

**Revision Date:** 2008-12-01

**Reason for Revision:** REACH Compliance and General Update

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

**Product Name:** HI 50005 pH 5.00 Buffer Solution

**Application:** pH Buffer Solution

**Company Information (USA):**

**Technical Service Contact Information:**

**USA Emergency Contact Information:**

**International Emergency Contact Information:**

**E-mail Address:**

**Additional Product Codes:** HI 50005-01  
HI 50005-02

Hanna Instruments, Inc.  
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1-800-426-6287 (8:30AM - 5:00PM ET)  
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### **SECTION 2: HAZARD IDENTIFICATION**

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

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

**Component:** Citric Acid Monohydrate

**EC-No.:** 201-069-1

**CAS-No.:** 5949-29-1

**Hazard:** Xi

**Phrases:** R: 36

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

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

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

**After Skin Contact:** Wash effected 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:**

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.

**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 dry. 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****Ingredients:****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 vapors/aerosols are generated. Work under hood.

**Protective Gloves:**

Rubber or plastic

**Eye Protection:**

Goggles or face mask

**Industrial Hygiene:**

Change contaminated clothing. Wash hands after working with substance.

**SECTION 9: PHYSICAL/CHEMICAL PROPERTIES**

**Appearance:** Colorless liquid

**Odor:** Odorless

**Density at 20° C:** 1.0 g/cm<sup>3</sup> at 25°C

**Melting Point:** NA

**Boiling Point:** > 100 °C

**Solubility:** Soluble

**pH at 20° C:** 5.00 at 25°C

**Explosion Limit:** NA

**Flash Point:** NA

**Thermal Decomp.:** NA

**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:**

The generally known reaction partners of water

**SECTION 11: TOXICOLOGICAL INFORMATION**

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

**APPLICABLE TO PARTIAL COMPONENT:**

The following applies to Citric acid anhydrous – as the pure substance:

Acute toxicity

LD50 (oral, rat): 3000 mg/kg (RTECS).

Specific symptoms in animal studies:

Eye irritation test (rabbit): Severe irritations (Lit.).

Skin irritation test (rabbit): Slight irritations (Lit.).

Subacute to chronic toxicity

Bacterial mutagenicity: Ames test: negative. (Lit.)

No teratogenic effect in animal experiments. (Lit.)

No impairment of reproductive performance in animal experiments. (Lit.)

**In Case of Inhalation:** Mucosal irritations.

**In Case of Skin Contact:** Slight irritations possible

**In Case of Eye Contact:** Irritations.

**In Case of Ingestion:** Coughing, pain, bloody vomiting possible.

**Further Data:** The product should be handled with the usual care when dealing with chemicals.

**SECTION 12: ECOLOGICAL INFORMATION**

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

**APPLICABLE TO PARTIAL COMPONENT:**

The following applies to Citric acid anhydrous – as the pure substance:

Biologic degradation:

Biodegradation: 98 % /2 d (OECD 302 B) (IUCLID).

Easily eliminable.

Behavior in environmental compartments:

Distribution: log Pow: -1.72 (20 °C) (IUCLID).

No bioaccumulation is to be expected (log Pow <1).

Ecotoxic effects:

Biological effects: Harmful effect due to pH shift.

Fish toxicity: L.idus LC50: 440-760 mg/L /96 h (IUCLID).

Daphnia toxicity: Daphnia magna EC50: ~120 mg/L /72 h (IUCLID).

Maximum permissible toxic concentration:

Protozoa: E.sulcatum EC5: 485 mg/L /72 h (Lit.).

Bacterial toxicity: Ps.putida EC5: >10000 mg/L /16 h (Lit.). M.aeruginosa EC5: 80 mg/L /8 d (Lit.).

Algal toxicity: Sc.quadricauda IC5: 640 mg/L /7 d (Lit.).

Further ecologic data:

Degradability:

BOD5: 0.526 g/g (Lit.).

TOD: 0.75 g/g (calculated).

COD: 0.728 g/g (Lit.).

**Further Data:** No ecological problems are to be expected when the product is handled and used with due care and attention.

**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:** Non-hazardous according to Directives 67/548/EEC and 1999/45/EC.**R-phrases:****S-phrases:****Contains:****SECTION 16: OTHER INFORMATION****Text of R-phrases under Section 3**

36: Irritating to eyes.

**Revision Information****Revision Date:** 2008-12-01**Supersedes edition of:** 2006-07-19**Reason for revision:** REACH Compliance and General Update**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.**