

## 1. Product and Company Identification

**Product Name** Hydrochloric Acid 28-32% (Synonyms: Aqueous hydrogen chloride, Chlorohydric acid, HCl, Hydrogen chloride, Muriatic acid, Spirits of salt)

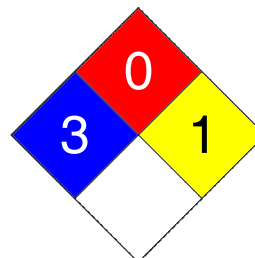
**CAS #** Mixture

**Product Use** Industrial applications

**Distributor** Benson Chemicals Ltd.  
RR#1  
Freelton  
ON L0R1K0 CA  
Phone: 1-800-265-0014  
Emergency Services (24 hours / 7 days ) 1-519-821-0215  
Emergency Responder 1-800-567- 7455 Newalta Industrial SVC

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 3
Flammability	0
Physical Hazard	1
Personal Protection	X



## 2. Hazards Identification

**Emergency Overview** DANGER -- CORROSIVE  
Corrosive to metals.  
Very toxic.

**Potential short term health effects**

**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.

**Eyes** Causes chemical burns. May cause blindness.

**Skin** Causes chemical burns.

**Inhalation** Harmful if inhaled. May cause respiratory tract irritation or chemical burns.

**Ingestion** Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Target organs** Eyes. Respiratory system. Skin.

**Chronic effects** Prolonged or repeated exposure can cause drying, defatting and dermatitis.

**Signs and symptoms** Symptoms are prostration, gasping, pallor, and uncoordinated movements. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. The product causes burns of eyes, skin and mucous membranes.

## 3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
Hydrochloric acid	7647-01-0	15 - 40

## 4. First Aid Measures

**First aid procedures**

**Eye contact** Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 20 minutes. Obtain medical attention immediately.

**Skin contact** Immediately flush with cool water for 20 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.

**Inhalation** If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

<b>Ingestion</b>	Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.
<b>Notes to physician</b>	Symptoms may be delayed.
<b>General advice</b>	Avoid contact with eyes and skin. Wear impervious gloves and chemical splash goggles. Immediate medical attention is required. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep out of reach of children.

## 5. Fire-fighting Measures

<b>Flammable properties</b>	Not flammable by WHMIS criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Treat for surrounding material.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Hydrogen gas. Irritating, corrosive and/or toxic gases or fumes will be released during a fire.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

## 6. Accidental Release Measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Methods for containment</b>	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for cleaning up</b>	Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use. Large Spills: Wet down with water and dike for later disposal. After removal flush contaminated area thoroughly with water.

## 7. Handling and Storage

<b>Handling</b>	Do not use in poorly ventilated or confined spaces without proper respiratory protection. Wear appropriate personal protective equipment when handling this product. Prevent acid from contacting strong alkalis or metals. Add compound slowly to water, never water to compound. Do not get this material in your eyes, on your skin, or on your clothing.
<b>Storage</b>	<p>FOR DRUM, TOTE, AND BOTTLE STORAGE CONTAINERS: Store in a cool, dry, well-ventilated place. Store only in closed, properly labeled containers. Keep container closed when not in use. When opening container, loosen closure slowly and carefully to relieve possible internal pressure or preferably, utilize a safety relief valve where available.</p> <p>FOR BULK STORAGE CONTAINERS: Bulk storage tanks should be constructed of corrosion-resistant materials such as rubber- or glass-lined steel, fiberglass, or plastic. Bulk storage tanks should contain a dike sufficiently large enough to contain entire contents.</p>

---

## 8. Exposure Controls / Personal Protection

---

### Exposure limit values

#### Ingredient(s)

#### Exposure limit values

Hydrochloric acid

#### ACGIH-TLV

Ceiling: 2 ppm

### Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

### Personal protective equipment

#### Eye/Face protection

Chemical splash goggles.

#### Hand protection

Impervious gloves. Confirm with reputable supplier first.

#### Skin and body protection

Use of an impervious apron is recommended.

#### Respiratory protection

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

#### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

---

## 9. Physical & Chemical Properties

---

Appearance	Liquid
Colour	Colourless to pale yellow
Form	Liquid
Odour	Pungent
Odour threshold	Not available
Physical state	Liquid
pH	< 1
Melting point	-114.4 °C (-173.92 °F)
Freezing point	-52.5 °C (-62.50 °F)
Boiling point	85 °C (185.00 °F)
Flash point	Not applicable
Evaporation Rate	Not available
Flammability limits in air, lower, % by volume	Not applicable
Flammability Limits in Air, Upper, % by Volume	Not applicable
Vapour pressure	35 mmHg @25°C
Vapour density	1.267 (air = 1)
Specific gravity	1.16
Relative density	1.161 - 1.19 g/cm3
Octanol/water coefficient	Not available
Solubility (H2O)	Miscible
Auto-ignition temperature	Not applicable
VOC (Weight %)	0
Viscosity	1.75 cp @20°C
Percent volatile	100
Molecular weight	36.47 g/mol
Molecular formula	H-Cl

---

## 10. Chemical Stability & Reactivity Information

---

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

Heat, flames and sparks. Reacts violently with alkaline material. This product may react with reducing agents. Do not mix with other chemicals.

### Incompatible materials

Caustics. Oxidizers. Reducing agents. Reacts with soft metals producing flammable hydrogen gas.

---

<b>Hazardous decomposition products</b>	May include and are not limited to: Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.
<b>Possibility of hazardous reactions</b>	Hazardous polymerisation does not occur.

## 11. Toxicological Information

### Component analysis - LC50

Ingredient(s)	LC50
Hydrochloric acid	935 ppm mouse; 3124 mg/l/4h rat

### Component analysis - Oral LD50

Ingredient(s)	LD50
Hydrochloric acid	900 mg/kg rabbit; 700 mg/kg rat

### Effects of acute exposure

<b>Eye</b>	Causes chemical burns. May cause blindness.
<b>Skin</b>	Causes chemical burns.
<b>Inhalation</b>	Harmful if inhaled. May cause respiratory tract irritation or chemical burns.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Sensitisation</b>	Non-hazardous by WHMIS criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS criteria.
<b>Carcinogenicity</b>	Non-hazardous by WHMIS criteria.

#### ACGIH - Threshold Limit Values - Carcinogens

Hydrochloric acid	7647-01-0	A4 - Not Classifiable as a Human Carcinogen
-------------------	-----------	---

<b>Mutagenicity</b>	Non-hazardous by WHMIS criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS criteria.

## 12. Ecological Information

<b>Ecotoxicity</b>	Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
<b>Environmental effects</b>	Harmful to aquatic life.
<b>Aquatic toxicity</b>	Not available
<b>Persistence and degradability</b>	Not available
<b>Bioaccumulation/accumulation</b>	Not available
<b>Partition coefficient</b>	Not available
<b>Mobility in environmental media</b>	Not available
<b>Chemical fate information</b>	Not available
<b>Other adverse effects</b>	Not available

## 13. Disposal Considerations

<b>Waste codes</b>	Not available
<b>Disposal instructions</b>	Review federal, provincial, and local government requirements prior to disposal.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

---

## 14. Transport Information

---

### Transportation of Dangerous Goods (TDG - Canada)

#### Basic shipping requirements:

**Proper shipping name** Hydrochloric acid  
**Hazard class** 8  
**UN number** 1789  
**Packing group** II



---

## 15. Regulatory Information

---

### Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

#### Canada - WHMIS - Ingredient Disclosure List

Hydrochloric acid 7647-01-0 1 %

### WHMIS classification

Class D - Division 1A, Class E - Corrosive Material

### WHMIS status

Controlled

### WHMIS labeling



### Inventory Status

Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

---

## 16. Other Information

---

### Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

### Issue date

12-Sept-2008

### Effective Date

15-Nov-2008

### Expiry Date

15-Nov-2011

### Prepared by

Dell Tech Laboratories Ltd. (519) 858-5021