



# ELECTRO-CHEMICAL DEVICES

Liquid Analytical Instrumentation for Process Control

Bringing Simplicity  
to a Solution

## Material Safety Data Sheet

Sodium Molybdate, 5% W/V in Sulfuric Acid 4.5% V/V

### 1. Product Identification

**Synonyms:** CA-6 Analyzer Silica Reagent #1

**CAS No.:** Not applicable to mixtures.

**Molecular Weight:** Not applicable to mixtures.

**Chemical Formula:** Not applicable to mixtures.

**Product Codes:**

ECD P/N 2010011-1

**Manufacture By:**

Electro-Chemical Devices, Inc.

1681 Kettering

Irvine, CA 92614

**Phone:** (800) 729-1333

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
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Sodium Molybdate Dihydrate	10102-40-6	< 5%	NO
Sulfuric Acid	7664-93-9	< 5%	YES
Water	7732-18-5	> 90%	NO

### 3. Hazards Identification

**Emergency Overview**

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**Caution!**



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



## Potential Health Effects

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### 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.

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## 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. Give one ounce (30ml) of milk of magnesia. Give conscious victim large quantities of water to dilute acid.

### Skin Contact:

Get medical aid at once. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

### 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.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

Use protective clothing and breathing equipment appropriate for the surrounding fire.

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## 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.

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## 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.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

Sulfuric Acid: 1 mg/m<sup>3</sup> 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/M<sup>3</sup> -GMAGHiEP/HiEPF/SAF/SCBAF

100mg/M<sup>3</sup> - 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.

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## 9. Physical and Chemical Properties

**Appearance:**

Clear, colorless liquid.

**Odor:**

Odorless.

**Solubility:**

Complete (100%)

**Specific Gravity:**

No information found.

**pH:**

Acidic, pH < 1

**% 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.

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## 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.

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## 11. Toxicological Information

RTECS#:

CAS# 10102-40-6: QA5085000

CAS# 7631-95-0: QA5075000

CAS# 7664-93-9:

Inhalation, mouse: LC50 = 320 mg/m<sup>3</sup>/2H

Inhalation, rat: LC50 = 510 mg/m<sup>3</sup>/2H

Oral, rat: LD50 = 2140 mg/kg.

CAS# 7631-95-0:

Inhalation, rat: LC50 = >2080 mg/m<sup>3</sup>/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

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## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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## 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.

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## 14. Transport Information

**US DOT**

**Shipping Name:** Sulfuric acid solution

**Hazard Class:** 8

**UN Number:** UN2796

**Packing Group:** PG II

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## 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, 3%), 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.

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**16. Other Information**





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

**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.

**Revision Information:**

MSDS-2010011 rev. B Sept. 2014

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