Safety Data Sheet

Section 01 Identification

Product Identifier	Hydrochloric Acid, Inhibited SK2020
Other Means of Identification	Not available
Product Use and Restrictions on Use	Acid cleaner, removes encrusted concrete, cement and cement dust from tools, forms, molds, masonry equipment, concrete trucks, slides, and chutes, while protecting metal parts.
Initial Supplier Identifier	ClearTech Industries Inc 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7 Phone: 800.387.7503 Fax: 888.281.8109 www.cleartech.ca
Prepared By	ClearTech Industries Inc. technical writer
24-Hour Emergency Phone	306.664.2522

Section 02 Hazard Identification

Physical Hazards

Corrosive to metals	Category 1

Health Hazards

Skin corrosion / irritation	Category 1B
Serious eye damage / eye irritation	Category 1

Signal Word

Danger

Hazard Statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Pictograms

Precautionary Statements

Prevention

P234 Keep only in original packaging.

P260 Do not breathe vapours, fumes, or mists.

P264 Wash affected body parts thoroughly after handling.

P280 Wear protective gloves, protective clothing, eye protection, face protection

Response

P301 P330 P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 P361 P353 P363 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.

P304 P340 P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P390 Absorb spillage to prevent material damage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.

Hazards Not Otherwise Classified

Not available

Supplemental Information

Not available

Section 03 Composition / Information on Ingredients

Hazardous Ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Hydrogen Chloride	Hydrochloric Acid	7647-01-0	1-5%*
Urea, monohydrochloride	Urea hydrochloride	506-89-8	45-70%*

*Exact concentration withheld as a trade secret.

Section 04 First-Aid Measures

Description of necessary first-aid measures

Inhalation Remove source of exposure or move person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor. If breathing has stopped, trained personnel should begin rescue breathing or if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth to mouth contact by using a barrier device.

Ingestion Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

Skin contact Avoid direct contact. Wear chemical protective clothing, if necessary. Take off immediately contaminated clothing, shoes and leather goods. Rinse skin with lukewarm, gently flowing water / shower for 30 minutes. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before re-use, or discard.

Eye contact	Avoid direct contact. Wear chemical protective gloves, if necessary. Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

Most important symptoms and effects, both acute and delayed

Inhalation	Causes severe burns to the mouth and throat (mist).
Ingestion	Causes burns to the mouth and throat.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Further information	For further information see Section 11 Toxicological Information.

Section 05 Fire Fighting Measures

Suitable extinguishing media	Extinguish fire using extinguishing agents suitable for the surrounding fire.
Unsuitable extinguishing media	Water jets are not recommended in fires involving chemicals.
Specific hazards arising from the chemical	Reacts with many metals to liberate hydrogen gas that can form explosive mixtures. Heat may liberate corrosive and toxic Hydrogen Chloride gas. Hydrogen Chloride is denser than air and will accumulate in low lying areas.
Special protective equipment for fire-fighters	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

Section 06 Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area. Do not breathe vapours, fumes, or mists. Do not use material handling equipment with exposed metal surfaces.
Environmental Precautions	Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Stop or reduce leak if safe to do so. Clean up spill with non-reactive absorbent and place in suitable, covered, labeled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 07 Handling and Storage

Precautions for Safe Handling	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. Prevent the release of vapours, fumes, or mists into the workplace air. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available. Never add water to a corrosive. Always add corrosives to water. When mixing with water, stir small amounts in slowly. Use cold water to prevent excessive heat generation. Never return contaminated material to its original container.

Conditions for Safe Storage	Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible. Do not transfer to metal containers.
Incompatibilities	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Metals, such as aluminum, steel, and brass.

Section 08 Exposure Controls and Personal Protection

Exposure limits

Component	Regulation	Type of listing	Value
Hydrogen Chloride	ACGIH	TLV-Ceiling	2 ppm

Engineering controls

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	An emergency shower and eyewash station should be available, tested, and be in close proximity to the product being handled in accordance with provincial regulations.

Protective equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

Eye and face protection	Where there is potential eye or face exposure, tightly fitting safety goggles and a face shield or a full face respirator or similar protective equipment which protects the wearer's face and eyes are recommended. Contact lenses are not recommended; they may contribute to severe eye injury.
Hand and body protection	Disposable latex or nitrile gloves are recommended to prevent incidental contact. Butyl rubber, neoprene, or PVC skin protection is recommended for extended contact. Leather gloves are not recommended for chemical protection. Refer to manufacturer's specifications for breakthrough times and permeability information; note that breakthrough times and permeability vary with temperature, application and age of material. Continued use of contaminated safety gear or clothing is not recommended; wash before reuse or discard.
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment. **NIOSH respirator recommendations for: Hydrogen Chloride** **Up to: 50 ppm** (APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against Hydrogen Chloride (APF = 10) Any supplied-air respirator (APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against Hydrogen Chloride (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Hydrogen Chloride (APF = 50) Any self-contained breathing apparatus with a full facepiece.

	Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode (APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus **Escape:** (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Hydrogen Chloride Any appropriate escape-type, self-contained breathing apparatus
Thermal hazards	Not available

Section 09 Physical and Chemical Properties

Appearance

Physical state	Liquid
Colour	Amber
Odour	Mild sharp odour
Odour threshold	Not available

Property

pH	<1.0
Melting point / freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not applicable
Evaporation rate	Not available
Flammability	Not applicable
Upper flammable limit	Not applicable
Lower flammable limit	Not applicable
Vapour pressure	Not available
Vapour density	1.268
Relative density	Not applicable
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Specific gravity	~1.19 g/mL @ 20 °C

Section 10 Stability and Reactivity

Reactivity	May be corrosive to metals. Reacts with many metals to liberate hydrogen gas that can form explosive mixtures. Reacts violently with bases.
Stability	This product is stable if stored according to the recommendations in Section 07.

Possibility of hazardous reactions	Hazardous polymerization is not known to occur.
Conditions to avoid	Avoid contact with incompatible materials.
Incompatible materials	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Metals, such as aluminum, steel, and brass.
Hazardous decomposition products	Not available

Section 11 Toxicological Information

Acute Toxicity (LD50 / LC50 values)

Component	Route	Species	Value	Exposure time
Acute toxicity estimate	Oral	Rat	992 mg/kg bw	
	Dermal	Mouse	>5,000 mg/kg bw	

Toxic Health Effect Summary

Chemical characteristics	Hydrogen chloride rapidly dissociates and most of it's toxic effects are thought to be the result of pH change.
Skin	Causes severe skin burns.
Ingestion	Causes burns to the mouth and throat.
Inhalation	Causes severe burns to the mouth and throat (mist). Hydrogen chloride gas is severely irritating to all mucous membranes.
Eye contact	Causes serious eye damage.
Sensitization	This product and its components at their listed concentration have no known sensitizing effects.
Mutagenicity	This product and its components at their listed concentration have no known mutagenic effects.
Carcinogenicity	IARC has classified this product or one or more of its components as group 3, not classifiable as to its carcinogenicity to humans.
Reproductive toxicity	This product and its components at their listed concentration have no known reproductive effects.
Specific organ toxicity	Frequent contact may lead to dermatitus. Dental decay, with changes in tooth structure, yellowing, softening and breaking of teeth, and related digestive diseases are frequent after exposures to hydrochloric acid
Aspiration hazard	Not available
Synergistic materials	Not available

Section 12 Ecological Information

Ecotoxicity

Component	Type	Species	Value	Exposure Time
Acute toxicity estimate	LC50	Freshwater fish	85 mg/L	96 hours
	EC50	Freshwater invertabrates	1.8 mg/L	48 hours
	EC50	Freshwater algae	3.0 mg/L	72 hours

Biodegradability	The domestic substance list categorizes all of the components of this product as persistent.
Bioaccumulation	The domestic substance list categorizes all of the components of this product as non-bioaccumulative.
Mobility	This product is water soluble, is not predicted to adsorb to soil and may contaminate ground water. This product will evaporate and may be spread via wind.
Other adverse effects	Not available

Section 13 Disposal Considerations

Waste From Residues / Unused Products	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

Section 14 Transport Information

UN number	UN3265
UN proper shipping name and description	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Urea Monohydrochloride)
Transport hazard class(es)	8
Packing group	III
Excepted quantities	4 L
Environmental hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special precautions	16 (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks).
Transport in bulk	ERAP index: 3000 L MARPOL 73/78 and IBC Code: This product is not listed in Chapter 17 of the IBC Code.
Additional information	Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

Section 15 Regulatory Information.

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

All components of this product appear on the domestic substance list.

Hydrochloric Acid (>1%) is listed in the National Pollutant Release Inventory (NPRI). Reporting threshold: 10 tonnes manufactured, processed or otherwise used.

Section 16 Other Information

Date of latest revision: October 23, 2020

Note: The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) TOXNET
3) eChemPortal
4) ECHA
5) Transportation of Dangerous Goods Canada
6) HSDB
7) PAN