

**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:** Buffer Solution 10.2 ± 0.2

**Additional Product Codes:** BIGBUFFER

**Application:** Buffer Solution

**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**

Irritating to eyes and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

**Component:** 2-Amino-2-Methyl-1-Propanol      Hydrochloric Acid

**EC-No.:** 204-709-8      231-595-7

**CAS-No.:** 124-68-5      7647-01-0

**Hazard:** Xi      C

**Phrases:** R: 36/38-52/53      R: 34-37

**Content:** > 35% - < 50%      > 1% - < 10%

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

**After Inhalation:** Remove to fresh air. Call a physician if breathing becomes difficult.

**After Skin Contact:** Wash affected area with water and soap.

**After Eye Contact:** Rinse out with plenty of water for at least 15 minutes. If pain persists, summon medical advice.

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

**General Information:** Not available

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

**Suitable Extinguishing Media:**

Powder, Foam

**Special Risks:**

Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire: Nitrogen Oxides

**Special Protective Equipment:**

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

**Additional Information:**

Prevent fire-fighting water from entering surface water or groundwater.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:**

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

**Environmental Precautions:**

Do not allow to enter the sewerage system.

**Additional Notes:**

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

**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.

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

Type	Value	Source	Type	Value	Source
<b>2-amino-2-methylpropanol</b>					
TWA (8hr)	4.6 mg/m <sup>3</sup>	Germany			
<b>Hydrochloric Acid</b>					
TWA (8hr)	8 mg/m <sup>3</sup>	Belgium	Ceiling	2 ppm	Canada (Ontario)
Ceiling	5 ppm	Canada (Quebec)	TWA (15min)	7.6 mg/m <sup>3</sup>	France
TWA (8hr)	3 mg/m <sup>3</sup>	Germany	TWA (8hr)	7 mg/m <sup>3</sup>	Greece
TWA (8hr)	8 mg/m <sup>3</sup>	Hungary	TWA (8hr)	8 mg/m <sup>3</sup>	Italy
TWA (8hr)	8 mg/m <sup>3</sup>	Netherlands	TWA (8hr)	5 mg/m <sup>3</sup>	Poland
Ceiling	2 ppm	Portugal	TWA (8hr)	8 mg/m <sup>3</sup>	Romania
TWA (8hr)	7.6 mg/m <sup>3</sup>	Spain	TWA (8hr)	2 mg/m <sup>3</sup>	UK
Ceiling	2 ppm	USA (ACGIH)	Ceiling	5 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:**

Wash thoroughly after handling.

**SECTION 9: PHYSICAL/CHEMICAL PROPERTIES**

<b>Appearance:</b>	Colorless solution	<b>Odor:</b>	Amine-like	<b>Density at 20° C:</b>	0.98 g/cm <sup>3</sup>
<b>Melting Point:</b>	NA	<b>Boiling Point:</b>	ND	<b>Solubility:</b>	Soluble
<b>pH at 20° C:</b>	10.2	<b>Explosion Limit:</b>	NA	<b>Flash Point:</b>	ND
<b>Thermal Decomp.:</b>	ND				

**SECTION 10: STABILITY AND REACTIVITY**

**Conditions to be Avoided:**

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

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Product Toxicity**

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

**Potential Health Effects:**

**Skin Contact:** Mucosal irritations, coughing, dyspnoea.

**Eye Contact:** Irritant effect.

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

**Further Data:** Systemic effects: CNS disorders, cardiovascular disorders. Toxic effect on: liver, kidneys. The product should be handled with the usual care when dealing with chemicals.

**Component Toxicity**

**Acute Toxicity:**

**Chronic Toxicity:**

Not Available

**2-amino-2-methylpropanol**

**LD50:** Oral - Rat - 2900 mg/kg

**Hydrochloric Acid**

**LC50:** Inhalation - Rat - 1562 ppm

**LD50:** Oral - Rabbit - 900 mg/kg

**Additional Data:**

APPLICABLE TO MAIN COMPONENT:

The following applies to 2-Amino-2-methyl-1-propanol, as the pure substance:

Specific symptoms in animal studies:

Eye irritation test (rabbit): Irritations.

Skin irritation test (rabbit): Irritations.

Subacute to chronic toxicity

Sensitization:

Sensitization test (guinea pig): No sensitizing effect.

Bacterial mutagenicity: Ames test: negative.

**SECTION 12: ECOLOGICAL INFORMATION**

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

APPLICABLE TO MAIN COMPONENT:

The following applies to 2-Amino-2-methyl-1-propanol, as the pure substance:

Biologic degradation:

Biodegradation: 40 % /28 d.

Biologically not readily degradable.

Behavior in environmental compartments:

Distribution: log p(o/w): -0.74 (calculated).

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

Ecotoxic effects:

Biological effects: Harmful effect on aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Fish toxicity: L.macrochirus LC50: 190 mg/L /96 h.

Daphnia toxicity: Daphnia magna EC50: 65 mg/L /24 h.

Algal toxicity: Desmodesmus subspicatus IC50: 520 mg/L /72 h.

Bacterial toxicity: Ps.putida EC10: 50 mg/L.

Further ecologic data:

COD: 2.050 g/g.

BOD5: <0.01 g/g.

**Further Data:** DO NOT ALLOW TO ENTER WATERS, WASTE WATER, 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**

**Land:**

Not subject to transport regulations.

**Sea:**

Not subject to transport regulations.

**Air:**

Not subject to transport regulations.

**SECTION 15: REGULATORY INFORMATION**

**Labeling according to EC Directives:**

**Symbol:** Xi: Irritant

**R-phrases:** 36/38-52/53: Irritating to eyes and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**S-phrases:** 61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

**SECTION 16: OTHER INFORMATION**

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

34: Causes burns.  
 36/38: Irritating to eyes and skin.  
 37: Irritating to respiratory system.  
 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**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.**