



Material Safety Data Sheet

Sodium Molybdate, 5% W/V in Sulfuric Acid 25% V/V

1. Product Identification

Synonyms: CA-6 Analyzer Blue TP Reagent #2

CAS No.: Not applicable to mixtures.

Molecular Weight: Not applicable to mixtures.

Chemical Formula: Not applicable to mixtures.

Product Codes:

ECD P/N 2010022-2

Manufacture By:

Electro-Chemical Devices, Inc.

1681 Kettering

Irvine, CA 92614

Phone: (800) 729-1333

2. Hazards Identification

Emergency Overview

Signal Word: Danger!

Corrosive, Causes eye and skin burns, Causes digestive and respiratory tract burns

Hazard Pictogram



Potential Health Effects

Eye Contact:

Causes severe eye burns. Eye contact can result in blindness. Exposure to mist leads to watering and irritation.

**Skin Contact:**

Skin contact may result in severe burns, blistering and pain.

Ingestion:

May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Vomiting and diarrhea of dark blood may occur, asphyxia from throat swelling and stomach and esophagus may become perforated.

Inhalation:

May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. At 5mg/M3 concentrations, nose and throat irritation occurs, with headache, cough, increased respiratory rate, impairment of lung to ventilate.

Chronic Exposure:

Delayed symptoms include tight chest, fluid in lungs, cyanosis (blue color), hypotension, bronchitis or emphysema. Tracheobronchitis, dental erosion/discoloration, pneumonia, and gastrointestinal disturbances may occur. Skin irritation/dermatitis, conjunctivitis and lacrimation of the eye can occur.

HMIS Rating:

Hazard Statements:

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s):

- | | |
|-------------|---|
| P234 | Keep only in original container. |
| P264 | Wash skin thoroughly after handling. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |



P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

3. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Molybdate Dihydrate	10102-40-6	< 5%	Yes
Sulfuric Acid	7664-93-9	< 25%	Yes
Water	7732-18-5	> 70%	No

4. First Aid Measures

Inhalation:

Get medical aid at once. Move victim to fresh air immediately. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Ingestion:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical aid at once. Rinse mouth with large quantities of water, Give conscious victim large quantities of water to dilute acid. Give one ounce (30ml) of milk of magnesia or milk mixed with egg whites.

Skin Contact:

Immediately flush skin with a deluge of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical consultation at once.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until chemical is gone. Get medical aid at once.



5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not flammable but highly reactive and can cause ignition by contact with combustible materials. Reacts violently with water and organics. May release explosive hydrogen gas inside storage tanks, drums, tank cars, and tank trucks. This is a very powerful acidic oxidizer which can ignite or even explode on contact with many materials; i.e., acetic acid, acetone cyanohydrin, (acetone + HNO₃), (acetone + K₂Cr₂O₇), acetonitrile, acrolein, acrylonitrile, (acrylonitrile + H₂O), (alcohols + H₂O₂), allyl alcohol, allyl chloride, NH₄OH, 2-amino ethanol, NH₄triperchromate, aniline, (bromates + metals, BrF₅, n-butyraldehyde, carbides, CoHC₂, chlorates, (metals + chlorates), ClF₃, chlorosulfonic acid, Cu₃N, diisobutylene, (dimethyl benzylcarbinol + H₂O₂), epichlorohydrin, ethylene cyanohydrin, ethylene diamine, ethylene glycol, ethylene imine, fulminates, HCl, H₂, IF₇ (indene + HNO₃ + glycerides, p-nitroluene, perchlorates, HClO₄, (C₆H₆ + permanganates), pentasilver trihydroxydiamino phosphate, (l-phenyl-2-methyl propyl alcohol + H₂O₂), P, P(OCN)₃, picrates, potassium-tert-butoxide, KClO₃, KMnO₄, (KMnO₄ + KCl), KMnO₄ + H₂O) beta-propiolactone, RbHC₂, propylene oxide, pyridine, NA, Na₂CO₃, NaOH, steel, styrene monomer, water, vinyl acetate, (HNO₃ + toluene).

Fire Extinguishing Media:

Fires involving small amounts of combustibles may be smothered with suitable dry chemicals. Use water on combustibles in vicinity of this material but use care, as water applied directly to their acid results in evolution of heat, causes splattering, and can further disperse aerosols.

Special Information:

Avoid any contact with acid. Wear full protective rubber clothing, gloves, boots, wear self-contained breathing apparatus.

6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: May be neutralized with slaked lime, limestone, or sodium bicarbonate to a pH 7. Place in labeled plastic containers for disposal, wash area down with water.

7. Handling and Storage



Handling: Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use with adequate ventilation.

Storage: Do not store near alkaline substances. Store in labeled non-reactive containers (glass, plastic) protected from heat and incompatible substances.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

Sulfuric Acid: 1 mg/m³ TWA

Ventilation System:

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

Personal Respirators (NIOSH Approved):

50mg/M³ -GMAGHiEP/HiEPF/SAF/SCBAF

100mg/M³ - SAF: PD, PP, CF

Escape - GMAGHiEP/SCBA, Firefighting - SCBAF: PD, PP.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Provide an eye-wash fountain in the immediate work area. Do not wear contact lenses when working with chemicals.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Odorless.

Solubility:

Complete (100%)

Specific Gravity:

1.13 @ 15° C

pH:

Acidic, pH < 0



% Volatiles by volume @ 21C (70F):

ca. 99

Boiling Point:

No information found.

Melting Point:

No information found.

Vapor Density (Air=1):

Not applicable.

Vapor Pressure (mm Hg):

Not applicable.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Oxides of sulfur, hydrogen gas, oxides of nitrogen, ammonia, toxic and irritating vapors.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Explosive or violent reactions with acetone cyanohydrin, acetone and nitric acid or potassium dichromate, acrylonitrile, alcohols, hydrogen peroxide, allyl chloride, bromates and metals, bromine pentafluoride, carbides, all chlorates, chlorine trifluoride, cuprous nitride, ethylene cyanohydrin, fulminates, indane and nitric acid, iron, mercuric nitride, nitric acid and glycerides, p-nitrotoluene, pentasilver trihydroxydiaminophosphate, perchlorates, phosphorus isocyanate picrates, silver permanganate, sodium, sodium carbonate, toluene and nitric acid. Dangerous temperatures and pressures occur with other substances, especially organic combinations. Explosive hydrogen gas is evolved from contact with steel, other metals.

Conditions to Avoid:

Incompatible materials, excess heat, combustible materials, organic materials, oxidizers, amines, bases.



11. Toxicological Information

RTECS#:

CAS# 10102-40-6: QA5085000

CAS# 7631-95-0: QA5075000

CAS# 7664-93-9:

Inhalation, mouse: LC50 = 320 mg/m³/2H

Inhalation, rat: LC50 = 510 mg/m³/2H

Oral, rat: LD50 = 2140 mg/kg.

CAS# 7631-95-0:

Inhalation, rat: LC50 = >2080 mg/m³/4H;

Oral, rat: LD50 = 4 gm/kg;

Oral, rat: LD50 = 0.25 gm/kg;

Carcinogenicity:

CAS# 10102-40-6:

ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans (listed as 'Molybdenum soluble compounds').

California: Not listed.

NTP: Not listed.

IARC: Not listed.

CAS# 7664-93-9

ACGIH: A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)

California: Not listed.

NIOSH: Not listed.

NTP: Not listed.

OSHA: Select carcinogen

IARC: Group 1 carcinogen

12. Ecological Information

Environmental Fate:

No information found.



Environmental Toxicity:

No information found.

13. Disposal Considerations

Dilute with water and flush to sewer if local ordinances allow, otherwise, whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

US DOT

Shipping Name: Sulfuric acid solution

Hazard Class: 8

UN Number: UN2796

Packing Group: PG II

15. Regulatory Information

US Federal

TSCA:

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 7664-93-9 is listed on the TSCA Inventory.

CAS# 7631-95-0: is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ):

CAS# 7664-93-9: final RQ = 1000 pounds (454 kg)

CERCLA/SARA Section 313:

This material contains Sulfuric acid (CAS# 7664-93-9, 25%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.



OSHA - Highly Hazardous:

None of the components are on this list.

US State

State Right to Know:

Sulfuric acid can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Sodium molybdate can be found on the following state Right-to-Know lists: New Jersey

California Regulations:

European/International Regulations

Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 7664-93-9 is listed on Canada's DSL List.

CAS# CAS# 7631-95-0: is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7664-93-9 is listed on Canada's Ingredient Disclosure List.

CAS# CAS# 7631-95-0: is listed on Canada's Ingredient Disclosure List.

16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **2**

Label Hazard Warning:

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Label Precautions:

None.

Label First Aid:

Not applicable.

Product Use:

Laboratory Reagent.



ELECTRO-CHEMICAL DEVICES

Liquid Analytical Instrumentation for Process Control

*Bringing Simplicity
to a Solution*

Revision Information:

MSDS-2010022-2 rev. A, March 2012
