



**HI 38001B-HR**  
**Sulfate High Range 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 38001B-0 HR Sulfate High Range Reagent

**Application:** Determination of Sulfate 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**

Harmful by inhalation. Toxic if swallowed.

**SECTION 3: COMPOSITION AND COMPONENT INFORMATION**

**Component:** Barium Chloride Dihydrate

**EC-No.:** 233-788-1

**CAS-No.:** 10326-27-9

**Hazard:** T, Xn

**Phrases:** R: 20-25

**Content:** > 25% - < 50%

**SECTION 4: FIRST AID MEASURES**

**After Inhalation:** Remove to fresh air. Give artificial respiration if victim is not breathing. Give oxygen if breathing is difficult.

**After Skin Contact:** Flush affected area with copious amounts of water for at least 15 minutes. Remove contaminated clothing.

**After Eye Contact:** Rinse out with plenty of water with the eyelid held wide open. Call in ophtalmologist if necessary.

**After Swallowing:** Make victim drink plenty of water, induce vomiting. Immediately call in physician. Subsequently administer: Sodium sulfate (1 tablespoon/1/4 l water).

**General Information:** Not available

**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:  
Hydrochloric Acid

**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 ground water.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### ***Personal Precautions:***

Avoid substance contact. Avoid generation of vapors/aerosols. Ensure supply of fresh air in enclosed rooms.

### ***Environmental Precautions:***

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

### ***Additional Notes:***

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

## **SECTION 7: HANDLING AND STORAGE**

### ***Handling:***

No further requirements.

### ***Storage:***

Store tightly closed. Accessible only for authorized persons

## **SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

<i>Type</i>	<i>Value</i>	<i>Source</i>	<i>Type</i>	<i>Value</i>	<i>Source</i>
<b>Barium Chloride Dihydrate</b>					
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Belgium	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Canada (Ontario)
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Canada (Quebec)	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	France
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Germany	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Greece
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Hungary	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Italy
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Netherlands	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Portugal
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Romania	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	Spain
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	UK	TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	USA (ACGIH)
TWA (8hr)	0.5 mg (Ba)/m <sup>3</sup>	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. The resistance of the protective clothing to chemicals should be determined with the respective supplier.

### ***Respiratory Protection:***

Required when vapours/aerosols are generated.

### ***Protective Gloves:***

Compatible chemical-resistant gloves

### ***Eye Protection:***

Goggles or face mask

### ***Industrial Hygiene:***

Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood. Do not inhale substance.

## **SECTION 9: PHYSICAL/CHEMICAL PROPERTIES**

<b><i>Appearance:</i></b>	Colorless liquid	<b><i>Odor:</i></b>	Odorless	<b><i>Density at 20° C:</i></b>	1.26 at 25°C
<b><i>Melting Point:</i></b>	ND	<b><i>Boiling Point:</i></b>	NA	<b><i>Solubility:</i></b>	Soluble
<b><i>pH at 20° C:</i></b>	~ 6 at 25°C	<b><i>Explosion Limit:</i></b>	NA	<b><i>Flash Point:</i></b>	NA
<b><i>Thermal Decomp.:</i></b>	NA				

## **SECTION 10: STABILITY AND REACTIVITY**

### **Conditions to be Avoided:**

Heating

### **Hazardous Polymerization:**

Will not occur.

### **Further Information:**

Not available

### **Hazardous Decomposition Products:**

Toxic gases: See section 5.

### **Substances to be Avoided:**

Strong oxidizing agents, strong reducing agents

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **Product Toxicity**

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

### **Potential Health Effects:**

**Inhalation:** Irritations of the mucous membranes, coughing, and dyspnoea.

**Skin Contact:** Irritations.

**Ingestion:** May be harmful if swallowed. The following applies to soluble barium compounds in general: after swallowing: mucosal irritation, nausea, salivation, vomiting, dizziness, pain, colics, and diarrhoea. Systemic effects include: cardiac dysrhythmias, bradycardia (subdued cardiac activity), rise in blood pressure, shock and circulatory collapse as well as muscular rigidity.

**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:**

Not Available

#### **Chronic Toxicity:**

Not Available

#### **Additional Data:**

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Barium Chloride – as the pure substance:

Acute toxicity

LD50 (oral, rat): 118 mg/Kg – calculated on the pure anhydrous substance (IUCLID).

Subacute to chronic toxicity

Mutagenicity (mammal cell test): negative. (in vitro) (IUCLID).

Bacterial mutagenicity: Ames test: negative (IUCLID).

## **SECTION 12: ECOLOGICAL INFORMATION**

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

APPLICABLE TO PARTIAL COMPONENT:

The following applies to Barium chloride – as the pure substance:

Ecotoxicological effects

Biological effects:

Endangers drinking-water supplies if allowed to enter soil or water. Formation of health-hazardous mixtures possible with water.

Fish toxicity: *L. idus* LC50: 870 mg/L /48 h (anhydrous substance) (IUCLID).

Daphnia toxicity: *Daphnia magna* EC50: 21.9 mg/L /48 h (anhydrous substance) (IUCLID).

Biologic degradation:

Methods for the determination of biodegradability are not applicable to inorganic substances

**Further Data:** 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.

**Safety Data Sheet**According to Regulation (EC) No. 1907/2006  
OSHA Regulation 29 CFR 1910.1200  
Canadian Regulation SOR/88-66**SECTION 14: TRANSPORTATION INFORMATION****Land:**ADR/RID:6.1, PGIII  
UN-N:3287  
Name:TOXIC LIQUID, INORGANIC,  
N.O.S. (Barium Chloride solution)**Sea:**IMDG:6.1/UN 3287/PGIII  
Name:TOXIC LIQUID, INORGANIC,  
N.O.S. (Barium Chloride solution)**Air:**ICAO/IATA:6.1/UN 3287/PGIII  
Name:TOXIC LIQUID, INORGANIC,  
N.O.S. (Barium Chloride solution)

Transport data applies to the COMPLETE KIT!

**SECTION 15: REGULATORY INFORMATION****Labeling according to EC Directives:****Symbol:** T: Toxic**R-phrases:** 20-25: Harmful by inhalation. Toxic if swallowed.**S-phrases:** 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).**Contains:** Barium chloride dihydrate**SECTION 16: OTHER INFORMATION****Text of R-phrases under Section 3**20:Harmful by inhalation.  
25:Toxic if swallowed.**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.