Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Molybdenum 1 Reagent
Catalog Number: 2359299

Hach Company
P.O. Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00125
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Hazard: May cause irritation.
Date of MSDS Preparation:
Day: 19
Month: January
Year: 2001

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ascorbic Acid
CAS No.: 50-81-7
TSCA CAS Number: 50-81-7
Percent Range: 30.0 - 40.0
Percent Range Units: weight / weight
LD50: Oral rat LD50 = 11900 mg/kg
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: Practically non-toxic.

Other component
CAS No.: Not applicable
TSCA CAS Number: Not applicable
Percent Range: < 1.0
Percent Range Units: weight / weight
LD50: Not applicable
LC50: Not applicable
TLV: Not established
PEL: Not established
Hazard: Any ingredient(s) of this product listed as "Other component(s)" is not considered a health hazard to the user of this product.

Potassium Acid Phthalate
CAS No.: 877-24-7
TSCA CAS Number: 877-24-7
Percent Range: 60.0 - 70.0
Percent Range Units: weight/weight
LD50: Oral rat LDLo = 3200 mg/kg
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: May cause irritation.

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Orange-yellow powder
Odor: None
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION

HMIS:
Health: 1
Flammability: 1
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.

NFPA:
Health: 1
Flammability: 1
Reactivity: 0
Symbol: Not applicable

Potential Health Effects:
Eye Contact: May cause irritation
Skin Contact: May cause irritation
Skin Absorption: No effects anticipated
Target Organs: Not applicable
Ingestion: May cause: gastrointestinal irritation nausea vomiting paresthesias (tingling or burning sensation) of the hands and feet
Target Organs: Central nervous system
Inhalation: May cause: irritation of nose and throat
Target Organs: None reported
Medical Conditions Aggravated: None reported
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any OSHA listed carcinogens.
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen.
Toxicologically Synergistic Products: None reported

4. FIRST AID

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water.
Ingestion (First Aid): Give large quantities of water. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Flash Point: Not applicable
Method: Not applicable
Flammability Limits:
  Lower Explosive Limits: Not determined
  Upper Explosive Limits: Not determined
Autoignition Temperature: Not determined
Hazardous Combustion Products: Toxic fumes of potassium oxides carbon monoxide, carbon dioxide.
Fire/Explosion Hazards: None reported
  Static Discharge: None reported.
  Mechanical Impact: None reported
Extinguishing Media: Water. Carbon dioxide Dry chemical.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company’s emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Stop spilled material from being released to the environment.
Clean-up Technique: Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.
Special Instructions (for accidental release): Not applicable
304 EHS RQ (40 CFR 355): Not applicable
D.O.T. Emergency Response Guide Number: None

7. HANDLING / STORAGE

Handling: Avoid contact with eyes skin Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Keep container tightly closed when not in use.
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
  Eye Protection: safety glasses with top and side shields
  Skin Protection: disposable latex gloves lab coat
  Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin Do not breathe: dust Wash thoroughly after handling. Keep away from: alkalies oxidizers
TLV: Not established
PEL: Not established
9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Orange-yellow powder
Physical State: Solid
Molecular Weight: Not applicable
Odor: None
pH: 1.6% soln = 3.6
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Boiling Point: Not applicable
Melting Point: 146°C (295°F)
Specific Gravity (water = 1): 1.64
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n-octanol/water): Not applicable
Solubility:
  Water: Soluble
  Acid: Slightly soluble
  Other: Not determined
Metal Corrosivity:
  Steel: 0.082 in/yr
  Aluminum: 0.002 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Heat Excess moisture
Reactivity / Incompatibility: Incompatible with: alkalis oxidizers
Hazardous Decomposition: Toxic fumes of: potassium oxide carbon monoxide carbon dioxide
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: None reported
Mutation Data: Ascorbic Acid: DNA damage human fibroblast 200 μmol/L; DNA damage human cell types 200 μmol/L; DNA inhibition human HeLa cell 2500 μmol/L; DNA inhibition human cell types 200 mg/L
Reproductive Effects Data: None reported
Ingredient Toxicological Data: Potassium Acid Phthalate: Oral rat LD₅₀ = 3200 mg/kg; Ascorbic Acid: Oral rat LD₅₀ = 11900 mg/kg

12. ECOLOGICAL INFORMATION

Product Ecological Information: No information available for this product.
Ingredient Ecological Information: None reported

13. DISPOSAL CONSIDERATIONS
EPA Waste ID Number: None
Special Instructions (Disposal): Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

D.O.T.:
D.O.T. Proper Shipping Name: Not Currently Regulated
---
DOT Hazard Class: NA
DOT Subsidiary Risk: NA
DOT ID Number: NA
DOT Packing Group: NA

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
---
ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO ID Number: NA
ICAO Packing Group: NA

I.M.O.:
I.M.O. Proper Shipping Name: Not Currently Regulated
---
I.M.O. Hazard Class: NA
I.M.O. Subsidiary Risk: NA
I.M.O. ID Number: NA
I.M.O. Packing Group: NA

15. REGULATORY INFORMATION

U.S. Federal Regulations:
O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)
E.P.A.:
S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard
S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.
---
302 (EHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Not applicable
304 EHS RQ (40 CFR 355): Not applicable
Clean Water Act (40 CFR 116.4): Not applicable
RCRA: Contains no RCRA regulated substances.
C.P.S.C.: Not applicable

State Regulations:
California Prop. 65: No Prop. 65 listed chemicals are present in this product.
Identification of Prop. 65 Ingredient(s): None
Trade Secret Registry: Not applicable
**National Inventories:**

**U.S. Inventory Status:** All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

**TSCA CAS Number:** Not applicable

---

**16. OTHER INFORMATION**

**Intended Use:** Determination of molybdenum


---

**Legend:**

- NA - Not Applicable
- ND - Not Determined
- NV - Not Available
- w/w - weight/weight
- w/v - weight/volume
- v/v - volume/volume

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

**HACH COMPANY ©2001**