



Safety Data Sheet

According to Regulation (EC) No. 1907/2006
OSHA Regulation 29 CFR 1910.1200
Canadian Regulation SOR/88-66

Revision Date: 2009-06-10
Reason for Revision: 29 CFR 1910.1200 and SOR/88-66 Compliance

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: HI 93717A-0 Molybdate

Application: Determination of Phosphate in Water Samples

Company Information (USA):

Hanna Instruments, Inc.
584 Park East Dr, Woonsocket, Rhode Island, USA 02895

Technical Service Contact Information:

1-800-426-6287 (8:30AM - 5:00PM ET)
+1-401-766-4260 (8:30AM - 5:00PM ET)

USA Emergency Contact Information:

1-800-424-9300 (Chemtrec 24Hr. Emergency)

International Emergency Contact Information:

+1-703-527-3887 (Chemtrec 24Hr. Emergency)

E-mail Address:

tech@hannainst.com

SECTION 2: HAZARD IDENTIFICATION

Causes severe burns.

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

| | | |
|-------------------|---------------|------------------------------------|
| Component: | Sulfuric Acid | Ammonium Molybdate Tetrahydrate |
| EC-No.: | 231-639-5 | 234-320-9 |
| CAS-No.: | 7664-93-9 | 12054-85-2 |
| Hazard: | C | Xi |
| Phrases: | R: 35 | R: 36/37/38 |
| Content: | > 45% - < 55% | > 1% - < 10% |

SECTION 4: FIRST AID MEASURES

After Inhalation: Remove to fresh air. Summon doctor.

After Skin Contact: Wash affected area with plenty of water. Immediately remove contaminated clothing.

After Eye Contact: Rinse out immediately with plenty of water and seek medical advise.

After Swallowing: Drink plenty of water (if necessary several liters), avoid vomiting (risk of perforation!). Immediately seek medical advice. Do not attempt to neutralize.

General Information: Remove contaminated, soaked clothing immediately and dispose of safely.

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Water spray, Carbon Dioxide, Dry Chemical Powder, Appropriate Foam.

Special Risks:

Hydrogen may form upon contact with metals (danger of explosion!). Development of hazardous combustion gases or vapors possible in the event of fire. The following may develop in event of fire: Sulfur Oxides

Special Protective Equipment:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Additional Information:

Product itself is non-combustible. Cool container with spray water from a safe distance. Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or groundwater.

SECTION 6: ACCIDENTAL RELEASE MEASURES***Personal Precautions:***

Do not inhale vapors/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental Precautions:

Do not discharge into the drains/surface waters/groundwater.

Additional Notes:

Render harmless: neutralize with diluted sodium hydroxide solution or by throwing on lime, lime sand, or sodium carbonate. Take up with liquid-absorbent material. Clean up affected area and dispose according to local regulation.

SECTION 7: HANDLING AND STORAGE***Handling:***

Avoid generation of vapors/aerosols. Work under hood.
Do not inhale substance.

Storage:

Tightly closed. In a well-ventilated place at room temperature (+15 to +25 °C). Accessible only for authorized persons.

Safety Data Sheet

According to Regulation (EC) No. 1907/2006
OSHA Regulation 29 CFR 1910.1200
Canadian Regulation SOR/88-66

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

| Type | Value | Source | Type | Value | Source |
|--|----------------------------|------------------|-----------|----------------------------|------------------|
| Ammonium Molybdate Tetrahydrate | | | | | |
| TWA (8hr) | 0.5 mg (Mo)/m ³ | Canada (Ontario) | TWA (8hr) | 0.2 mg (Mn)/m ³ | Canada (Ontario) |
| TWA (8hr) | 5 mg (Mo)/m ³ | Canada (Quebec) | TWA (8hr) | 5 mg (Mo)/m ³ | Hungary |
| TWA (8hr) | 4 mg (Mo)/m ³ | Poland | TWA (8hr) | 2 mg (Mo)/m ³ | Romania |
| TWA (8hr) | 0.5 mg (Mo)/m ³ | USA (ACGIH) | TWA (8hr) | 5 mg (Mo)/m ³ | USA (OSHA) |
| Sulfuric Acid | | | | | |
| TWA (8hr) | 1 mg/m ³ | Belgium | TWA (8hr) | 0.2 mg/m ³ | Canada (Ontario) |
| TWA (8hr) | 1 mg/m ³ | Canada (Quebec) | TWA (8hr) | 1 mg/m ³ | France |
| TWA (8hr) | 1 mg/m ³ | Greece | TWA (8hr) | 1 mg/m ³ | Hungary |
| TWA (8hr) | 0.5 mg/m ³ | Poland | TWA (8hr) | 0.2 mg/m ³ | Portugal |
| TWA (8hr) | 0.5 mg/m ³ | Romania | TWA (8hr) | 1 mg/m ³ | Spain |
| TWA (8hr) | 0.2 mg/m ³ | USA (ACGIH) | TWA (8hr) | 1 mg/m ³ | USA (OSHA) |

Engineering:

Maintain general industrial hygiene practice.

Personal Protective Equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

Respiratory Protection:

Required when vapors/aerosols are generated. Work under hood.

Protective Gloves:

Rubber or plastic

Eye Protection:

Goggles or face mask

Industrial Hygiene:

Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

| | | | | | |
|-------------------------|------------------|-------------------------|----------|--------------------------|-------------------------------|
| Appearance: | Colorless liquid | Odor: | Odorless | Density at 20° C: | ~ 1.4 g/cm ³ |
| Melting Point: | NA | Boiling Point: | > 100°C | Solubility: | Soluble (development of heat) |
| pH at 20° C: | Strongly acid | Explosion Limit: | NA | Flash Point: | NA |
| Thermal Decomp.: | NA | | | | |

SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Heating

Hazardous Polymerization:

Will not occur.

Further Information:

Hygroscopic. Has a corrosive effect. Incompatible with metals, animal/vegetal tissue

Hazardous Decomposition Products:

In the event of fire: See section 5.

Substances to be Avoided:

Water, alkali metals, alkali compounds, ammonia, alkaline earth metals, alkalis, acids, alkaline earth compounds, metals, metal alloys, phosphorus oxides, phosphorus, hydrides, halogen-halogen compounds, oxyhalogenic compounds, permanganates, nitrates, carbides, combustible substances, organic solvents, acetylidene, nitriles, organic nitro compounds, anilines, peroxides, picrates, nitrides, lithium silicide

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SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Quantitative data on the toxicity of this product is not available.

Potential Health Effects:

- Inhalation:** After inhalation of aerosols: damage to the affected mucous membranes.
Skin Contact: Severe burns with formation of scabs.
Eye Contact: Burns, corneal lesion.
Ingestion: Severe pain (risk of perforation!), nausea, vomiting and diarrhea. After a latency period of several weeks possibly pyloric stenosis.
Further Data: Further hazardous properties cannot be excluded. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity:

Sulfuric Acid

- LC50:** Inhalation - Rat - 510 mg/m³
LD50: Oral - Rat - 2140 mg/kg

Chronic Toxicity:

Sulfuric Acid

NTP: Known to be carcinogenic to humans

Additional Data:

APPLICABLE TO MAIN COMPONENT:

The following applies to Sulfuric acid:

Specific symptoms in animal studies:

Skin irritation test (rabbit): burns.

Eye irritation test (rabbit): burns.

Toxicologic values are not available due to other dangerous properties of the substance.

Subacute to chronic toxicity

No appreciable contribution to the cancer risk in humans is to be expected where the limit value for occupational safety is observed.

An embryotoxic effect need not be feared when the threshold limit value is observed.

No teratogenic effect in animal experiments.

Bacterial mutagenicity: Ames-Test: negative.

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the toxicity of this product is not available.

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Sulfuric acid: Biological effects: Harmful effect on aquatic organisms. Harmful effect due to pH shift. Toxic effect on fish and algae. Caustic even in diluted form. Does not cause biological oxygen deficit. Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities. Neutralization possible in waste water treatment plants. Daphnia toxicity: Daphnia magna EC50: 29 mg/L /24 h (calculated on the pure substance).

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Ammonium Molybdate Tetrahydrate: Onchorhynchus mykiss: LC0 320 mg/L /96 h; LC50 420 mg/L /96 h. Daphnia magna: EC50 140 mg/L 48h. Algae –Scenedesmus subspicatus: EC50 41 mg/L 72h.

Further Data: APPLICABLE TO PARTIAL COMPONENT:

Fish toxicity:

Sulfuric acid: lethal from 1.2 mg/L; from 6.3 mg/L lethal in 24h. DO NOT ALLOW TO ENTER WATERS, WASTE WATERS, OR SOIL!

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice. Handle contaminated packaging in the same way as the substance itself.

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SECTION 14: TRANSPORTATION INFORMATION

Land:

ADR/RID: 9, II
 UN-No.: 3316
 Name: CHEMICAL KIT

Sea:

IMDG: 9/UN 3316/PGII
 Name: CHEMICAL KIT

Air:

ICAO/IATA: 9/UN 3316/PGII
 Name: CHEMICAL KIT

Transport data applies to the COMPLETE KIT!

SECTION 15: REGULATORY INFORMATION

Labeling according to EC Directives:

Symbol: C: Corrosive

R-phrases: 35: Causes severe burns.

S-phrases: 26-30-36/37/39-45: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Never add water to this product. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Contains: Sulfuric acid

SECTION 16: OTHER INFORMATION

Text of R-phrases under Section 3

NA

Revision Information

Revision Date: 2009-06-10

Supersedes edition of: 2008-12-01

Reason for revision: 29 CFR 1910.1200 and SOR/88-66
 Compliance

Legend

NA: Not Applicable
 ND: Not Determined

**THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR
 KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE
 APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF
 THE PROPERTIES OF THE PRODUCT.**