

**Revision Date:** 2016-01-26  
**Reason for Revision:** Removed DSD/DPD Regulation Info

**SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY**

**Product Name:** HI 93701-F Free Chlorine Reagent B

**Application:** Determination of Free Chlorine 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**

Causes severe skin burns and eye damage.

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

**Classification:** Skin Corrosion (Category 1A)

**Signal Word:** **Danger**

**Pictograms:**



**Hazard Statements:** H314: Causes severe skin burns and eye damage.

**Precaution Statements:** P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**SECTION 3: COMPOSITION AND COMPONENT INFORMATION**

| <b>Component:</b> | <b>EC No:</b> | <b>CAS No:</b> | <b>Hazard Class:</b> | <b>Phrases:</b> | <b>Concentration:</b> |
|-------------------|---------------|----------------|----------------------|-----------------|-----------------------|
| Sodium hydroxide  | 215-185-5     | 1310-73-2      | Skin Corr. 1A        | H314            | > 5% - < 20%          |

**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 and shoes. Call a physician.
- After Eye Contact:** Flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.
- After Swallowing:** Wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting. Do not attempt to neutralize.
- 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:**

Ambient fire may liberate hazardous vapors. Hazardous Decomposition Products: Sodium/Sodium 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.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:**

Do not inhale vapors. Avoid substance contact. 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:**

Cannot be stored indefinitely. Accessible only for authorized persons.

**Storage:**

Tightly closed. Store at room temperature (+15 to +25°C recommended). Protect from light and moisture.

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

| Type                    | Value                 | Source           | Type      | Value               | Source          |
|-------------------------|-----------------------|------------------|-----------|---------------------|-----------------|
| <b>Sodium Hydroxide</b> |                       |                  |           |                     |                 |
| Ceiling                 | 2 mg/m <sup>3</sup>   | Australia        | Ceiling   | 2 mg/m <sup>3</sup> | Belgium         |
| Ceiling                 | 2 mg/m <sup>3</sup>   | Canada (Ontario) | Ceiling   | 2 mg/m <sup>3</sup> | Canada (Quebec) |
| TWA (8hr)               | 2 mg/m <sup>3</sup>   | France           | TWA (8hr) | 2 mg/m <sup>3</sup> | Greece          |
| TWA (8hr)               | 2 mg/m <sup>3</sup>   | Hungary          | Ceiling   | 2 mg/m <sup>3</sup> | New Zealand     |
| TWA (8hr)               | 0.5 mg/m <sup>3</sup> | Poland           | Ceiling   | 2 mg/m <sup>3</sup> | Portugal        |
| TWA (8hr)               | 1 mg/m <sup>3</sup>   | Romania          | Ceiling   | 2 mg/m <sup>3</sup> | Spain           |
| TWA (15min)             | 2 mg/m <sup>3</sup>   | UK               | Ceiling   | 2 mg/m <sup>3</sup> | USA (ACGIH)     |
| TWA (8hr)               | 2 mg/m <sup>3</sup>   | USA (OSHA)       |           |                     |                 |

**Engineering:**

Maintain general industrial hygiene practice.

**Personal Protective Equipment:**

As appropriate to quantity 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:**

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

**SECTION 9: PHYSICAL/CHEMICAL PROPERTIES**

|                                     |                            |  |
|-------------------------------------|----------------------------|--|
| <b>Appearance:</b> Colorless liquid | <b>Odor:</b> Odorless      | <b>Density at 20°C:</b> 1.15 g/cm <sup>3</sup> |
| <b>Melting Point:</b> ND            | <b>Boiling Point:</b> ND   | <b>Solubility:</b> Soluble                     |
| <b>pH at 20°C:</b> > 14             | <b>Explosion Limit:</b> NA | <b>Flash Point:</b> NA                         |
| <b>Thermal Decomp.:</b> NA          |                            |  |

**SECTION 10: STABILITY AND REACTIVITY**

**Conditions to be Avoided:**

Strong Heating

**Hazardous Polymerization:**

Will not occur.

**Further Information:**

Not available

**Hazardous Decomposition Products:**

In the event of fire: See section 5.

**Substances to be Avoided:**

Strong oxidizing agents, strong acids, organic materials, ammonium compounds

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Product Toxicity**

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

**Potential Health Effects:**

**Inhalation:** Mucosal irritations, coughing, dyspnoea.

**Skin Contact:** Burns, necrosis.

**Eye Contact:** Burns, necrosis. Risk of blindness!

**Ingestion:** Burns of mouth, mucous membrane, esophagus. Risk of perforation in the esophagus and stomach.

**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 MAIN COMPONENT:

The following applies to Sodium Hydroxide, as the pure substance:

Acute toxicity

LD50 (Intraperitoneal, mouse): 40 mg/kg

Irritation data

Skin, Rabbit: 500 mg /24 hr

Remarks: Severe irritation effect

Eyes, Rabbit: 0.5 mg / 24 hr

Remarks: Severe irritation effect

Signs and symptoms of exposure

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Chronic exposure - mutagen

Cytogenetic analysis

Hamster: 10 mmol/L. Cell type: lung

Hamster: 16 mmol/L. Cell type: ovary

**SECTION 12: ECOLOGICAL INFORMATION**

Quantitative data on the ecotoxicity of this product is not available.  
 APPLICABLE TO PARTIAL COMPONENT:  
 The following applies to Sodium Hydroxide – as the pure substance:  
 Biologic degradation:  
 Methods for the determination of biodegradability are not applicable to inorganic substances.  
 Behavior in environmental compartments:  
 Concentration in organisms is not to be expected.  
 Ecotoxic effects:  
 Biological effects: Harmful effect on aquatic organisms. Toxic effect on fish and plankton. Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted. Does not cause biological oxygen deficit. Neutralization possible in waste water treatment plants.  
 Fish toxicity: *Onchorhynchus mykiss* LC50: 45.4 mg/L /96 h (in hard water); *L. macrochirus* LC50: 99 mg/L /48 h;  
 Fish toxicity: fish LC50: 189 mg/L (1N solution = 40 g/L).  
 Daphnia toxicity: *Daphnia magna* EC50: 76 mg/L /24 h.  
**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.

**SECTION 14: TRANSPORTATION INFORMATION**

|                              | <i>Land (ADR/RID):</i>    | <i>Sea (IMDG):</i>        | <i>Air (ICAO/IATA):</i>   |
|------------------------------|---------------------------|---------------------------|---------------------------|
| <b>UN No.:</b>               | 1824                      | 1824                      | 1824                      |
| <b>Proper Shipping Name:</b> | Sodium hydroxide solution | Sodium hydroxide solution | Sodium hydroxide solution |
| <b>Class (Sub Risk):</b>     | 8                         | 8                         | 8                         |
| <b>Packing Group:</b>        | II                        | II                        | II                        |
| <b>Marine Pollutant:</b>     |                           | No                        |                           |

**SECTION 15: REGULATORY INFORMATION**

Complies with European Regulations (EC) No. 1907/2006 and No. 1272/2008.  
 Complies with OSHA Regulation 29 CFR 1910.1200.  
 Complies with Canadian Regulation SOR/88-66.  
 All chemical substances in this product are listed on the TSCA Inventory.

**SECTION 16: OTHER INFORMATION**

**Text of phrases under Section 3**

H314: Causes severe skin burns and eye damage.

**Revision Information**

**Revision Date:** 2016-01-26  
**Supersedes edition of:** 2013-01-21  
**Reason for revision:** Removed DSD/DPD Regulation Info

**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.**