


Material Safety Data Sheet

Section 1. Chemical Product and Company Identification		
Product Name:	Hydrochloric Acid (Murhib)	Version: 5 Effective Date: June 25, 2014
Supplier/ Manufacturer:	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055	
Material Uses	Inhibited mineral acid, scale remover, pickling liquor, pH control, downhole applications	
24 Hour Emergency	Canutec (613) 996-6666	
WHMIS		
		
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		
HMIS Ratings for this product are: Health 3 , Flammability 0 , Reactivity 1		

Section 2. Composition and Information on Ingredients		
Name	CAS#	% by weight
Hydrogen chloride anhydrous	7647-01-0	31 - 37
See Section 8 for information on permissible exposure limits and threshold limit values		

Section 3. Hazards Identification	
Physical State and Appearance	Colourless to pale yellow fuming liquid with a pungent odour
Hazard Summary	Corrosive
Routes of Exposure	Skin and eye contact, inhalation, ingestion
Potential Acute Health Effects	<p>Skin: Corrosive. Contact with liquid can cause severe irritation, burns and permanent scarring, possibly death. Vapours and mists may cause redness, irritation and burns if contact is prolonged.</p> <p>Eyes: Corrosive. Vapours can be irritating to the eyes. Concentrated vapours, mists or splashed liquid can cause severe</p>

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	<p>irritation, burns and permanent blindness.</p> <p>Inhalation: Corrosive to the respiratory passage. Causes irritation of the respiratory tract, experienced as nasal discomfort and discharge, with chest pain and coughing. May cause ulceration of the nose and throat. Vapours may cause pulmonary oedema (fluid in the lungs). Symptoms can be delayed for several hours.</p> <p>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 (inflammation of the lung tissue) which can be fatal.</p>
Medical Conditions Aggravated by Exposure	Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.
See Toxicological Information – Section 11	
Additional Hazard Identification Remarks	Repeated and prolonged exposure to low concentrations and of mists or vapours 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 liquids, mists or vapours can cause redness, swelling and pain (dermatitis).

Section 4. First Aid Measures	
Eye Contact	Flush eyes with water for 30 minutes. If irritation and pain persists continue washing with water. Do not transport unless flushing can be continued. Seek immediate medical attention.
Skin Contact	Flush area with water for at least 30 minutes. Seek immediate medical attention. Do not transport until irritation ceases, unless flushing can be continued during transport.
Inhalation	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention. CPR and oxygen should only be administered by trained persons.
Ingestion	Do NOT induce vomiting. Lay victim on left side to prevent aspiration of any vomit. Seek immediate medical attention. If conscious wash mouth out with water
Notes to Physician	Treatment should be based on sound judgment of the physician and individual reactions of the patient.
Additional First Aid Remarks	None

Section 5. Fire Fighting Measures	
Flammability of the Product	Non flammable
Flash Point	Not applicable

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Explosive Limits	Not applicable
Auto Ignition Temperature	Not applicable
Static Discharge	No
Suitable Extinguishing Media	Use extinguishing media suitable for the surrounding fire.
Hazardous Combustion 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 fumes and explosive hydrogen gas.
Precautions for Fire Fighting	<p>Fire fighters should wear self contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire.</p> <p>Reacts with metals to generate flammable hydrogen gas. Containers exposed to intense heat from fires should be cooled with water to prevent vapour build up which could result in container rupture. Use water spray or fog to reduce or direct vapours.</p>

Section 6. Accidental Release Measures	
Personal Precautions	Chemical resistant (rubber / neoprene) gloves, coveralls and footwear
Environmental Precautions	Do not allow spilt material to enter surface drains and watercourses.
Methods for Clean Up	Isolate spill and stop leak. Restrict area to required and protected persons only. Ventilate area. Neutralize with lime slurry, limestone or soda ash. Flush area with water to remove residues.

Section 7. Handling and Storage	
Handling	Handle with care, corrosive material. Empty containers may contain hazardous residues. Never add water to this material. Do not mix with materials such as Bleach.
Storage	Store in a cool, dry, well ventilated area. Avoid direct sunlight. Keep containers closed when not in use. Drums may require venting to release internal pressure.

Section 8. Exposure Controls and Personal Protection				
Exposure Guidelines	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Hydrogen chloride anhydrous	2 ppm ACGIH		5ppm OPSHA	50 ppm
* Immediately Dangerous to Life and Health				
Exposure Controls	Local exhaust ventilation			

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Personal Protection	
Respiratory	Air purifying respirator fitted with cartridges for acid vapours and mists
Skin	Chemical resistant (rubber/ neoprene) gloves, coveralls and footwear
Eyes	Safety glasses
Other	None

Section 9. Physical and Chemical Properties	
Physical State and Appearance	Colourless to pale yellow fuming liquid with a pungent odour
Odour Threshold	No data
pH	<1
Boiling Point	No data
Melting Point / Freezing point	No data
Evaporation Rate	No data
Vapour Density	1.268 @ 20 °C
Vapour Pressure	13.3 kPa @ 20 °C
Specific Gravity	1.18
Solubility in Water	Completely soluble
% Volatile	No data
Other Data	None

Section 10. Stability and Reactivity	
Chemical Stability	Stable
Hazardous Polymerisation	Will not occur. Reaction with some incompatible materials – aldehydes / epoxides, can cause polymerisation
Conditions to Avoid	Heat and direct sunlight
Materials to Avoid	Strong bases, metals, metal oxides, hydroxides, amines, carbonates, alkalis, cyanides, sulfides, sulphites, formaldehyde
Hazardous Decomposition Products	Will not decompose under normal conditions of use

Section 11. Toxicological Information	
Principle Routes of Exposure	
Skin:	Corrosive. Contact with liquid can cause severe irritation, burns and permanent scarring, possibly death. Vapours and mists may cause redness, irritation and burns if contact is prolonged.
Eyes:	Corrosive. Vapours can be irritating to the eyes. Concentrated vapours, mists or splashed liquid can cause severe irritation, burns and permanent blindness.
Inhalation:	Corrosive to the respiratory passage. Causes irritation of the respiratory tract, experienced as nasal discomfort and

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Ingestion:	discharge, with chest pain and coughing. May cause ulceration of the nose and throat. Vapours may cause pulmonary oedema (fluid in the lungs). Symptoms can be delayed for several hours. 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 (inflammation of the lung tissue) which can be fatal.
Additional Information	
Acute Toxicity	
Hydrochloric acid	LD50: 700 mg/kg (Rat, oral) LC50: 3124 ppm (Rat, inhalation) LD50: 5010 mg/kg (Rabbit, dermal)
Chronic Toxic Effects – None known	
Carcinogenicity – IARC – Group 3 (Hydrogen chloride anhydrous) / ACGIH – listed A4	
Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity – None known	

Section 12. Ecological Information	
Ecotoxicity	Hydrochloric acid LC50: 282 mg/L (Gambusia affinis) LC50: 3.6 mg/L (Lepomis macrochirus)
BOD and COD	No data
Biodegradability / OECD	No data
Toxicity of the Products of Biodegradation	No data
Special Remarks	Low pH levels caused by Hydrochloric acid may cause toxic effects to aquatic life. Low pH may cause release of toxic metals. Product does not accumulate. Material dissociates in water, may be neutralized by naturally occurring minerals.

Section 13. Disposal Considerations	
Dispose of in accordance with local, provincial and federal regulations	

Section 14. Transport Information	
TDG Classification	Hydrochloric acid solution, UN 1789, Class 8, Packing Group II
Emergency Response Guide #	ERG# 157
Marine Pollutant	No
Special Precautions	None

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Section 15. Regulatory Information	
Canada – DSL Inventory	All components of this product are either on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or exempt
TSCA	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
WHMIS Hazard Class	D1A E
Additional Information	None

Section 16. Other Information	
Prepared by:	Chemfax Products Ltd., Technical Department
Date Prepared:	January 6, 2012
Revision Date:	June 25, 2014
Disclaimer	<p>Notice to reader</p> <p>To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</p> <p>Chemfax Products Ltd. expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided.</p>