

**MATERIAL SAFETY DATA SHEET**  
**GENERAL HYDROPONICS pH 4.01**

**3/7/09**

**SECTION 1. MATERIAL IDENTIFICATION**

**Product Name:** pH 4.01 Calibration Solution

**Chemical Family:** pH calibration standard

**Product Use:** to calibrate pH equipment

**Manufactured by:** General Hydroponics, 3789 Vine Hill Road, Sebastopol CA 95472. (707) 824-9376 Fax: (707) 824-9377

**For Emergency Day or Night Call:** CHEMTREC – Domestic North America 800-424-9300, International 703-527-3887 (collect calls accepted)

**SECTION 2. INGREDIENTS AND OCCUPATIONAL EXPOSURE LIMITS**

**Ingredients:** pH 4.01 Calibration Solution is a specially formulated mixture of chemicals that are mixed in proportions to maintain the solution to an exact pH of 4.1. The chemical identity of the compounds and exact proportions used in the mixture are a trade secret.

**Exposure Limits:** No limits are established for exposure to the ingredients of PH 4.01 Calibration Solution

**SECTION 3. HAZARDS IDENTIFICATION**

**\*\*\* Emergency Overview \*\*\***

**As part of good industrial and personal hygiene and safety procedure,  
avoid all unnecessary exposure to the chemical substance and ensure  
prompt removal from skin, eyes and clothing**

**Potential Health Effects**

**Primary Entry Routes:** ingestion, and skin contact

**Ingestion:** Ingestion may cause gastro-intestinal distress.

**Eye:** May cause redness and pain.

**Skin:** May cause mild irritation.

**Inhalation:** May cause mild irritation.

**Carcinogenicity:** IARC, NTP, and OSHA do not list any ingredients as a carcinogen.

**Medical Conditions Aggravated by Long- Term Exposure:** Unknown

**Chronic Effects:** No adverse health effects expected.

**Other:** None

**Section 4. FIRST AID MEASURES**

**Ingestion:** If swallowed, give several glasses of water to drink to dilute product. Never give anything by mouth to an unconscious person. Induce vomiting as directed by medical personnel. Call a pHyician.

**Inhalation:** Remove exposed person to fresh air and support breathing, if necessary. Consult a physician if respiratory distress continues.

**Eye Contact:** Do not allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water for at least 15 minutes. Consult a physician or ophthalmologist if pain or irritation develops.

**Skin Contact:** Wash exposed area with mild soap and water. For reddened or blistered skin, consult a physician.

**After First Aid:** Get appropriate community medical support.

## **SECTION 5. FIRE AND EXPLOSION DATA**

**Flammability Classification:** pH 4.01 Calibration Solution is not combustible.

**Flash Point:** Unknown

**Auto-ignition Temperature:** Unknown

**LEL:** Unknown

**Burning Rate:** Unknown

**Extinguishing Media:** Use dry chemical, carbon dioxide, water spray, fog, or foam.

**Unusual Fire or Explosion Hazards:** Container may explode in heat of fire.

**Hazardous Combustion Products:** Can decompose explosively in a fire.

**Special information:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Spill/Leak Procedures:** Spills should be wiped up with absorbent materials, or mopped up carefully and held for reclamation or disposal.

**Regulatory Requirements:** Avoid infiltration of the undiluted product into drains, surface water, groundwater, and soil.

## **SECTION 7. HANDLING AND STORAGE**

**Storage:** Keep product in sealed container when not in use.

**Handling Precautions:** Avoid ingestion, skin contact, eye contact, and inhalation

**Storage Requirements:** Keep in tightly closed containers in a cool, dry, ventilated area.

**Regulatory Requirements:** Follow applicable OSHA regulations.

## **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Airborne Exposure Limits:** None established

**Ventilation:** Provide general or local exhaust ventilation.

**Administrative Controls:** Avoid direct contact with the product.

**Respiratory Protection:** If this product is used as directed, respiratory protection is not required. Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/ NIOSH-approved respirator. If respirators are used, OSHA requires a written respiratory protection program that includes, at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**Eye Protection:** when using pH 4.01 Calibration Solution, protective eyewear or goggles should be worn per OSHA regulations (29 CFR 1910.134). Contact lenses pose a special hazard. Soft lenses may absorb irritants, and all contact lenses concentrate irritants. Particles may adhere to contact lenses and cause corneal damage.

**Protective Clothing:** Wear impervious protective clothing when the possibility of skin or clothing contamination may exist. Wear neoprene or nitrile gloves when directly handling the product.

**Contaminated Equipment:** Remove this material from shoes and equipment. Launder contaminated clothing before wearing.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this product, especially before eating drinking, smoking, using the toilet, or applying cosmetics

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Aqueous solution

**Density:** 1.01

**pH:** 4.1

**Appearance and Odor:** Red odorless solution

**Odor Threshold Range:** Unknown

**Vapor Pressure:** Unknown

**Water Solubility:** Soluble

**Boiling Point:** 101° c

**Melting point:** 1° c

**Other Solubilities:** Unknown

## **SECTION 10. STABILITY AND REACTIVITY**

**Stability:** Stable under normal storage and handling conditions.

**Chemical Incompatibilities:** pH 4.01 Calibration Solution contains a low concentration of a chemical that when in a higher concentration may react with strong oxidizing agents.

**Conditions to Avoid:** Mixture with incompatible materials, high temperatures

**Hazardous Decomposition Products:** At extreme temperatures, CO and harmful oxides may be evolved.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

None of the chemicals are considered toxic in the concentrations used in pH 4.01 Calibration Solution.

## **SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** Unknown

**Environmental Fate:** Not expected to be significant

**Environmental Degradation:** Unknown

## **SECTION 13. DISPOSAL CONSIDERATIONS**

**Waste Disposal:** When possible, save wastes for recycling recovery otherwise wastes should be managed in a waste disposal facility approved by local regulation.

## **SECTION 14. TRANSPORTATION INFORMATION**

Not regulated

## **SECTION 15. REGULATORY INFORMATION**

**EPA Regulations:** Not listed

## **SECTION 16. OTHER INFORMATION**

pH 4.01 Calibration is a red aqueous solution of chemicals mixed in concentrations to maintain the solution to an exact pH of 4.1. Information assembled for this Material Safety Data Sheet is for the use of this product as intended by the manufacturer. Users should take all precautions recommended herein while working with this product.

General Hydroponics provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in using this product.