



Section 01 - Identification

Product Identifier	Metal Guard
Other Means of Identification	Aqueous hydrogen chloride, muriatic acid, hydrogen chloride, HCl, chlorohydric acid.
Product Use and Restrictions on 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.
Initial Supplier Identifier	Advance Chemicals Ltd. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

Skin Corrosion/Irritation	Category 1
Serious Eye Damage/Irritation	Category 1
STOT-Single Exposure	Category 3

Physical Hazards

Corrosive to Metals	Category 1
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Danger

Hazards Statements

H314 – Causes severe skin burns and eye damage.
H335 – May cause respiratory irritation
H290 – May be corrosive to metals

Pictograms



Precautionary Statements

P234 – Keep only in original container

P405 – Store locked up.

P260 – Do not breathe mist, vapours or spray.

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.

P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 – Wash contaminated clothing before reuse.

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

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

P310 – Immediately call a POISON CENTER or doctor/physician.

P390 – Absorb spillage to prevent material damage

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

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Hydrochloric Acid	7647-01-0	3-18%	
Water and/or ingredients not classified as hazardous under the Hazardous Products Regulations		82-97%	

Section 04 - First Aid Measures

Inhalation	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.
Skin Contact / Absorption	Remove contaminated clothing. Wash affected area with lukewarm water for at least 30 minutes. Seek immediate medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard.
Eye Contact	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open to ensure complete irrigation of the eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim rinse mouth with water again. Seek medical attention.
Additional Information	Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Use extinguishing agent suitable for surrounding fire.
Unsuitable Extinguishing Media	Not Available
Specific Hazards Arising From the Chemical	Contact with common metals produces extremely flammable hydrogen gas. When heated or in a fire, toxic and corrosive hydrogen chloride gas is released and dissociates into hydrogen gas and chlorine gas. Carbon dioxide, carbon monoxide, nitrogen oxides and sulfur oxides may also form in a fire.
Special Protective Equipment and Precautions for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing..
Further Information	Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

Environmental Precautions Prevent material from entering sewers and waterways.

Methods and Materials for Containment and Cleaning Up Clean up spill with non-reactive absorbent and place in suitable, labelled containers for proper disposal.

Section 07 - Handling and Storage

Precautions for Safe Handling This material is CORROSIVE to the eyes and skin. 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.

Conditions for Safe Storage Store in a cool, dry, well-ventilated area, out of direct sunlight and away from heat sources. Store away from incompatible materials.

Incompatibilities Oxidizing agents, reducing agents, bases and metals.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Hydrochloric Acid	ACGIH	TLV-C	2ppm
	OSHA	PEL-T-C	5ppm (7mg/m ³)

Engineering Control(s)

Ventilation Requirements Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must 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 Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face Chemical safety goggles and/or a face shield should be worn while product is being handled. Contact lenses should not be worn as they may contribute to severe eye injury.

Hand Protection Impervious gloves of chemically resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Recommendations are NOT valid for very thin natural rubber, neoprene, nitrile and pvc gloves (0.3 mm or less).

Skin and Body Protection Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

Respiratory Protection NIOSH/OSHA RECOMMENDATIONS FOR HYDROGEN CHLORIDE (GAS) CONCENTRATIONS IN AIR:
UP TO 50 ppm: Chemical cartridge respirator with cartridge(s)* to protect against hydrogen chloride; or gas mask with canister to protect against hydrogen chloride; or powered air-purifying respirator with cartridge(s)* to protect against hydrogen chloride; or

SAR; or full-facepiece SCBA. Above this level, a full face self-contained breathing apparatus is required.

*NIOSH approved acid gas or organic vapour cartridge(s) are required.
EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATION OR IDLH CONDITIONS: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

ESCAPE: Gas mask with acid gas canister; or escape-type SCBA.

Thermal Hazards Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State Liquid
Colour Red
Odour Acidic
Odour Threshold Not Available

Property

pH <1
Melting Point/Freezing Point Not Available
Initial Boiling Point and Boiling Range 80-82°C
Flash Point Not Applicable
Evaporation Rate Not Available
Flammability Non-flammable
Upper Flammable Limit Not Applicable
Lower Flammable Limit Not Applicable
Vapour Pressure (mm Hg, 20°C) 25
Vapour Density (Air=1) Not Available
Relative Density Not Available
Solubility(ies) Soluble in water.
Partition Coefficient: n-octanol/water Not Available
Auto-ignition Temperature Not Applicable
Decomposition Temperature Not Available
Viscosity Not Available
Explosive Properties Normally none, but when in contact with metals explosive hydrogen gas may be evolved.

Specific Gravity (Water=1)	1.08
% Volatiles by Volume	Not Available
Formula	Mixture
Molecular Weight	Not Available

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Stable.
Possibility of Hazardous Reactions	Hazardous polymerization does not occur.
Conditions to Avoid	High temperatures.
Incompatible Materials	Oxidizing agents, reducing agents, bases and metals.
Hazardous Decomposition Products	None reported.

Section 11 - Toxicological Information

Acute Toxicity Estimate

Component	Oral LD₅₀	Dermal LD₅₀	Inhalation LC₅₀
Metal Guard	5.8 g/kg	10.6 g/kg	6.5 mg/L

This product has been classified in accordance with the Hazardous Products Regulations using ATE formula documented in the GHS standard.

Chronic Toxicity – Carcinogenicity

Component	IARC
Metal Guard	None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

Skin Corrosion/Irritation	Corrosive. Capable of producing severe burns, blisters, ulcers and permanent scarring.
Ingestion	May cause gastrointestinal discomfort, nausea, vomiting and diarrhea.
Inhalation	Hydrochloric acid solutions can readily release high concentrations of hydrogen chloride gas, which is very toxic and corrosive and poses a serious inhalation hazard. Inhalation of even low concentrations is irritating and can cause coughing, pain, inflammation and swelling in the upper respiratory tract.
Serious Eye Damage/Irritation	Corrosive. Capable of producing severe eye burns and permanent damage, including blindness.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Not Available
STOT-Single Exposure	May cause respiratory irritation.
STOT-Repeated Exposure	Not Available

Aspiration Hazard Not Available

Synergistic Materials Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Hydrochloric Acid	EC ₅₀ (Green algae, 72hr): 0.0492 mg/L	LC ₅₀ (Cyprinus carpio (Common carp), 96 hr): 4.92 mg/L	LC ₅₀ (Shrimp, 48hr): 100-300 ppm
Biodegradability	Hydrochloric acid disassociates in water.		
Bioaccumulation	Hydrogen chloride does not accumulate in the food chain.		
Mobility	Hydrogen chloride dissociates into chloride and hydronium ions in moist soil.		
Other Adverse Effects	Hydrochloric acid is extremely toxic to aquatic life by lowering the pH below 5.5. Acid will permeate soil, dissolving soil material and will be neutralized somewhat.		

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	UN1789						
UN Proper Shipping Name	HYDROCHLORIC ACID						
Transport Hazard Class(es)	8						
Packaging Group	III						
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.						
Special Precautions	Not Available						
Transport in Bulk	Not Available						
Additional Information	<table><thead><tr><th><u>Packing Group</u></th><th><u>Limited Quantity Index</u></th></tr></thead><tbody><tr><td>II</td><td>1 L</td></tr><tr><td>III</td><td>5 L</td></tr></tbody></table>	<u>Packing Group</u>	<u>Limited Quantity Index</u>	II	1 L	III	5 L
<u>Packing Group</u>	<u>Limited Quantity Index</u>						
II	1 L						
III	5 L						

TDG

Other Secure containers (full and/or empty) with suitable hold down devices 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 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

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

Section 16 – Other Information

Preparation Date

January 15, 2016

Note: The responsibility to provide a safe workplace remains with the user. The 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 user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

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

References:

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

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