

TRICAN MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	HCL Acid	Code
Supplier	Trican Well Service Ltd. 2900, 645 – 7 th Ave S.W. Calgary, Alberta, T2P 4G8 For Product Information/MSDS Call: 403-266-0202 or 403-723-3688 (8:00 AM – 5:00 PM CST, Monday – Friday)	Revision Date
Product Uses	General acidizing	Supersedes Date August 20,2005
24 Hour Emergency Numbers	CANUTEC 613-996-6666 (Canada 24 hours)	Preparation Date May 20, 2008
WHMIS (Pictograms)		WHMIS (Classification)
		D1A -Very toxic material causing immediate and serious effects. E – Corrosive Material
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the Material Safety Data Sheet contains all information required by the CPR.		

SECTION 2. COMPOSITION AND INFORMATION ON INGREDIENTS

Name	CAS #	%	TLV	LD(50)	LC(50)*
Hydrochloric acid:	7647-01-0	30-60	CEIL: 5 ppm	Oral, Rat 900mg/kg	Inhalation, Rat 3124 ppm/1hr

Please consult with local authorities for acceptable provincial exposure limits since values can vary from jurisdiction to jurisdiction.
 *All LC(50) are based on a four hour exposure unless otherwise noted.

SECTION 3. HAZARDS IDENTIFICATION

Hazard Summary	Toxic by inhalation. Causes severe burns. Keep container in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately
Routes of Exposure	Eyes, skin, inhalation and ingestion.
Potential Acute Health Effects	
Eyes Contact	Vapours are very irritating. Splashes may cause burns and permanent eye damage.
Skin Contact/Absorption	Corrosive material causes chemical burns to the skin, ulcerations. Some additive components may be absorbed through the skin in toxic quantities.
Inhalation	Inhalation of solution vapour or mist may cause respiratory tract irritation and breathing difficulties. Prolonged or gross inhalation may cause pulmonary edema.
Ingestion	Ingestion may cause severe burns to the mouth, throat and esophagus. May cause nausea, vomiting and diarrhea.
Medical Conditions Aggravated by Exposure	Not Available
See Toxicological Information (Section 11)	
Additional Hazard Identification	Not Available
Remarks	

SECTION 4. FIRST AID MEASURES

Skin Contact	In case of skin contact, wash with soap and water. If irritation develops or persists, consult a physician. Wash contaminated clothing before use.
---------------------	--

Eye Contact	In case of eye contact, flush with water for 15 minutes and call a physician.
Inhalation	In case of inhalation, remove victim to fresh air. If not breathing administer artificial respiration. Seek medical attention if breathing is difficult or irritation of the respiratory tract occurs.
Ingestion	If conscious and medical aid is not immediately available, dilute stomach contents by giving quantities of water or milk. Do not induce vomiting. NEVER give anything by mouth to an unconscious person. Seek medical attention.
Notes to Physician	Not Available
Additional First Aid Remarks	Not Available

SECTION 5. FIRE AND EXPLOSION DATA

Conditions of Flammability	None
Extinguishing Media	Suitable for surrounding fire.
Protective Clothing (Fire)	Wear full fire fighting gear including positive pressure self-contained breathing apparatus.
Hazardous combustion Products	None
Sensitivity to Mechanical Impact	Not Available
Sensitivity to Static Discharge	Not Available
Special Remarks on Fire Hazards	Not Available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures	<p>Put on appropriate personal protective equipment. Keep personnel removed and upwind of spill. Shut off all ignition sources; no flares, smoking, or flames in hazard area. Approach release from upwind. Shut off leak if it can be done safely. Contain spilled material. Keep out of waterways. Dike large spills and use a non-sparking or explosion proof means to transfer material to an appropriate container for disposal. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container. Note that flammable vapours may form an ignitable mixture with air. Vapours may travel considerable distances from spill and flash back if ignited. Waste must be disposed of in accordance with federal, provincial and local environmental control regulations.</p> <p>***</p> <p>Issue "hazard" warning. Eliminate all ignition sources. Isolate hazard area and restrict access. Try to work upwind of spill. Avoid direct contact with material. Wear NIOSH approved self-contained breathing apparatus (if applicable) and protective clothing.</p> <p>Prevent spilled material from entering sewers, watercourses or low-lying areas.</p> <p>Stop leak only if safe to do so. Dike and contain land spills with inert material (earth, clay or sand). For large spills, remove by mechanical means and place in containers. Absorb residue or small spills with inert absorbent material and remove to non-leaking containers for disposal. Flush area with water to remove trace residue.</p> <p>Dispose of recovered materials as in section 13. Notify fire and environmental agencies.</p> <p>Provincial and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.</p>
Additional Accidental Release Measures Remarks	Not Available

SECTION 7. HANDLING AND STORAGE

Handling Procedure and Equipment	Put on appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Avoid breathing vapours or spray mists. Use only with adequate ventilation. Store in a dry, cool and well ventilated area. Keep away from heat, sparks and flame. Keep away from incompatibles. Keep container tightly closed and dry. To avoid fire or explosion, ground container equipment and personnel before handling product.
---	---

	<p>*****</p> <p>Maintain good personal hygiene. Wear appropriate personal protective equipment and avoid contact with skin, eyes or clothing. No smoking, eating or drinking allowed when using this product. Wash thoroughly after handling product. Avoid breathing vapours and prolonged or repeated contact with skin or eyes. Use adequate ventilation. Locate safety shower and eyewash station in use area.</p> <p>Empty containers may contain product residue. Follow labeled warnings even after container is emptied. Do not cut, drill, grind or weld on or near container.</p> <p>Air dry and then launder contaminated clothing prior to reuse. Store product-contaminated rags in container with tight-fitting lid.</p>
Storage Requirements	Store in a cool, well-ventilated area, away from incompatibles. Keep container tightly closed when not in use. Store in totally enclosed equipment, designed to avoid ignition and human contact. Store in an isolated building that is cool and well ventilated. Storage tanks should be above ground, over an area sealed on the bottom and diked to hold entire contents.
Additional Accidental Release Measures Remarks	Not Available

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

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

Personal Protection

Personal Protective Equipment recommendations are based on anticipated known manufacturing and use conditions. These conditions are expected to result in only incidental exposure. A thorough review of the job tasks and conditions by a safety professional is recommended, however, to determine the level of person protective equipment appropriate for these job tasks and conditions.

Respirator Full face piece respirator should be worn if there is potential for exposures or splashes. In poorly ventilated areas, emergency situations or if exposure may or does exceed exposure limits use a NIOSH/MSHA approved atmosphere-supplying respirator or an air-purifying respirator for organic vapours.

Hands Nitrile or neoprene gloves.

Eyes Chemical safety glasses or goggles and face shield.

Body Wear long sleeves to prevent repeated or prolonged skin contact.

Feet Steed toed, chemical resistant boots.

Other Emergency eyewash fountains and safety showers should be in the immediate vicinity of any potential exposure. Remove contaminated clothing and launder before reuse.

Protective Clothing (Pictograms)



Additional Exposure Control Remarks Not Available

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Odour and Appearance	Amber to light brown hazy liquid; pungent odour.
Odour Threshold	1 - 5 ppm (HC1)
Specific Gravity	1.1 - 1.3 (approx.)
Flashpoint	Not Available
Protective Clothing (Fire)	Wear full fire fighting gear including positive pressure self-contained breathing apparatus.
Upper Flammable Limit (% by volume)	Not Available
Lower Flammable Limit (% by volume)	Not Available
Vapour Density (air=1)	3.42

Autoignition Temperature	Not Available
Vapour Pressure	24 - 150mmHg @ 20 °C (HCl)
Evaporation Rate	Not Available
Boiling Point	100 - 120 °C (HCl)
Freezing Point	< -35 °C
Pour Point	Not Available
pH	<< 1
Viscosity	Not Available
Solubility in Water	Completely soluble
Coefficient of Water/Oil	More soluble in water.
Physical Chemical Comments	Not Available

SECTION 10. STABILITY AND REACTIVITY DATA

Chemical Stability	Stable
Conditions of Instability	Not Available
Incompatible Material	Bases, reducing agents and metals.
Conditions of Reactivity	May form toxic gases is contact with cyanides or sulfides. Flammable hydrogen gas may be released on contact with some metals. Contact with bases or reducing agents may generate extreme heat.
Hazardous Decomposition Products	At high temperatures, toxic and corrosive hydrogen chloride gases may be evolved.
Hazardous Polymerization	Will not occur.
Special Stability & Reactivity	Not Available
Remarks	

SECTION 11. TOXICOLOGICAL INFORMATION

Component Toxicological Information	
Acute Toxicity	
1) Hydrochloric Acid (7647-01-0)	Oral (LD50): Acute: 900 mg/kg Rat Vapour (LC50): Acute: 3124 ppm/1hr Rat
Effects of Acute Exposure	<i>See Hazards Identification (Section 3)</i>
Effects of Chronic Exposure	Chronic exposure may result in malaise, headache, sleeping disturbances and irritability. changes in pulmonary function, chronic bronchitis, dermatitis, decay and erosion of dental enamel, bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, and overt upper respiratory tract abnormalities. Destructive to the mucous membranes and upper respiratory tract eyes and skin. May cause inflammation and edema of the larynx, bronchi and pulmonary tract. Repeated or prolonged exposure may cause erosion of the teeth.
Irritancy of Product	Irritating to eyes, skin and respiratory system
Skin Sensitization	Not Available
Respiratory Sensitization	Not Available
Carcinogenicity	Not carcinogenic according to ACGIH, IARC and NTP.
Reproductive Toxicity	Menstrual disorders. Is a reproductive toxin. Fetotoxicity, developmental abnormalities.
Teratogenicity	Not Available
Embryotoxicity	Not Available
Mutagenicity	Not Available
Synergistic Products/Effects	Not Available
Other Adverse Effects	Not Available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Not Available
BOD5 and COD	Not Available
Biodegradable/OECD	Not Available
Toxicity of the Products of Biodegradation	Not Available
Special Remarks	Do not allow product or run-off from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. May be harmful to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Responsibility for proper waste disposal rests with the generator of the waste. Dispose of any waste material in accordance with all applicable federal, provincial and local regulations.

Additional Waste Remarks Note that these regulations may also apply to empty containers, liners and rinsate. Processing, use, dilution or contamination of this product may cause its physical and chemical properties to change.

SECTION 14. TRANSPORT INFORMATION

TDG Classification

CORROSIVE LIQUID, N.O.S. (contains hydrochloric acid)
Class 8, UN1789, PG II



Marine Pollutant Not applicable.

Additional TDG Information Not applicable.

Emergency Response Guide Guide No. 154

Page Number

SECTION 15. REGULATORY INFORMATION

Canadian Regulations



WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR. Class E Corrosive, D1A Poisonous,

Environmental Regulations Not available.

DSL Inventory All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

TSCA Inventory Status All components are included or are exempted from listing on the US Toxic Substances Control Act Inventory.
This product contains the following components that are subject to the reporting requirements of TSCA Section 12(b) if exported from the United States. None

International Regulations

European Union All components are included or are exempted from listing on the European Inventory of Existing Commercial Chemical Substances or the European List of Notified Chemical Substances.

ILO Risk and Safety Phrases Risk Phrases: 23-35
Toxic by inhalation. Causes severe burns.
Safety Phrases: 9-26-36/37/39-45
Keep container in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately
Symbols: C,T
Corrosive, Toxic

Other Regulatory Information No further regulatory information is available.

SECTION 16. OTHER INFORMATION

Other Special Considerations Format Change; New Issue

Trican Well Service Ltd. Disclaimer

NOTE: The information on this MSDS is based on data which is considered to be accurate. Trican Well Service Ltd., however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability

for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

END OF MATERIAL SAFETY DATA