



Material Safety Data Sheet

EMERGENCY NUMBERS:

(USA) CHEMTREC : 1(800) 424-9300 (24hrs)

(CAN) CANUTEC : 1(613) 996-6666 (24hrs)

(USA) Anachemia : 1(518) 297-4444

(CAN) Anachemia : 1(514) 489-5711

WHMIS	Protective Clothing	TDG Road/Rail
WHMIS CLASS: E D-1A		TDG CLASS: 8 PIN: UN1789 PG: II

Section I. Product Identification and Uses

Product name	HYDROCHLORIC ACID	CI#	Not available.
Chemical formula	HCl	CAS#	7647-01-0
Synonyms	Muriatic acid, Chlorohydric acid, Hydrogen chloride, AC-4955, AC-4955PG, AC-4955SP, AC-4955T, AC-4955GC, CD-4955, EP-4955, EG-4955, R-2830S, 46475, 46414, 46416, 46549, 46390, 46396, 46399, 46405	Code	AC-4955
Supplier	Anachemia Canada. 255 Norman. Lachine (Montreal), Que H8R 1A3	Formula weight	36.46
		Supersedes	
Material uses	For laboratory use only.		

Section II. Ingredients

Name	CAS #	%	TLV
1) HYDROCHLORIC ACID (expressed as HCl)	7647-01-0	30-38	Exposure limits: ACGIH Ceiling limit 2 ppm (3 mg/m ³)
2) WATER	7732-18-5	Balance	Not established by ACGIH

Toxicity values of the hazardous ingredients

HYDROCHLORIC ACID:

ORAL (LD50): Acute: 900 mg/kg (Rabbit).

VAPOR (LC50): Acute: 3124 ppm (Rat) (1 hour(s)). 1108 ppm (Mouse) (1 hour(s)).

VAPOR (LCLo): Acute: 1300 ppm (Human) (30M).

Section III. Physical Data

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Physical state and appearance / Odor	Colorless fuming liquid with a pungent odor.
pH (1% soln/water)	0.1 (1M solution)
Odor threshold	5-10 ppm
Percent volatile	100% (V/V)
Freezing point	-46.2 to -25.4°C
Boiling point	108 to 110°C
Specific gravity	1.16 to 1.19 (Water = 1)
Vapor density	1.3 (Air = 1)
Vapor pressure	150 to 160 mm of Hg (@ 20°C)
Water/oil dist. coeff.	Not available.
Evaporation rate	>1
Solubility	Miscible in water.

Section IV. Fire and Explosion Data

Flash point	Not applicable.
Flammable limits	Not applicable.
Auto-ignition temperature	Not available.
Fire degradation products	Hydrogen chloride gas.
Fire extinguishing procedures	Use extinguishing media suitable for surrounding materials. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water until well after fire is out. DO NOT get water inside container.
Fire and Explosion Hazards	Flammable/explosive hydrogen gas may be formed upon contact of this product with metals. The sensitivity to impact is not applicable. The sensitivity to static discharge is not applicable. Emits toxic and corrosive fumes under fire conditions.

Section V. Toxicological Properties

Routes of entry	Inhalation and ingestion. Eye contact. Skin contact.
Effects of Acute Exposure	Harmful by ingestion, inhalation or skin absorption. Corrosive. Target organs: skin, eyes, lungs, respiratory system. 50 ppm (HYDROCHLORIC ACID) is immediately dangerous to life or health.
Eye	Vapors, liquids and mists are extremely corrosive to the eyes. Brief contact of the vapors will be severely irritating. Brief contact of the liquid or mist will severely damage the eyes and prolonged contact may cause permanent eye injury which may be followed by blindness.
Skin	Causes severe burns. Severe pain and brownish or yellow stains: usually penetrates the full thickness of the skin. Lesser exposures may cause dermatitis and photosensitization.
Inhalation	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, laryngitis, dyspnea, headache, nausea, and vomiting. Can cause lung damage.
Ingestion	Burns in mouth, pharynx and gastrointestinal tract. Weakness from falling blood pressure, nausea, vomiting, dysphagia, abdominal pain, cardiovascular collapse, convulsions, coma and death possible. Asphyxia may occur from edema of the glottis.

Section V. Toxicological Properties

Effects of Chronic Overexposure Erosion of the teeth, ulceration of the nose, mouth and gums, bronchitis. Repeated or prolonged skin contact can cause severe dermatitis or burns. Carcinogenic effects: Not available. Mutagenic effects: Not available. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated.

Section VI. First Aid Measures

Eye contact Immediate first aid is needed to prevent eye damage. Immediately flush eyes with copious quantities of water for at least 30 minutes holding lids apart to ensure flushing of the entire surface. Speed is essential. Seek immediate medical attention. Do not use chemical antidotes.

Skin contact Immediately flush skin with plenty of water for at least 30 minutes while removing contaminated clothing and shoes. Do not use chemical antidotes. Speed is essential. Seek immediate medical attention. Wash contaminated clothing before reusing. Discard contaminated leather articles such as shoes and belt.

Inhalation Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Call a physician.

Ingestion If conscious, wash out mouth with water. Have conscious person drink several glasses of water or milk, repeating if vomiting. DO NOT induce vomiting. Aim to dilute acid 100 times approximately. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

Section VII. Reactivity Data

Stability Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination.

Hazardous decomp. products Not available.

Incompatibility Reacts with most common metals to produce hydrogen. Amines, metal oxides, acetic anhydride, beta-propiolactone, vinyl acetate, mercuric sulfate, calcium phosphide, formaldehyde, alkalies, carbonates, bases, sulfuric acid, chlorosulfonic acid, nitric acid, oxidizing agents, cyanides, sulfides, fluorides, phosphides, acetylides, bromides, carbides, silicides, hydroxides, propylene oxide, fluorine, water reactive materials, silver perchlorate, carbon tetrachloride, perchloric acid, 2-aminoethanol, ammonium hydroxide, ethylenediamine, ethyleneimine, oleum, copper and aluminum and their alloys, alkali metals, sulfites.

Reaction Products Will corrode a wide variety of metals. Hazardous polymerization will not occur.

Section VIII. Preventive Measures

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Protective Clothing in case of spill and leak Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit.

Spill and leak Evacuate and ventilate the area. Cover with soda ash or lime. This will release carbon dioxide, so use caution. Place in a suitable container and mark for disposal. Wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Stay upwind: Keep out of low areas.

Waste disposal According to all applicable regulations. Harmful to aquatic life at high concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Storage and Handling Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Protect from moisture. Do not use pressure to dispense. May corrode metallic surfaces. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.).

Section IX. Protective Measures

Protective clothing Face shield and splash goggles. Impervious gloves (neoprene), apron, coveralls, and/or other resistant protective clothing as required for workplace conditions to prevent contact with hydrochloric acid solutions. Sufficient to protect skin. None required if handled in closed ventilation system. Where required (leak, spill, open handling of liquid) use a NIOSH-approved chemical cartridge respirator for gas below 50 ppm. For gas above 50 ppm or mist, use NIOSH approved self-contained breathing apparatus or air-supplied respirator, both with full facepieces. Have available and use as appropriate: suits, aprons, and boots. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.

Engineering controls Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Ventilation should be corrosion proof. Do not use in unventilated spaces.

Section X. Other Information

Special Precautions or comments Corrosive! Toxic! Causes severe burns! Risk of serious damage to eyes. Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Handle and open container with care. Container should be opened only by a technically qualified person. Solutions are highly corrosive.
Synergistic materials: Not available.
RTECS NO: MW4025000 (Hydrochloric acid).



NFPA

Prepared by MSDS Department/Département de F.S..

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