

Safety Data Sheet

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

Revision Date: 2013-02-04
Reason for Revision: Regulation (EC) No. 1272/2008 Compliance

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: HI 3835-0 Titrant Solution

Application: Determination of Salinity 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

Toxic if swallowed. Fatal in contact with skin. Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure. Causes skin irritation. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

According to Regulation (EC) No. 1272/2008:

Classification: Acute Toxicity, Oral (Category 3)
Acute Toxicity, Dermal (Category 2)
Acute Toxicity, Inhalation (Category 3)
Specific Target Organ Toxicity, Repeated Exposure (Category 2)
Skin Irritation (Category 2)
Eye Irritation (Category 2)
Acute Aquatic Toxicity (Category 1)
Chronic Aquatic Toxicity (Category 1)

Signal Word: **Danger**

Pictograms:



Hazard Statements: H301: Toxic if swallowed.
H310: Fatal in contact with skin.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H331: Toxic if inhaled.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Precaution Statements: P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P307+P311: IF exposed: Call a POISON CENTER or doctor/physician.

According to Directives 67/548/EEC and 1999/45/EC:

Symbol: T+: Very toxic
N: Dangerous for the environment

R-phrases: 26/27/28-33-36/38-51/53: Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Irritating to eyes and skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases: 13-28-45-60-61: Keep away from food, drink and animal feeding stuffs. After contact with skin, wash immediately with plenty of water. 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 sheets.

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SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Component:	EC No:	CAS No:	Hazard Class:	Phrases:	Concentration:
Mercury dinitrate monohydrate	233-152-3	7783-34-8	Acute Tox. 1 Acute Tox. 2 STOT RE 2 Aquatic Acute 1 Aquatic Chronic 1 T+, N	H300, H310, H330, H373, H400, H410 R: 26/27/28-33-50/53	> 2% - < 10%
Nitric acid	231-714-2	7697-37-2	Ox. Liq. 3 Skin Corr. 1A O, C	H272, H314 R: 8-35	> 1% - < 3%

SECTION 4: FIRST AID MEASURES

After Inhalation:	Remove to fresh air. Immediately apply mechanical ventilation. Use an oxygen mask if necessary. Immediately call in physician.
After Skin Contact:	Wash affected area with water. Immediately remove contaminated clothing. Seek medical advice.
After Eye Contact:	Rinse out immediately with plenty of water and seek medical advice.
After Swallowing:	If victim is still conscious, make him drink plenty of water, induce vomiting, administer activated charcoal (20 - 40 g in 10% slurry). Immediately call in physician.
General Information:	Remove contaminated, soaked clothing immediately and dispose of safely.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

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

Special Risks:

Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire. The following may develop in event of fire: Nitrous Gases, Mercury Vapors

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. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Take up with liquid-absorbent material. Clean up affected area and dispose according to local regulation.

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.

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 +15 to +25 °C. Protect from light. Accessible only for authorized persons.

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SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Type	Value	Source	Type	Value	Source
Mercury(II) Nitrate Monohydrate					
TWA (8hr)	0.025 mg (Hg)/m ³	Belgium	TWA (8hr)	0.025 mg (Hg)/m ³	Canada (Ontario)
TWA (8hr)	0.025 mg (Hg)/m ³	Canada (Quebec)	TWA (8hr)	0.1 mg (Hg)/m ³	France
TWA (8hr)	0.1 mg (Hg)/m ³	Germany	TWA (8hr)	0.1 mg (Hg)/m ³	Greece
TWA (8hr)	0.08 mg (Hg)/m ³	Hungary	TWA (8hr)	0.05 mg (Hg)/m ³	Poland
TWA (8hr)	0.025 mg (Hg)/m ³	Portugal	TWA (8hr)	0.025 mg (Hg)/m ³	Spain
TWA (8hr)	0.01 mg (Hg)/m ³	UK	TWA (8hr)	0.025 mg (Hg)/m ³	USA (ACGIH)
TWA (8hr)	2 mg (Hg)/m ³	USA (OSHA)			
Nitric Acid					
TWA (15min)	2.6 mg/m ³	Belgium	TWA (8hr)	5 mg/m ³	Canada (Ontario)
TWA (8hr)	2 ppm	Canada (Quebec)	TWA (15min)	2.6 mg/m ³	France
TWA (8hr)	2.6 mg/m ³	Germany	TWA (8hr)	5 mg/m ³	Greece
TWA (8hr)	5 mg/m ³	Hungary	TWA (15min)	2.6 mg/m ³	Italy
TWA (8hr)	1.3 mg/m ³	Netherlands	TWA (8hr)	5 mg/m ³	Poland
TWA (8hr)	2 ppm	Portugal	TWA (15min)	2.6 mg/m ³	Romania
Ceiling	2.6 mg/m ³	Spain	TWA (8hr)	5.2 mg/m ³	UK
TWA (8hr)	2 ppm	USA (ACGIH)	TWA (8hr)	2 ppm	USA (OSHA)

Engineering:

Safety shower and eye wash.

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:

Immediately change contaminated clothing and immerse in water. Apply skin-protective barrier cream. Wash hands and face after working with substance. Work under hood. Do not inhale substance. Avoid generation of vapors/aerosols. Under no circumstances eat or drink at workplace.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Colorless liquid	Odor:	Odorless	Density at 20°C:	1.02 g/cm ³
Melting Point:	NA	Boiling Point:	ND	Solubility:	Soluble
pH at 20°C:	< 1.0	Explosion Limit:	NA	Flash Point:	NA
Thermal Decomp.:	NA				

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SECTION 10: STABILITY AND REACTIVITY

Conditions to be Avoided:

Strong Heating

Hazardous Polymerization:

Will not occur.

Further Information:

Not available

Hazardous Decomposition Products:

Nitrous Gases, Mercury Vapors
In the event of fire, see Section 5

Substances to be Avoided:

Strong reducing agents

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

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

Potential Health Effects:

- Inhalation:** Damage to the affected mucous membranes.
- Skin Contact:** Danger of skin absorption.
- Eye Contact:** Corneal lesion.
- Ingestion:** Severe pain (risk of perforation!), nausea, vomiting and diarrhea.
- Further Data:** The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity:

Mercury(II) Nitrate Monohydrate

LD50: Oral - Rat - 26 mg/kg

LD50: Dermal - Rat - 75 mg/kg

Nitric Acid

LC50: Inhalation - Rat - 334 ppm

Chronic Toxicity:

Not Available

Additional Data:

APPLICABLE TO MAIN COMPONENT:

The following applies to Mercury (II) nitrate monohydrate, as the pure substance:

Acute Toxicity:

After skin contact: Danger of skin absorption.

Danger of cumulative effects. Other notes:

Mercury compounds have a cytotoxic and protoplasmatoxic effect. Intoxication symptoms: acute: contact with eye causes severe lesions. Swallowing and inhalation of dusts damages mucous membranes of gastrointestinal and respiratory tract (metallic taste, nausea, vomiting, abdominal pain, bloody diarrhoea, intestinal burns, glottal oedema, aspiration pneumonia); drop in blood pressure, cardiac dysrhythmia, circulatory collapse, and renal failure; chronic: inflammation of the mouth with loss of teeth and mercurial line. The principal signs manifest themselves in the CNS (impaired speech, vision, hearing, and sensitivity, loss of memory, irritability, hallucinations, delirium inter alia).

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

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SECTION 12: ECOLOGICAL INFORMATION

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

APPLICABLE TO MAIN COMPONENT:

The following applies to Mercury (II) nitrate monohydrate, as the pure substance:

Behavior in environmental compartments:

Distribution: log p(o/w): -0.51 (anhydrous substance).

No bioaccumulation is to be expected (log P(o/w) <1).

Ecotoxic effects:

Biological effects:

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Fish toxicity: P.promelas LC50 : 0.17 mg/L /96 h (anhydrous substance).

Further Data: The following applies to nitrates in general: may contribute to the eutrophication of water supplies.
Hazard for drinking water. Fish: LC50 > 500 mg/L.

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.:	3287	3287	3287
Proper Shipping Name:	Toxic liquid, inorganic, n.o.s. (mercuric nitrate solution)	Toxic liquid, inorganic, n.o.s. (mercuric nitrate solution)	Toxic liquid, inorganic, n.o.s. (mercuric nitrate solution)
Class (Sub Risk):	6.1	6.1	6.1
Packing Group:	III	III	III

SECTION 15: REGULATORY INFORMATION

Complies with European Regulations (EC) No. 1907/2006 and No. 1272/2008.
Complies with European Council Directives 67/548/EEC and 1999/45/EC.
Complies with OSHA Regulation 29 CFR 1910.1200.
Complies with Canadian Regulation SOR/88-66

SECTION 16: OTHER INFORMATION

Text of phrases under Section 3

R8: Contact with combustible material may cause fire.
R35: Causes severe burns.
R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
R33: Danger of cumulative effects.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
H300: Fatal if swallowed.
H310: Fatal in contact with skin.
H330: Fatal if inhaled.
H373: May cause damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H272: May intensify fire; oxidiser.
H314: Causes severe skin burns and eye damage

Revision Information

Revision Date: 2013-02-04
Supersedes edition of: 2012-05-25
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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.