

**MATERIAL SAFETY DATA SHEET**

NFPA RATING: Health = 1 Flammability = 0 Reactivity = 0

HMIS RATING: Health = 1 Flammability = 0 Reactivity = 0

**SECTION I -- IDENTITY AND MANUFACTURER'S INFORMATION** (6 oz. per gallon of water)

Manufacturer's Name: HILLYARD INDUSTRIES Product Name: MARINER Ready to use

Address: 302 North Fourth Street Date Prepared: October 1, 2007

St. Joseph, MO 64501

Prepared by: Regulatory Affairs Department

Emergency Telephone No.: (816) 233-1321 (Ext.8285) Other information calls: (816) 233-1321 (Ext. 8285)

<http://www.hillyard.com>**SECTION II -- INGREDIENTS/IDENTITY INFORMATION****Components****(Specific Chemical Identity:**

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Phosphoric acid*(1)	7664-38-2	1mg/m <sup>3</sup>	1mg/m <sup>3</sup>	1mg/m <sup>3</sup>	0.2 - 1%
Water	7732-18-5	none	none	N.A.	---

\*This product contains the following chemicals subject to the reporting requirements of SARA Title III, Sec. 313, and 40 CFR Part 372: Phosphoric acid.

(1) Regulated by OSHA, and the following states: CT, FL, IL, LA, MA, NJ, NY, PA, and RI.

VOS = less than 0.5%

**SECTION III -- PHYSICAL / CHEMICAL CHARACTERISTICS****Boiling Point:** 206°F**Specific Gravity (H<sub>2</sub>O = 1):** 25°C = 1.02 & 39°C = 1.02**Vapor Pressure (mm Hg.):** 17.5**Percent Volatile by Volume (%):** 98.5%**Vapor Density (AIR = 1):** 0.6**Evaporation Rate (ethyl ether = 1):** slower than 1**Solubility in Water:** Complete**Appearance and Odor:** Clear, light pink liquid, cherry odor**pH (1:20 dilution with D.I. water) =** 2.47**SECTION IV -- FIRE AND EXPLOSION HAZARD DATA****Flash point:** None to 200°F (T.C.C.) **Flammable Limits:** LEL = N.A. UEL = N.A.**Extinguishing Media:** Foam, dry chemical, carbon dioxide, water spray.**Special Fire Fighting Procedures:** Hot phosphoric acid is corrosive. Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals**Unusual Fire and Explosion Hazards:** May generate hydrogen gas in contact with some metals.**SECTION V -- PHYSICAL HAZARDS****Stability:** Stable **Conditions to Avoid:** None known to manufacturer.**Incompatibility (Materials to Avoid):** Corrodes some metals and alloys; cyanides and strong alkalis (ammonia) or bleach.**Hazardous Decomposition Products or Byproducts:** Hydrogen gas from contact with some metals.**Hazardous Polymerization:** Will not occur **Conditions to Avoid:** N.A.**SECTION VI -- HEALTH HAZARD DATA****Routes of entry:** Inhalation? by mist Skin? yes Ingestion? yes**HEALTH HAZARDS (1. Acute and 2. Chronic)**

1. Per FHSA Method 16 CFR 1500 1:20 diluted product was not found to be an eye nor a skin irritant. Not acutely toxic (oral) to laboratory rats at 5 g/kg when diluted 1:20 with D.I. water. Prolonged contact may cause slight skin irritation. Inhalation of fine mist may cause nose and throat irritation. Fine fog mist application is not recommended. Diluted product may be considered harmful if swallowed.

2. None known to concentrate manufacturer.

**SECTION VI -- HEALTH HAZARD DATA continued**

**Chemical listed as Carcinogen or Potential Carcinogen:**

**National Toxicology Program = No I.A.R.C. Monographs = No OSHA = No**

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

**Signs and Symptoms of Exposure:** Prolonged contact may cause slight skin irritation and slight eye conjunctivae and chemosis irritation. May cause irritation in mouth and lips after ingestion, with sour taste of acid, severe gastrointestinal irritation. Inhalation of high concentrations of fine fog mist may result in slight respiratory irritation, narcosis, headache, nausea, dizziness.

**Medical Conditions Generally Aggravated by Exposure:** None known to manufacturer.

**Emergency and First Aid Procedures:** If swallowed - DO NOT INDUCE VOMITING, GET MEDICAL ATTENTION IMMEDIATELY. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for 15 minutes. If irritation persists, Get Medical Attention.

**SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE**

**Steps To Be Taken In Case Material Is Released Or Spilled:**

If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with federal, state, and local regulations. Avoid contamination of storm drains, sewers, or other unauthorized treatment drainage systems and natural waterways.

**Waste Disposal Method:**

Disposal is regulated under the Resource Conservation and Recovery Act (40 CFR 261.22) as a corrosive waste. Regulated quantities should be neutralized by a permitted facility in accordance with applicable local, state, and federal regulations.

**Precautions To Be Taken In Handling And Storing:**

Product residue may remain on or in empty containers. All precautions for handling the product must be used in handling the empty container or residue. Container disposal: Triple rinse (or equivalent) then offer clean, dry container for recycling or reconditioning. Waste from normal use may be sewerred to a public-owned treatment works in compliance with applicable federal, state and local requirements.

**Other Precautions:**

Avoid breathing fine fog spray mist. Close container after each use. Do not take internally.

**SECTION VIII -- CONTROL MEASURES**

**Respiratory Protection (Specify Type):**

Not usually necessary. If spraying in a fine fog mist use NIOSH approved respirator (TC-21C-279, TC-23C-736, or TC-23C-745).

**Ventilation:** At least 3 air exchanges per hour suggest in good public restrooms.

**Local Exhaust = Recommended Mechanical (General) = Recommended Special = N.A. Other = N.A.**

**Protective Gloves:** None required with normal use. **Eye Protection:** None required with normal use

**Other Protective Clothing or Equipment:** Not usually necessary.

**Work / Hygienic Practices:** Wash thoroughly after handling.

**DISCLAIMER OF WARRANTIES**

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