

Safety Data Sheet

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

Revision Date: 2012-05-25
Reason for Revision: Section 14 Updated

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: HI 38050-0 Nitrate Reagent

Application: Determination of Nitrate in Soil and Irrigation
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

Toxic by inhalation. May cause sensitisation by skin contact. May cause cancer. Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of irreversible effects.

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

| | | | |
|-------------------|-----------------|--|-------------------|
| Component: | Sulfanilic Acid | Cadmium Powder | Copper Sulfate |
| EC-No.: | 204-482-5 | 231-152-8 | 231-847-6 |
| CAS-No.: | 121-57-3 | 7440-43-9 | 7758-99-8 |
| Hazard: | Xi | T+, N, Carc. Cat.2, Muta. Cat. 3, Repr. Cat. 3 | N, Xn, Xi |
| Phrases: | R: 36/38-43 | R: 26-45-48/23/25-50/53-62-63-68 | R: 22-36/38-50/53 |
| Content: | > 1% - < 10% | > 1% - < 5% | > 0.1% - < 1% |

SECTION 4: FIRST AID MEASURES

After Inhalation: Remove to fresh air. Give oxygen if breathing is difficult. If pain persists, summon medical advice.

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

After Eye Contact: Rinse out with plenty of water. If pain persists, summon medical advice.

After Swallowing: Wash out mouth thoroughly with water, if person is conscious. Immediately obtain medical attention.

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

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SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Carbon dioxide, Dry Chemical Powder

Special Risks:

Development of hazardous combustion gases or vapors possible in the event of fire. The following may develop in event of fire: Sulfur Oxides, Nitrogen Oxides

Special Protective Equipment:

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

Additional Information:

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or groundwater.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid substance contact. Avoid inhalation of dusts in all circumstances.

Environmental Precautions:

Do not allow to enter sewerage system.

Additional Notes:

Take up dry. Forward for disposal. Clean up affected area. Avoid generation of dusts.

SECTION 7: HANDLING AND STORAGE

Handling:

Avoid generation of dusts. Do not inhale substance.
Accessible only for authorized persons.

Storage:

Store at room temperature (+15 to +25 °C). Tightly closed in a dry and well-ventilated place. Protect from moisture.

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SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

| Type | Value | Source | Type | Value | Source |
|------------------------------------|--|-----------------|-----------|---|------------------|
| Cadmium Powder | | | | | |
| TWA (8hr) | 0.010 mg/m ³ (inhalable) | Belgium | TWA (8hr) | 0.01 mg/m ³ | Canada (Ontario) |
| TWA (8hr) | 0.025 mg/m ³ | Canada (Quebec) | TWA (8hr) | 0.050 mg/m ³ | France |
| TWA (8hr) | 0.025 mg/m ³ | Greece | TWA (8hr) | 0.015 mg/m ³ | Hungary |
| TWA (8hr) | 0.010 mg/m ³ | Poland | TWA (8hr) | 0.010 mg/m ³ | Portugal |
| TWA (8hr) | 0.050 mg/m ³ | Romania | TWA (8hr) | 0.002 mg/m ³ (respirable) | Spain |
| TWA (8hr) | 0.025 mg/m ³ | UK | TWA (8hr) | 0.010 mg/m ³ | USA (ACGIH) |
| TWA (8hr) | 0.005 mg/m ³ | USA (OSHA) | | | |
| Copper Sulfate Pentahydrate | | | | | |
| TWA (8hr) | 0.1 mg (Cu)/m ³ (inhalable dust) | Netherlands | | | |

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 dusts are generated. Work under hood.

Protective Gloves:

Rubber or plastic

Eye Protection:

Goggles or face mask

Industrial Hygiene:

Change contaminated clothing. Application of skin-protective barrier cream recommended. Wash hands after working with substance. Avoid generation of dusts. Under no circumstances eat or drink at workplace.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

| | | | | | |
|-------------------------|--------------|-------------------------|----------|-------------------------|-------------------|
| Appearance: | Grey powder | Odor: | Odorless | Density at 20°C: | ND |
| Melting Point: | ND | Boiling Point: | NA | Solubility: | Partially soluble |
| pH at 20°C: | 3.1 at 6 g/L | Explosion Limit: | NA | Flash Point: | NA |
| Thermal Decomp.: | NA | | | | |

SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Strong Heating

Hazardous Polymerization:

Will not occur.

Further Information:

Not available

Hazardous Decomposition Products:

Toxic gases or vapors in the event of fire.

Substances to be Avoided:

Oxidizing agents, acids

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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:** Irritation symptoms in the respiratory tract.
Skin Contact: Slight irritations. May cause sensitization.
Eye Contact: Slight irritations.
Ingestion: Nausea, vomiting, diarrhea. after absorption of large quantities: tiredness, agitation, spasms, ataxia, drop in temperature.
Further Data: Further hazardous properties cannot be excluded. The product should be handled with particular care.

Component Toxicity

Acute Toxicity:

Cadmium Powder

LC50: Inhalation - Rat - 25 mg/m³

LD50: Oral - Rat - 225 mg/kg

Copper Sulfate Pentahydrate

LD50: Oral - Rat - 300 mg/kg

Sulfanilic Acid

LD50: Oral - Rat - 12300 mg/kg

Additional Data:

Not Available

Chronic Toxicity:

Cadmium Powder

OSHA: Cancer Hazard

NTP: Known to be carcinogenic to humans

IARC Group 1: Carcinogenic to humans

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the ecological effect of this product is not available.

APPLICABLE TO PARTIAL COMPONENT:

Biological effects: applicable to partial component(s):

The following applies to cadmium compounds in general: degradability: biodegradability 0; biological effects: fish: *L. macrochirus* 96 h. LDLo: 1.94 mg/L; *C. auratus* 8.5 h. toxic as from 0.0165 mg/L; bacteria: *E. coli* toxic as from 0.15 mg/L; arthropods: *Daphnia* toxic as from 0.1 mg/L; *Daphnia magna* toxic as from 0.0026 mg/L; protozoa: toxic as from 0.2 mg/L; algae: *Sc. quadricauda* toxic as from 0.1 mg/L; hazard for drinking water.

Further Data: Do not allow to enter waters, waste water, 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.

SECTION 14: TRANSPORTATION INFORMATION

| | Land (ADR/RID): | Sea (IMDG): | Air (ICAO/IATA): |
|-----------------------|--|--|--|
| UN No.: | 3288 | 3288 | 3288 |
| Proper Shipping Name: | Toxic solid, inorganic, n.o.s. (cadmium mixture) | Toxic solid, inorganic, n.o.s. (cadmium mixture) | Toxic solid, inorganic, n.o.s. (cadmium mixture) |
| Class (Sub Risk): | 6.1 | 6.1 | 6.1 |
| Packing Group: | II | II | II |

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SECTION 15: REGULATORY INFORMATION

Labeling according to EC Directives:

- Symbol:** T: Toxic
N: Dangerous for the environment
- R-phrases:** 23-43-45-48/23/25-51/53-68: Toxic by inhalation. May cause sensitisation by skin contact. May cause cancer. Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of irreversible effects.
- S-phrases:** 36/37-45-53-60-61: Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). Avoid exposure - obtain special instruction before use. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions / Safety data sheets.
- Contains:** Sulfanilic acid, Cadmium powder

SECTION 16: OTHER INFORMATION

Text of R-phrases under Section 3

- 22: Harmful if swallowed.
26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
36/38: Irritating to eyes and skin.
43: May cause sensitization by skin contact.
45: May cause cancer.
48/23/25: Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
62: Possible risk of impaired fertility.
63: Possible risk of harm to the unborn child.
68: Possible risk of irreversible effects.

Revision Information

- Revision Date:** 2012-05-25
Supersedes edition of: 2009-06-10
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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.