTS

Materials or Components	%	Hazard Data
Molybdenum (VI) Oxide		orl-rat LD ₅₀ : 2689 mg/kg ihl-rat LC ₅₀ : >5840 mg/kg skn-rat LD ₅₀ : >2000 mg/kg ipr-mus LD ₅₀ : 141 mg/kg scu-mus LD ₅₀ : 94 mg/kg

ECOLOGICAL INFORMATION

Materials or Components	%	Ecological Data
No Ecological data available		

PHYSICAL PROPERTIES

Boiling Point/Range: 1155 C Melting Point: 795 C
Freezing Point: N/A Molecular Weight (Calc.): 143.94
Specific Gravity (H₂O=1): 4.7
Vapor Density (Air=1): N/A % Volatiles by Volume: N/A
Solubility in H₂O: 1.066 g/L @ 18 C
Evaporation Rate: N/A
Vapor Pressure (mm Hg): N/A
Appearance & Odor: White-yellow, green or grey powder, odorless

HMIS RATING

HMIS Rating: Health = 2 Fire = 0 Reactivity = 0 PPE = E

FIRE and EXPLOSION DATA

Flash Point / Test Method: Non-flammable
Flammable limits -- Lower: N/A Upper: N/A
Autoignition Temperature: N/A

EXTINGUISHING MEDIA:

Use extinguishing media most suitable to surrounding fire conditions

SPECIAL FIRE FIGHTING PROCEDURES:

Wear SCBA

Wear full fire fighting protective equipment

UNUSUAL FIRE and EXPLOSION HAZARD:

Violent detonation will occur when heated with molten magnesium. Exothermic reactions will occur with aluminum, lithium and silicon.

REACTIVITY DATA

STABILITY: Stable

CONDITIONS CONTRIBUTING TO UNSTABILITY:

INCOMPATIBILITY (Avoid contact with) :

Strong Acids

Strong oxidizers

Chlorine trifluoride, molten magnesium. Potassium and sodium will cause reduction with incandescence.

HAZARDOUS DECOMPOSITION PRODUCTS (Thermal and Other) :

Oxides of molybdenum

CONDITIONS TO AVOID :

N/A

SPILL OR LEAK

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED :

Sweep or scoop up and remove

Prevent spread or spill

Avoid dusting. Place in a suitable container for proper disposal. Always wear personal protective equipment.

WASTE DISPOSAL METHOD : Consult federal, state and local Authorities for proper disposal procedures

This product contains chemical (s) subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-to-know Act of 1986 and 40CFR372.

TOXICITY

Can be fatal through inhalation, ingestion, and/or absorption. May cause irritation to the mucous membranes, throat and respiratory system. May also cause irritation to the skin and eyes. Possible signs of overexposure may include diarrhea, lack of coordination, loss of weight and hair loss.

HEALTH HAZARD INFORMATION

EFFECTS OF EXPOSURE

PERMISSIBLE EXPOSURE LIMIT :

ACGIH TLV: TWA 5 mg(Mo)/m3

OSHA PEL: TWA 5 mg(Mo)/m3:8H

IRRITATION :

EYE: Mild

SKIN: Mild

CORROSIVITY :

EYE: N/A

SKIN: N/A

SENSITIZATION :

LUNG EFFECTS :

Irritating to mucous membranes and upper respiratory tract

OTHER :

N/A

EMERGENCY FIRST AID

INGESTION :

Get medical attention

If conscious, rinse mouth out with water. Never give anything by mouth to an unconscious individual.

DERMAL :

Flush with soap and water

If irritation persists, consult a physician

EYE CONTACT :

Flush with plenty of water for at least 15 minutes

Get medical attention

INHALATION :

Remove to fresh air

Get medical attention

If not breathing, give artificial respiration

If breathing is difficult, give oxygen

Only qualified personnel should administer oxygen

SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENT

Always maintain exposure below permissible exposure limits

Consult an industrial hygienist or environmental health specialist

Local exhaust

Use with adequate ventilation

EYE :

Safety glasses

HAND (GLOVE TYPE)

Neoprene

Natural rubber

Impervious

RESPIRATOR TYPE (Use only NIOSH/MESA approved equipment) :

Filter-dust, fume, mist

Other Protective Equipment : Sufficient to prevent skin contact

Emergency eyewash and safety shower

SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING :

Wash thoroughly after handling

Do not get in eyes, on skin or on clothing

Do not breathe dust, vapor, mist, gas

Keep container closed

Store in tightly closed containers

Toxic. Store in a cool dry place.

Other handling / storage conditions :

Irritant. Always wear personal protective equipment.

DOT Classification : Toxic

Other : Product is listed on the TSCA inventory. Product is not regulated under CERCLA, SARA Sec. 302, 304. Product is not listed as a carcinogen.

ERG No: 151

Effective Date: 1/14/2009