Material Safety Data Sheet

LA12368
HYDROCHLORIC ACID 10% INHIBITED

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA12368
Product Name: HYDROCHLORIC ACID 10% INHIBITED
Synonyms: Muriatic acid; hydrogen chloride, aqueous.
Chemical Family: None Known
Application: Acidizing of petroleum wells, boiler scale removal, pickling & metal cleaning, chemical intermediate, ore reduction and pH control.

Distributed By:
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V6X 1W5

Prepared By: The Safety, Health and Environment Department of Univar Canada Ltd.
Preparation date of MSDS: 02/Apr/2012
Telephone number of preparer: 1-866-686-4827

24-Hour Emergency Telephone Number (CANUTEC): (613) 996-6666

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Water 7732-18-5	Balance	Oral LD50 (Rat) >90 mL/kg
Hydrogen Chloride Anhydrous 7647-01-0	30-37	Listed

Note: The concentration of remaining hazardous ingredients is below the Ingredient Disclosure List.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:
Eye Contact: Corrosive. Low concentrations of vapor or mist (10 - 35 ppm) can be immediately irritating and result in redness. Concentrated vapor, mist or splashed liquid can cause severe irritation, burns and permanent blindness.
Skin Contact: Corrosive. Contact with liquid can cause severe irritation, burns, and permanent scarring or even death. Vapor or mist may cause redness, irritation and burns if contact is prolonged.

3. HAZARDS IDENTIFICATION

Inhalation: Corrosive to the respiratory passage. Recognition odor in air is 10 ppm. Vapor or mist at 35 ppm cause irritation of the throat, in the 50 to 100 ppm range can cause severe nasal irritation, sore throat, choking, coughing and difficulty breathing. Prolonged exposures can cause burns and ulcers to the nose and throat. Even brief exposures at 1000 to 2000 ppm can cause a life-threatening accumulation of fluid in the lungs called pulmonary edema. Symptoms of pulmonary edema such as shortness of breath may be delayed for 48 hours after exposure.
Ingestion: Corrosive. May be fatal if swallowed. Causes burns to the mouth, throat and stomach. Causes vomiting, nausea, and diarrhea. Aspiration of the material into the lungs can cause chemical pneumonitis which can be fatal.

4. FIRST AID MEASURES

Eye Contact: Flush contaminated eye with lukewarm running water for 30 minutes, holding eyelid open. Take care to not rinse contaminated water into unaffected eye. If irritation persists, repeat flushing. Neutral saline solution may be used for a further 30 minutes of irrigation. Seek medical attention immediately. Do not transport victim until the recommended flushing period is completed, unless flushing can be continued during transport.
Skin Contact: Prompt removal of the material from the skin is essential. Remove all contaminated clothing and immediately wash the exposed areas with copious amounts of water for a minimum of 30 minutes or up to 60 minutes for critical body areas. Obtain medical attention immediately. Do not transport victim until the recommended flushing period is completed, unless flushing can be continued during transport.
Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. In situations where administering oxygen is appropriate, first aiders must be trained in the safe use and handling of oxygen. It is preferable to administer oxygen under a doctor's supervision or advice. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Immediate medical assistance is required.
Ingestion: Seek immediate medical attention. Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Administer artificial respiration if breathing has stopped. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. If conscious, wash out mouth with water.
Notes to Physician: Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE FIGHTING MEASURES

Flash Point: None.
Flash Point Method: Not applicable.
Autoignition Temperature: Not available.
Flammable Limits in Air (%): Not Available.
Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Special Exposure Hazards: Reacts with metals to generate flammable hydrogen gas. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure build-up which could result in container rupture. Use water spray or fog to reduce or direct vapors.
Hazardous Decomposition/Combustion Materials (under fire conditions): When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.
Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.
NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, INSTABILITY 1
HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, REACTIVITY 1

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.
Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed. Consult local authorities.
Procedure for Clean Up: Isolate spill and stop leak where safe. Restrict access to unprotected personnel. Ventilate area. Do not touch or walk through spilled material. Neutralize with lime slurry, limestone, or soda ash. Absorb with an inert dry material and place in an appropriate waste disposal container. Flush area with water to remove trace residue.

7. HANDLING AND STORAGE

Handling: For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. When diluting, add this product to water in small amounts to avoid spattering. Never add water to this material. CAUTION: Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any type of steel containers or tanks upon storage. Use non-sparking tools.
Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Keep away from direct sunlight. Protect against moisture, water and physical damage. Store in accordance with good industrial practices. Drums should be vented when received and then at least weekly to relieve internal pressure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Local exhaust ventilation as necessary to maintain exposures to within applicable limits.
Respiratory Protection: If airborne concentrations exceed the Occupational Exposure Limit, use a NIOSH/MSHA approved full facepiece respirator with acid gas cartridges. Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit. Warning: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
Gloves:

Rubber gloves. Neoprene gloves.
Skin Protection: The selection of personal protective equipment varies depending upon conditions of use. Apron, coveralls and/or other resistant protective clothing. A chemical protective full-body encapsulating suit and respiratory protection may be required in some operations. Impervious boots.
Eyes: Chemical goggles; also wear a face shield if splashing hazard exists.
Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Water	Not available.	Not available.	Not Available.
Hydrogen Chloride Anhydrous	2 ppm Ceiling	5 ppm Ceiling 7 mg/m^3 Ceiling	50 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Fuming Liquid.
Color: Colorless to pale yellow.
Odor: Sharp Pungent
pH For HCL solutions: 0.1(1.0 N), 1.1 (0.1 N), 2.02 (0.01 N)
Specific Gravity: 1.05
Boiling Point: 108.6°C /227.48 °F @ 20.2% HCl
Freezing/Melting Point: -35°C / -31°F @ 31.5%
Vapor Pressure: 13.3 kPa (100 mm Hg) at 20 °C (36%)
Vapor Density: 1.268 @ 20 °C
% Volatile by Volume: 100%
Evaporation Rate: Not Available.
Solubility: Soluble in water. Soluble in alcohol.
VOCs: Not Available.
Viscosity: 2 centipoise (Dynamic)
Molecular Weight: Not Available.
Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.
Hazardous Polymerization: Will not occur. Reaction with some incompatible materials (such as aldehydes, expoxides) can cause polymerization.
Conditions to Avoid: Heat. Direct sunlight.

10. STABILITY AND REACTIVITY

Materials to Avoid: Large amounts of heat can be generated when concentrated acid is mixed with water or organic solvents. Very corrosive to most metals, producing flammable hydrogen gas. Reacts violently with bases to produce heat. Reacts with reducing agents to produce heat, fire and flammable hydrogen gas. Reacts with oxidizing agents to produce heat and toxic or corrosive chloride gases. Contact with explosives may cause detonation. Reacts with cyanides to produce toxic cyanide gas, and sulphides to produce toxic hydrogen sulphide gas.
Hazardous Decomposition Products: When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.
Additional Information:

No additional remark.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: Corrosive. May be fatal if swallowed. Causes burns to the mouth, throat and stomach. Causes vomiting, nausea, and diarrhea. Aspiration of the material into the lungs can cause chemical pneumonitis which can be fatal.
Skin Contact: Corrosive. Contact with liquid can cause severe irritation, burns, and permanent scarring or even death. Vapor or mist may cause redness, irritation and burns if contact is prolonged.
Inhalation: Corrosive to the respiratory passage. Recognition odor in air is 10 ppm. Vapor or mist at 35 ppm cause irritation of the throat, in the 50 to 100 ppm range can cause severe nasal irritation, sore throat, choking, coughing and difficulty breathing. Prolonged exposures can cause burns and ulcers to the nose and throat. Even brief exposures at 1000 to 2000 ppm can cause a life-threatening accumulation of fluid in the lungs called pulmonary edema. Symptoms of pulmonary edema such as shortness of breath may be delayed for 48 hours after exposure.
Eye Contact: Corrosive. Low concentrations of vapor or mist (10 - 35 ppm) can be immediately irritating and result in redness. Concentrated vapor, mist or splashed liquid can cause severe irritation, burns and permanent blindness.

Additional Information: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.Repeated and prolonged exposure to low concentrations of mist or vapor can cause discoloration and damage to tooth enamel, bleeding of the nose and gums, and chronic bronchitis and gastritis. Repeated exposure to low concentrations of liquid, mist or vapor can cause redness, swelling and pain (dermatitis).

Acute Test of Product:
Acute Oral LD50: Not Available.
Acute Dermal LD50: Not Available.
Acute Inhalation LC50: Not Available.

Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Water	Not listed.	Not listed.
Hydrogen Chloride Anhydrous	Group 3	A4

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Not Available.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Water	Not Available.	Not Available.	Not Available.
Hydrogen Chloride Anhydrous	282 mg/L LC50 (Gambusia affinis) 96 h static	Not Available.	Not Available.

Other Information: Hydrochloric acid can be acutely toxic to aquatic life through reduction of aqueous pH to toxic levels. Typically, most aquatic species are intolerant of pH levels of less than 5.5. for any extended length of time. Lowered pH may also cause liberation of toxic metals.

Ecological Fate Information: Does not accumulate in the body. Dissociates in water. May be neutralized by naturally occurring buffering agents such as carbonate if present.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.
Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):
DOT Shipping Name: HYDROCHLORIC ACID SOLUTION
DOT Hazardous Class 8
DOT UN Number: UN1789
DOT Packing Group: II
DOT Reportable Quantity (lbs): Not Available.
Note: No additional remark.
Marine Pollutant: No.

TDG (Canada):
TDG Shipping Name: HYDROCHLORIC ACID
Hazard Class: 8
UN Number: UN1789
Packing Group: II
Note: No additional remark.
Marine Pollutant: No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

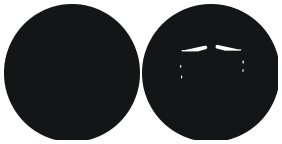
Note: Not available.

U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Water	Not Listed.	Not Listed.	Not Listed.
Hydrogen Chloride Anhydrous	Listed	Listed	Listed

California Proposition 65: Not Listed.
MA Right to Know List: Listed.
New Jersey Right-to-Know List: Listed.
Pennsylvania Right to Know List: Listed.

WHMIS Hazardous Class:
D1A VERY TOXIC MATERIALS
E CORROSIVE MATERIAL



16. OTHER INFORMATION

Additional Information: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

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*****END OF MSDS*****