



WATER SPECIALIST SUPPLY CO.,LTD.

Call : 034-440-851-3, 095-367-5790

Sales : 089-695-8181, 083-705-1000, 089-160-6121

MATERIAL SAFETY DATA SHEET

HYDROCHLORIC ACID

PRODUCT:HYDROCHLORIC ACID

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

WATER SPECIALIST SUPPLY CO.,LTD.

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PREPARED BY..... Water Specialist Supply CO.,LTD

PREPARATION DATE..... 17/August/16

PRODUCT NAME.....Hydronchloric acid

CHEMICAL FORMULA.....HCl .

MOLECULAR WEIGHT.....36.46

CHEMICAL FAMILY..... INORGANIC ACID .

PRODUCT USE..... Acidizing (activation) of petroleum wells, .
. scale removal, ore reduction, metal .
. cleaning, pH adjustment, industrial .
. acidizing, generation of chlorine dioxide
. regeneration of ion exchange resins.

EMERGENCY PHONE NO..... (+66)34-440-851 to 3 or (+66)95-367-5790

SECTION 02 : COMPOSITION/INFORMATION ON INGREDIENT

Table with 3 columns: Name, %By Weight, C.A.S.#. Rows include Hydrochloric Acid (20-38, 7647-01-0) and Water (62-80, 7732-18-5).

Toxicological Data on Ingredients: Hydrogen chloride: GAS (LC50): Acute: 4701 ppm 0.5 hours [Rat].

SECTION 03: HAZARDS IDENTIFICATION

Potential Health Effects

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Inhalation:

Vapour or mist can cause irritation to nose, throat, and upper respiratory tract. Symptoms include: coughing, choking, and bleeding of the nose and gums. Severe exposure can result in pulmonary edema and corrosion of tissues in the nose and throat.

Ingestion :

Causes severe burns of the mouth, esophagus, and stomach, with consequent pain, nausea, vomiting, diarrhea, circulatory collapse, and possibly death.

Skin Contact :

Contact may produce severe irritation or corrosive skin damage, depending upon length of contact and amount of acid. Effects range from dermatitis, photo sensitization, redness, swelling, pain, permanent scarring, to death.

Eye Contact :

Low concentrations of vapour or mist can be irritating, causing redness. Concentrated vapour, mist or splashed liquid can cause severe irritation, burns and permanent blindness.

Exposure Limits :

OSHA/PEL: 5ppm

ACGIH/TWA-TLV: 2ppm

SECTION 04 : FIRST AID MEASURES

INSTRUCTIONS:

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Serious Ingestion: Not available.

SECTION 05 :FIRE FIGHTING MEASURES

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: of metals

Explosion Hazards in Presence of Various Substances: Non-explosive in presence .
of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:

Non combustible. Calcium carbide reacts with hydrogen chloride gas with incandescence. Uranium phosphide reacts with hydrochloric acid to release spontaneously flammable phosphine. Rubidium acetylene carbides burns with slightly warm hydrochloric acid. Lithium silicide in contact with hydrogen chloride becomes incandescent. When dilute hydrochloric acid is used, gas spontaneously flammable in air is evolved. Magnesium boride treated with concentrated hydrochloric acid produces spontaneously flammable gas. Cesium acetylene carbide burns hydrogen chloride gas. Cesium carbide ignites in contact with hydrochloric acid unless acid is dilute. Reacts with most metals to produce flammable Hydrogen gas.

Special Remarks on Explosion Hazards:

Hydrogen chloride in contact with the following can cause an explosion, ignition on contact, or other violent/vigorous reaction: Acetic anhydride AgClO + CCl₄ Alcohols + hydrogen cyanide, Aluminum Aluminum-titanium alloys (with HCl vapor), 2-Amino ethanol, Ammonium hydroxide, Calcium carbide Ca₃P₂ Chlorine + dinitroanilines (evolves gas), Chlorosulfonic acid Cesium carbide Cesium acetylene carbide, 1,1-Difluoroethylene Ethylene diamine Ethylene imine, Fluorine, HClO₄ Hexalithium disilicide H₂SO₄ Metal acetylides or carbides, Magnesium boride, Mercuric sulfate, Oleum, Potassium permanganate, beta-Propiolactone Propylene oxide Rubidium carbide, Rubidium, acetylene carbide Sodium (with aqueous HCl), Sodium hydroxide Sodium tetraselenium, Sulfonic acid, Tetraselenium tetranitride, U₃P₄ , Vinyl acetate. Silver perchlorate with carbon tetrachloride in the presence of hydrochloric acid produces trichloromethyl perchlorate which detonates at 40 deg. C.

SECTION 06 : ACCIDENTAL RELEASE MEASURES

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Deactivating Materials :

Soda ash, lime, limestone

SECTION 07 : HANDLING AND STORAGE

Handling Procedures :

Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Storage Requirements :

Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials. Store away from incompatible materials such as oxidizing materials, reducing materials and strong bases.

SECTION 08 : EXPOSE CONTROL/PERSONAL PROTECTION

Personal Protection:

Eyes :

Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Respiratory :

At concentrations up to 50 ppm, chemical charge respirator or air-purifying respirator is recommended. Above this level, a full face self-contained breathing apparatus is required.

Gloves :

Impervious gloves of chemically resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Clothing :

Body suits, aprons, and/or coveralls of chemical resistant material (butyl rubber, neoprene, nitrile rubber, Teflon, Responder, Viton) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Footwear :

Impervious boots of chemically resistant material should be worn at all times.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Exposure Limits:

CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m³) from OSHA (PEL) [United States] CEIL: 5 from NIOSH CEIL: 7 (mg/m³) from NIOSH TWA: 1 STEL: 5 (ppm) [United Kingdom (UK)] TWA: 2 STEL: 8 (mg/m³) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

SECTION 09 :PHYSICAL AND CHEMICAL PROPERTIES

Physical state :	Liquid.
Odour :	Colourless or slightly yellow, fuming liquid with a pungent odour.
Odour Threshold :	Detectable at 1-5ppm
Specific Gravity(Water=1):	1.16-1.19 (30-35%); 1.08 (15%)
Vapor Pressure (mm Hg,20C):	84mm Hg at 20°C (35%) .
Vapor density (AIR=1) :	1.268 at 20°C
Evaporation Rate :	< 1.
Boiling Point :	62°C (35%)
Freezing Point :	-35°C (35%)
PH :	< 1
Water/Oil Distribution Coefficient :	Not available.
Bulk Density :	Not applicable.
Solubility :	Completely miscible.
% Volatiles by the volume:	100%
Molecular Formula :	HCl
Molecular Weight :	36.46

SECTION 10:STABILITY AND REACTIVITY

Stability:

Stable,heat and contamination could cause decomposition.

Incompatibilities :

Incompatible with strong bases, metals, phosphines, acetylides, borides, carbides, silicides, vinyl acetate, formaldehyde, hypochlorites, cyanides, sulphides.

Hazardous Decomposition Product :

Contact with hypochlorites liberates chlorine gas. May react violently with incompatible substances. May release toxic and/or flammable gases such as hydrogen and phosphine gas. Considerable amounts of heat may be evolved.

Hazardous Polymerization : will not occur

SECTION 11 : TOXICOLOGICAL INFORMATION

Irritancy : Severe irritant, corrosive to eyes and skin.

Sensitization :Not available

Chronic/Acute Effects :

Prolonged exposure can cause erosion and discolouration of teeth and chronic inflammation of nose, throat, and airways. Repeated or prolonged contact to dilute solutions can cause dermatitis.

Synergistic Materials :Not available

Animal Toxicity Data:

LC₅₀(mist exposure, rat, 30 min): 5,666ppm
LD₅₀(oral,rabbit): 900mg/kg

Carcinogenicity :

Not considered to be carcinogenic by IARC, NTP and ACGIH.

Reproductive Toxicity :Not available

Teratogenicity : Not available

Mutagenicity : Not available

SECTION 12 : ECOLOGICAL CONSIDERATION

Fish Toxicity :

LC₅₀(Mosquito Fish, 96 hrs): 282mg/L
LC₅₀(Bluegill, 48 hrs): 3.6mg/L

Biodegradability :

Not available

Environmental Effects :

Extremely toxic to aquatic life by lowering the pH below 5.5. Dissociates in water and will be neutralized by naturally occurring alkalinity and carbon dioxide. Acid will permeate soil, dissolving soil material and will be neutralized somewhat.

SECTION 13 : DISPOSAL CONSIDERATION

Waste Disposal

Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.



SECTION 14 : TRANSPORT INFORMATION

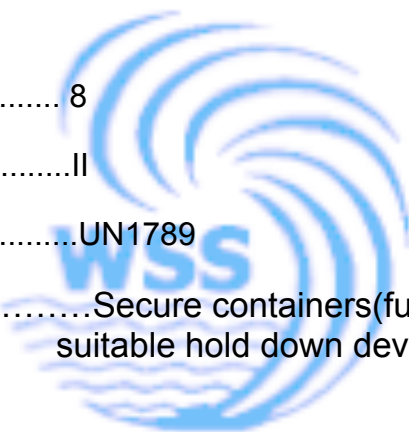
TDG Classification

Class..... 8

Group.....II

PIN Number.....UN1789

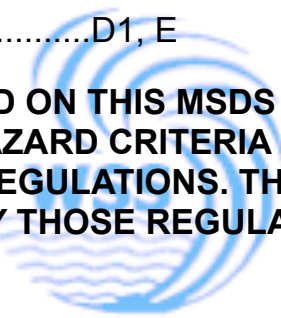
Other.....Secure containers(full and/or empty)with suitable hold down devises during shipment.



SECTION 15 :REGULATORY INFORMATION

WHMIS Classification.....D1, E

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.



SECTION 16 :OTHER INFORMATION

Disclaimer :

Water Specialist Supply(WSS THAILAND) CO.,Ltd provide information contained here in good faith but make no representation as to its comprehensiveness or accuracy.This document is intended only as a guide to the appropriate precautionary handing of the material by a properly trained person using this product.Individuals receiving the information must exercise their independent judgment in determing its appropriateness for a particular purpose.