

Safety Data SheetAccording 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 4003-01 0.10 mol/L Cadmium Standard

Application: Calibration of Cadmium Ion Selective Electrodes

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

May cause cancer. Harmful by inhalation, in contact with skin and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Component: Cadmium Nitrate Tetrahydrate

EC-No.: 233-710-6

CAS-No.: 10022-68-1

Hazard: O, T, N

Phrases: R: 8-20/21/22-45-50/53

Content: > 2.5 - < 10 %

SECTION 4: FIRST AID MEASURES

After Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Consult a physician.

After Skin Contact: Wash affected area with soap and plenty of water. Consult a physician.

After Eye Contact: Rinse out with plenty of water for at least 15 minutes.

After Swallowing: Wash out mouth with plenty of water, provided person is conscious. Obtain medical attention.

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

SECTION 5: FIRE-FIGHTING MEASURES**Suitable Extinguishing Media:**

Water Spray, Foam, Dry Powder, Carbon Dioxide

Special Risks:

Non-combustible. Specific Hazard(s): Emits toxic fumes under fire conditions. The following may develop in event of fire: nitrogen oxides, cadmium, cadmium oxides.

Special Protective Equipment:

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

Additional Information:

NA

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:

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

Environmental Precautions:

Do not discharge into drains/surface waters/groundwater.

Additional Notes:

None

SECTION 7: HANDLING AND STORAGE

Handling:

Avoid generation of vapors/aerosols. Do not inhale substance.

Storage:

Tightly closed in a well-ventilated place at +15 to +25 °C. Accessible only for authorized persons.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Type	Value	Source	Type	Value	Source
Cadmium Nitrate Tetrahydrate					
TWA (8hr)	0.002 mg (Cd)/m ³	Belgium	TWA (8hr)	0.05 mg (Cd)/m ³	France
TWA (8hr)	0.025 mg (Cd)/m ³	Greece	TWA (8hr)	0.015 mg (Cd)/m ³	Hungary
TWA (8hr)	0.002 mg (Cd)/m ³	Portugal	TWA (8hr)	0.05 mg (Cd)/m ³	Romania
TWA (8hr)	0.002 mg (Cd)/m ³	Spain	TWA (8hr)	0.025 mg (Cd)/m ³	UK
TWA (8hr)	0.002 mg (Cd)/m ³	USA (ACGIH)	TWA (8hr)	0.005 mg (Cd)/m ³	USA (OSHA)

Engineering:

Maintain general industrial hygiene practice.

Personal Protective Equipment:

Protective clothing should be selected specifically for the work 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:	1.0 g/cm ³
Melting Point:	NA	Boiling Point:	~ 100 °C	Solubility:	Soluble
pH at 20°C:	~ 6	Explosion Limit:	NA	Flash Point:	NA
Thermal Decomp.:	NA				

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SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Strong Heating (above boiling point). Stable in the recommended storage conditions.

Hazardous Polymerization:

Will not occur.

Further Information:

Not available

Hazardous Decomposition Products:

In the event of fire: See section 5.

Substances to be Avoided:

The generally known reaction partners of water

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

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

Potential Health Effects:

Inhalation: May cause respiratory tract irritation.

Skin Contact: May cause irritation.

Eye Contact: May cause irritation.

Ingestion: Irritations of mucous membranes in the mouth, pharynx, esophagus and gastrointestinal tract.

Further Data: Acute inhalation exposure to cadmium fumes may cause flu-like symptoms of weakness, fever, headache, chills, nausea, vomiting, dizziness, sweating, muscular pain, cough and difficulty breathing. Acute pulmonary edema may develop within 24 hours and reaches a maximum by three days. The first chronic effect of exposure to cadmium is generally kidney damage, manifested by excretion of excessive protein in the urine, followed by anemia, teeth discoloration and loss of smell. Cadmium also is believed to cause pulmonary emphysema and bone disease.

Component Toxicity

Acute Toxicity:

Cadmium Nitrate Tetrahydrate

LD50: Oral - Rat - 300 mg/kg

Chronic Toxicity:

Cadmium Nitrate Tetrahydrate

NTP: Known to be carcinogenic to humans

Additional Data:

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Cadmium Nitrate Tetrahydrate – as the pure substance:

Skin Corrosion/irritation: Rabbit - Severe skin irritation - 24 h

Eye Damage/irritation: Rabbit - Moderate eye irritation - 24 h

Germ Cell Mutagenicity: Genotoxicity in vitro - rat - Liver.

SECTION 12: ECOLOGICAL INFORMATION

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

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Cadmium Nitrate Tetrahydrate – as the pure substance:

Biodegradability: Not readily biodegradable.

Adverse effects: Very toxic to aquatic life with long lasting effects.

Further Data: Very toxic for aquatic systems. May cause long term aquatic effects in the environment. Do not allow to enter waters, waste waters, or soil!

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: This substance is classified as special waste and is 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

	<i>Land (ADR/RID):</i>	<i>Sea (IMDG):</i>	<i>Air (ICAO/IATA):</i>
UN No.:	3082	3082	3082
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (cadmium nitrate solution)	Environmentally hazardous substance, liquid, n.o.s. (cadmium nitrate solution)	Environmentally hazardous substance, liquid, n.o.s. (cadmium nitrate solution)
Class (Sub Risk):	9	9	9
Packing Group:	III	III	III

SECTION 15: REGULATORY INFORMATION

Labeling according to EC Directives:

Symbol: O: Oxidizer
T: Toxic
N: Dangerous for the environment

R-phrases: 45-20/21/22-50/53: Contact with combustible material may cause fire. May cause cancer. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases: 45-60-61: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

SECTION 16: OTHER INFORMATION

Text of R-phrases under Section 3

8: Contact with combustible material may cause fire.
20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
45: May cause cancer.
50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Revision Information

Revision Date: 2012-05-25
Supersedes edition of: 2011-05-05
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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.