



## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ..... Muriatic Acid (7-23 deg. Baume)  
**PRODUCT ID:** ..... 0130  
**SYNONYMS:** ..... Hydrochloric Acid; Muriatic Acid; Hydrogen Chloride; HCl  
**ISSUE DATE:** ..... 09/05/2002  
**EDITION NO.:** ..... 15

**PPG Industries, Inc.**  
**One PPG Place, Pittsburgh, PA 15272, USA**  
**24-hour Emergency Telephone Number: 1-304-843-1300**  
**For Product Information (8am-5pm Eastern time):**  
1-800-243-6774 (C/A)

**PREPARER:** Product Safety, Chemicals

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Material/CAS Number</u>     | <u>Percent</u> |
|--------------------------------|----------------|
| Hydrochloric Acid<br>7647-01-0 | 10-38          |

(10.15% @ 7, 14.85% @ 10, 18.0% @ 12, 22.92% @ 15, 27.9% @ 18, 31.5% @ 20, 35.2% @ 22, 37.1% @ 23 deg. Baume')

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW:

**DANGER!** Corrosive - Causes severe burns to eyes and skin. Causes severe burns of the digestive tract. Severely irritating to the respiratory tract and mucous membranes.

**Precautions:** Do not get in eyes, on skin, or on clothing. This product is corrosive and can cause severe burns. It can cause severe irritation and/or burns to the skin. Even small amounts splashed into the eyes can cause blindness. Do not breathe mist or vapors. Vapor may cause severe irritation of nasal and respiratory tract. Use only with adequate ventilation. Ventilation must be sufficient to limit employee exposure to this product below permissible exposure limits. Wash thoroughly every day after work. Do not swallow. Swallowing can cause severe internal burns and may be fatal. Do not eat, drink or smoke in work area.

#### 4. FIRST AID MEASURES

**INHALATION:** Remove from area to fresh air. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

**EYE/SKIN CONTACT:** EYE: Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. Contact a poison control center, emergency room or physician right away as further treatment will be necessary. SKIN: Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

**INGESTION:** Gently wipe or rinse the inside of the mouth with water. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Do Not induce vomiting. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

#### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** None

**EXTINGUISHING MEDIA:** Not applicable.

**SPECIAL FIREFIGHTING PROCEDURES:** Contact with most metals can rapidly generate hydrogen, which is explosive.

#### 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and eye/skin protection should be permitted in the area. Dike area to contain spill. Dilute spill with large amounts of water then neutralize with dilute caustic or soda ash. Use a vacuum truck to pick up neutralized material for proper disposal. Properly neutralized liquid residues (pH 6 to 9) may be disposed of in waste water treatment facilities which allow the discharge of neutral salt solutions. After all visible traces have been removed, flush area with large amounts of water.

#### 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:**

Wear appropriate personal protective equipment when handling this product. Wear respiratory protection whenever exposure to vapor is likely. Prevent acid from contacting strong alkalies or metals.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Limits:**

8-hour Time Weighted Average (TWA); 15-minute Short-Term Exposure Limit (STEL)

OSHA: 5 ppm (7 mg/cu.m.) Ceiling. 29 CFR 1910.1000

**RESPIRATORY PROTECTION:** Use NIOSH approved combination dust/mist and acid gas cartridge or canister respirator for routine work purposes when air concentrations exceed the permissible exposure limit.

**VENTILATION:** Use local exhaust or general room/dilution ventilation sufficient to maintain employee exposure below permissible exposure limits.

**EYE AND FACE PROTECTION:** Close fitting chemical safety goggles with faceshield.

**PROTECTIVE GLOVES:** Nitrile. Neoprene. Natural rubber. Polyvinylchloride (PVC).

**OTHER PROTECTIVE EQUIPMENT:** Boots, aprons, or chemical suits should be used when necessary to prevent skin contact.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**BOILING POINT:** .....Azeotrope 108°C (20.2%)  
**VAPOR DENSITY (Air=1):** .....>1  
**SPECIFIC GRAVITY (Water=1):** .....1.051/1.074/1.090/1.115/1.142/1.16/1.179/1.189 \*  
**pH:** .....Acidic  
**FREEZING/MELTING POINT:** .....NA/NA/NA/-95/-68.3/44.5/23.8/17.5°F \*  
**SOLUBILITY (wt.% in water):** .....Complete  
**BULK DENSITY:** .....8.8/9.0/9.1/9.3/9.5/9.7/9.8/9.9 lbs/gal \*  
**VOLUME % VOLATILE:** .....100  
**VAPOR PRESSURE:** .....15/13/11/10/14/24/100/150 mm Hg \*  
**EVAPORATION RATE:** .....NA  
**HEAT OF SOLUTION:** .....Extremely exothermic  
**PHYSICAL STATE:** .....Liquid  
**ODOR:** .....Pungent, irritating.  
**COLOR:** .....Clear water white to slightly yellow

\*At 7/10/12/15/18/20/22/23 deg. baume' respectively.

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INCOMPATIBILITY (CONDITIONS/MATERIALS TO AVOID):**  
 Contact with metals. Strong alkalies.

**HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:**  
 Flammable hydrogen gas.

**11. TOXICOLOGICAL INFORMATION**

**ACUTE INHALATION LC50:** ..... 3124 ppm (rat) (1 hour). Slight to very low toxicity.  
**SKIN IRRITATION:** ..... Corrosive.  
**EYE IRRITATION:** ..... Corrosive.  
**ACUTE ORAL LD50:** ..... 900 mg/kg (rabbit) Moderate toxicity. Corrosive.

**MEDICAL CONDITIONS AGGRAVATED:** None known.

**EFFECTS OF OVEREXPOSURE:**

**ACUTE:**

Inhalation: Muriatic acid mists or hydrogen chloride vapors are severely irritating to the respiratory tract and mucous membranes. Inhalation of sufficiently high concentrations may result in laryngeal spasms and/or edema, and lead to rapidly developing pulmonary edema. Mists may also cause bleeding of the nose and gum, ulceration of the nasal and oral mucosa, and severe skin and eye irritation.

Eye/skin: Muriatic acid is corrosive to the eyes and skin. Direct eye contact can result in blindness even after a short exposure to small amounts.

Ingestion: Ingestion of muriatic acid causes severe burns of the digestive tract because of its corrosive nature and may be fatal.

CHRONIC: The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures.

**12. ECOLOGICAL INFORMATION**

**ECOTOXICOLOGICAL INFORMATION:**

No data at this time.

**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:**

Waste material must be disposed of in accordance with federal, state, provincial, and local environmental control regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

**14. TRANSPORT INFORMATION**

**Proper Shipping Name:** ..... Hydrochloric Acid Solution  
**Hazard Class:** ..... 8 (Corrosive)  
**UN Number:** ..... UN1789  
**Packing Group:** ..... II  
**USA-RQ, Hazardous Substance and Quantity:** ..... 5000 lbs./2270 kg. (Hydrochloric

acid)

Marine Pollutant: .....None

**15. REGULATORY INFORMATION**

**USA TSCA:** All components of this product are listed on the TSCA Inventory.

**EUROPE EINECS:** All components in this product are listed on EINECS.

**CANADA DOMESTIC SUBSTANCES LIST (DSL):** This product and/or all of its components are listed on the Canadian DSL.

**AUSTRALIA AICS:** All components of this product are listed on AICS.

**KOREA ECL:** All components in this product are listed on the Korean Existing Chemicals Inventory (KECI).

**JAPAN MITI (ENCS):** All components in this product are listed on the Japanese Existing and New Chemical Substances (ENCS) chemical inventory.

**PHILIPPINES PICCS:** All of the components in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).

**SARA TITLE III:**

**SARA (311, 312) Hazard Class:**

Acute Health Hazard. Reactive Hazard. Sudden Release of Pressure.

**SARA (313) Chemicals:**

This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirement of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

HYDROGEN CHLORIDE//7647-01-0

**SARA Extremely Hazardous Substance:**

Liquid not listed as an Extremely Hazardous substance, but hydrogen chloride gas is listed.

**CERCLA Hazardous Substance:**

The following materials are listed as CERCLA Hazardous Substances in Table 302.4 of 40 CFR Part 302: Hydrogen chloride (7641-01-1) RQ = 5000 lbs./2270 kg.

**CANADA REGULATIONS (WHMIS):** Class E - Corrosive Material. Class D1A - Very Toxic Materials.

**16. OTHER INFORMATION**

**Other Information:**

NSF Drinking Water Treatment Chemicals Listing - PPG hydrochloric acid from Beauharnois, Quebec, Canada, is certified for maximum use at 40 mg/l under ANSI/NSF Standard 60.

In case of emergency in Canada, contact PPG Canada, Inc., B.P.2010, Beauharnois, Quebec J6N 3C3, 450-429-3552, or Canutec 613-996-6666.

**The following has been revised since the last issue of this MSDS:**

Date. Edition. Section 8 has been updated. Section 13 has been updated. Section 14 has been updated. Section 15 has been updated. Section 16 has been updated.

**Previous revision date:** 08/15/2001  
**Previous edition number:** 014

**NA = Not Available**