



PMC WATER SYSTEMS SERVICES INC.

124 CONNIE CRES. UNIT 9 CONCORD, ONTARIO.

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MATERIAL SAFETY DATA SHEET INHIBITED HYDROCHLORIC ACID

Protection Required



MATERIAL IDENTIFICATION AND USE

Manufacturer's Name : PMC Water Systems Services Inc.
Manufacturer's Address : 124 Connie Crescent, Unit 9, Concord, ON L4K 1L7
Manufacturer's Phone # : (905) 669-8262
24 Emergency Phone # : Canutec (613) 996-6666
Product Identifier : Inhibited Hydrochloric Acid
WHMIS Class : [C] Oxidizing, [D1B] Toxic, [E] Corrosive, [F] Dangerously Reactive
TDG Class : Hydrochloric Acid Solution, Class 8 (9.2), UN 1789, PG II

HAZARDOUS INGREDIENTS OF MATERIAL

Ingredients	Concentration	CAS #	LD ₅₀	LC ₅₀
Hydrochloric Acid	15 – 40%	7647-01-0	1232 mg/kg (oral rat)	4701 ppm/30m

All the remaining ingredients are not classified as hazardous according to the DSL.

PHYSICAL DATA FOR PRODUCT

Physical State : Liquid
Odour and Appearance : Slightly pungent, irritating; clear and colourless
Odour Threshold : Not Available
Specific Gravity (Water = 1) : 1.13 g/cc
Vapour Pressure (mmHg) : 17.4
Vapour Density (Air = 1) : No Data Available
Evaporation Rate : >1
Boiling Point : 108°C, 226°F
Freezing Point : No Data Available
pH : <1.0 (20°C)
Coefficient Water/Oil Distribution : Not Applicable
Solubility in Water : 100 WT%

FIRE AND EXPLOSION HAZARD OF PRODUCT

Flash Point And Method of Determination : Will not burn
Conditions of Flammability : Non flammable
Means of Extinction : Use only water
Upper Explosion Limit : Not Applicable
Lower Explosion Limit : Not Applicable
Auto-Ignition Temperature : Not Applicable
Hazardous Combustion Products : Contamination or heat may cause self-accelerating exothermic decomposition with oxygen gas and steam release that can cause dangerous pressures. May react dangerously with rust, dirt, iron, copper, heavy metals or their salts, alkalis and organic materials.
Explosion Data: Sensitivity to Impact : None Known
Sensitivity to Static Discharges : None Known

REACTIVITY DATA

Stability	:	Stable
Incompatible Materials	:	Incompatible with most flammables/combustibles as well as cyanides, nitric acid, potassium permanganate and many other oxidizing and reducing agents. Mixture with both organics and some acids may be especially reactive.
Conditions of Reactivity	:	None
Hazardous Decomposition Products	:	Contamination or heat may cause self-accelerating exothermic decomposition with oxygen gas and steam release that can cause dangerous pressures. May react dangerously with rust, dirt, iron, copper, heavy metals or their salts, alkalis and organic materials.

TOXICOLOGICAL PROPERTIES

Repeated inhalation exposures produced nasal discharge, bleached hair and respiratory tract congestion with some deaths occurring in rats and mice exposed to concentrations greater than 67ppm. Dogs exposed by inhalation to 7ppm for 6 months had lung and skin irritation. The effects from a single large oral dose include convulsions. Repeated administration of the compound in the diet of animals resulted in growth inhibition, reduced weight gain, abnormal liver function, ulcers and discolouration of the stomach lining with swelling. Long-term administration to mice in the drinking water resulted in gastric erosions and duodenal hyperplasia. At aqueous concentrations of less than 50%, hydrogen peroxide skin irritation occurs. Concentrations less than 5% in aqueous solutions are eye irritants; solutions between 5 – 10% range from severe eye irritants to being corrosive. Concentrations greater than 10% are corrosive to the eye. The compound is not a skin sensitizer in animals.

Carcinogenicity	:	One study by skin application suggested no carcinogenic activity. Results of an ingestion study with mice suggested that hydrogen peroxide might be carcinogenic; however, the FDA and other organizations have reviewed this study and concluded there is insufficient evidence that hydrogen peroxide is carcinogenic. Unpublished long-term study with rats revealed no evidence of carcinogenicity.
Reproductive Effects	:	Female rats treated with 10% hydrogen peroxide produced offspring of lower body weight and some structural abnormalities, but these changes were attributed to material toxicity. Hydrogen peroxide produced genetic damage to bacterial and mammalian cells in culture, but one study in animals indicated it did not produce genetic damage. Limited tests in animals demonstrate no reproductive toxicity.
Synergistic Materials	:	Not Available

PREVENTATIVE MEASURES

Personal Protective Equipment	:	Where there is potential for skin contact, have available and wear as appropriate: impervious gloves, apron, pants, jacket, hood and boots, or totally encapsulating chemical suit with breathing air supply. Permeation data supplied by vendors indicate that impervious materials such as natural rubber, natural rubber plus neoprene, nitrile, or polyvinyl chloride afford adequate protection. Do not wear leather gloves or leather shoes (uppers or soles) because they can ignite following contact with peroxide. Cotton clothing can also ignite. This effect may be within minutes or delayed. Clothing fires and skin damage occur less quickly with 50% or lower hydrogen peroxide than with 70% material. Adequate personal protection is essential for all hydrogen peroxide and should not be used. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydroxide, if allowed to dry on materials such as paper, cotton fabrics, leather, wood or other combustibles, can cause the material to ignite and result in a fire. Wear coverall chemical splash goggles. In addition, where the spraying of material, wear chemical splash goggles/full-length face shield combination.
Respiratory Protection	:	Where there is a potential for airborne exposure in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.
Ventilation Requirements	:	Use sufficient ventilation to keep employee exposure below recommended exposure limits.
Spill and Leak Procedures	:	Comply with federal, provincial/state and local regulations on reporting releases. Flood area with water and drain to an approved chemical sewer or wastewater treatment system including municipal sewers if approved. May be destroyed with sodium metabisulfite or sodium sulfite (1.9lbs SO ₂ equivalent per lb. PF peroxide) after diluting 5-10%. If hydrogen peroxide is spilled and not recovered, or is recovered as a waste for treatment or disposal, the CERCLA reportable quantity is 100lbs. Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can

- concentrate) on organic materials, such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.
- Storage Requirements** : Store in a properly vented container or in approved bulk storage facilities. Do not block vent. Do not store on wooden pallets. Do not store where contact with incompatible materials could occur. Have water source available for diluting. Do not add any other product to container. Never return used or unused peroxide to container; instead dilute with plenty of water and discard. Rinse empty containers thoroughly with clean water before discarding.
- Special Handling Information** : Use extreme care when attempting any reach because of fire and explosion potential (immediate or delayed). Conduct all initial experiments on a small scale and protect personnel with adequate shielding as the reactions are unpredictable and may be delayed and affected by impurities, contaminants, temperature, etc. Do not get in eyes, taste or swallow. Avoid contact with skin and clothing. Wash thoroughly after handling. Avoid contact with flammable or combustible materials. Avoid contamination from any source including metals, dust and organic materials. Never use pressure to empty drums; container is not a pressure vessel. In the event of an accident where large volumes of hydrogen peroxide might come into contact with external fires or with incompatible chemicals, a one-half mile area from the incident should be evacuated.

FIRST AID MEASURES

- Inhalation** : If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Skin Contact** : In case of skin contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing and shoes promptly and thoroughly.
- Eye Contact** : In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
- Ingestion** : If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to Physician** : If swallowed, large amounts of oxygen may be released quickly. The distention of the stomach or esophagus may be injurious. Insertion of a gastric tube may be advisable.

PREPARATION INFORMATION

- Prepared By** : Lab Services
PMC Water Systems Services Inc.
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- Phone** : 905-669-8262
- Fax** : 905-669-8252
- Date Prepared** : August 4, 2013

While all the data presented is believed to be accurate at the time of preparation, PMC Water Systems Services Inc. makes no warranty; the data is offered for your consideration, investigation and verification.
