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**HI 3896N-0**  
**Nitrate Reagent**

# 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 3896-N Nitrate Reagent

**Additional Product Codes:** HI 3896-N

**Application:** Determination of Nitrate in Soil (Extract) 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**

Non-hazardous product as specified in Directives 67/548/EEC and 1999/45/EC.

Non-hazardous product as specified in OSHA Regulation 29 CFR 1910.1200.

Non-hazardous product as specified in Canadian Regulation SOR/88-66.

## **SECTION 3: COMPOSITION AND COMPONENT INFORMATION**

<b>Component:</b>	Citric Acid Monohydrate	Barium Sulfate
<b>EC-No.:</b>	201-069-1	231-784-4
<b>CAS-No.:</b>	5949-29-1	7727-43-7
<b>Hazard:</b>	Xi	-
<b>Phrases:</b>	R: 36	-
<b>Content:</b>	> 10% - < 20%	> 20% - < 40%

## **SECTION 4: FIRST AID MEASURES**

**After Inhalation:** Remove to fresh air. Call in physician.

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

**After Eye Contact:** Rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately call in ophthalmologist.

**After Swallowing:** Make victim drink plenty of water (if necessary several liters). Immediately call in physician.

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

## **SECTION 5: FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media:**

Foam, Dry Powder, Carbon Dioxide

**Special Risks:**

Non-combustible. Development of hazardous combustion gases possible in the event of fire.

**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:

Avoid substance contact. Do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

### Environmental Precautions:

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

### Additional Notes:

Take up dry. Forward for disposal.

## SECTION 7: HANDLING AND STORAGE

### Handling:

Work under hood. Do not inhale substance. Avoid generation of dusts.

### Storage:

Tightly closed. In a well ventilated place. Store at room temperature (+15 to +25 °C recommended).

## SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Type	Value	Source	Type	Value	Source
<b>Barium Sulfate</b>					
TWA (8hr)	10 mg/m <sup>3</sup>	Belgium	TWA (8hr)	0.5 mg/m <sup>3</sup> (total)	Canada (Ontario)
TWA (8hr)	10 mg/m <sup>3</sup> (total)	Canada (Quebec)	TWA (8hr)	10 mg/m <sup>3</sup>	Portugal
TWA (8hr)	10 mg/m <sup>3</sup>	Spain	TWA (8hr)	4 mg/m <sup>3</sup>	UK
TWA (8hr)	10 mg/m <sup>3</sup>	USA (ACGIH)	TWA (8hr)	15 mg/m <sup>3</sup> (total)	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 dusts are generated. Work under hood.

### Protective Gloves:

Rubber or plastic

### Eye Protection:

Goggles or face mask

### Industrial Hygiene:

Change contaminated clothing. Apply skin-protective barrier cream. Wash hands after working with substance.

## SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

<b>Appearance:</b>	White powder	<b>Odor:</b>	Odorless	<b>Density at 20° C:</b>	NA
<b>Melting Point:</b>	ND	<b>Boiling Point:</b>	ND	<b>Solubility:</b>	Soluble
<b>pH at 20° C:</b>	2.30 @ 10 g/L	<b>Explosion Limit:</b>	NA	<b>Flash Point:</b>	NA
<b>Thermal Decomp.:</b>	NA				

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Heating

**Hazardous Polymerization:**

Will not occur.

**Further Information:**

Not available

**Hazardous Decomposition Products:**

No information available.

**Substances to be Avoided:**

Metals, oxidizing agents, reducing agents

**SECTION 11: TOXICOLOGICAL INFORMATION****Product Toxicity**

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Citric acid monohydrate – as the pure substance

Acute toxicity

LD 50 (oral, rat): 3000 mg/kg (anhydrous substance).

Subacute to chronic toxicity

Bacterial mutagenicity: Ames test: negative.

No teratogenic effects in animal experiments.

No impairment of reproductive performance in animal experiments.

**Potential Health Effects:****Inhalation:** Irritations symptoms in the respiratory tract.**Skin Contact:** Slight irritations.**Eye Contact:** Irritations.**Ingestion:** Irritations of mucous membranes (stomach), coughing, pain, bloody vomiting.**Further Data:** The product should be handled with the usual care when dealing with chemicals.**Component Toxicity****Acute Toxicity:**

Not Available

**Chronic Toxicity:**

Not Available

**Additional Data:**

Not Available

**SECTION 12: ECOLOGICAL INFORMATION**

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

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Citric acid monohydrate – as the pure substance

Biologic degradation:

Biodegradation: &gt;98 % /2 d Zahn-Wellens test;

Easily eliminable.

Behavior in environmental compartments:

Distribution: log p(o/w): -1.72 (20 °C) (anhydrous substance); No bioaccumulation is to be expected (log P(o/w) &lt;1).

Ecotoxic effects:

Biological effects:

Harmful effect due to pH shift.

Fish toxicity: *L. idus* LC50 : 440–760 mg/L /96 h (anhydrous substance).Daphnia toxicity: *Daphnia magna* EC50 : ~120 mg/L /72 h (anhydrous substance).

Maximum permissible toxic concentration:

Protozoa: *E. sulcatum* EC5 : 485 mg/L /72 h (anhydrous substance).Bacterial toxicity: *Ps. putida* EC5 : >10000 mg/L /16 h (anhydrous substance); *M. aeruginosa* EC5 : 80 mg/L /8 d (anhydrous substance). Algaltoxicity: *Sc. quadricauda* IC5 : 640 mg/L /7 d (anhydrous substance).

Degradability:

BOD5 : 0.481 g/g; TOD: 0.686 g/g; COD: 0.685 g/g.

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### **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**

<b>Land:</b>	<b>Sea:</b>	<b>Air:</b>
Not subject to transport regulations	Not subject to transport regulations	Not subject to transport regulations

### **SECTION 15: REGULATORY INFORMATION**

**Labeling according to EC Directives:**

Non-hazardous according to Directives 67/548/EEC and 1999/45/EC.

**S-phrases:** 22-24/25: Do not breathe dust. Avoid contact with skin and eyes.

### **SECTION 16: OTHER INFORMATION**

**Text of R-phrases under Section 3**

36: Irritating to eyes.

**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.**