ISO9001:2000 Certified

Material Safety Data Sheet
Hydrochloric Acid Solutions, 0.5%-50% v/v, 0.01N-6.25N

Section 1 - Chemical Product and Company Identification

MSDS Name:
Hydrochloric Acid Solutions, 0.5%-50% v/v, 0.01N-6.25N

Catalog Numbers:
LC14970, LC15000, LC15050, LC15070, LC15090, LC15100, LC15130, LC15150, LC15170, LC15200, LC15220, LC15240, LC15250, LC15280, LC15290, LC15300, LC15320, LC15330, LC15340, LC15345, LC15360, LC15370, LC15380

Synonyms:
Muriatic acid, chlorohydric acid

Company Identification:
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:
(412) 826-5230

Emergency Phone Number:
(800) 424-9300

CHEMTREC Phone Number:
(800) 424-9300

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
7647-01-0	Hydrochloric Acid	0.5 - 50

Section 3 - Hazards Identification

Emergency Overview

Appearance: *Clear, colorless liquid*

Danger! Corrosive. Causes severe eye and skin burns. Causes severe gastrointestinal and respiratory tract burns. May be fatal if inhaled or swallowed. Corrosive to metal.

Target Organs: *Eyes, skin, respiratory and gastrointestinal systems, teeth.*

Potential Health Effects

Eye:
May cause irreversible eye injury. Vapor or mist may cause irritation and severe burns. Contact with liquid is corrosive to the eyes and causes severe burns.

Skin:
Contact with liquid is corrosive and causes severe burns and ulceration. The severity of injury depends on the concentration of the solution and the duration of exposure.

Ingestion:

Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Inhalation:

May be fatal if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. Causes corrosive action on the mucous membranes.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Repeated exposure may cause erosion of teeth. Repeated exposure to low concentrations of HCl vapor or mist may cause bleeding of nose and gums. Chronic bronchitis and gastritis have also been reported.

Section 4 - First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Do NOT use sodium bicarbonate in an attempt to neutralize the acid.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Not flammable, but reacts with most metals to form flammable hydrogen gas. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:

Not applicable.

Flash Point:

Not applicable.

NFPA Rating:

CAS# 7732-18-5: Health – 0, Flammability – 0, Instability - 0.
CAS# 7647-01-0: Health – 3, Flammability – 0, Instability - 1.

Explosion Limits:

Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Large spills may be neutralized with dilute alkaline solutions of sodium bicarbonate, or lime. Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Contents may develop pressure upon prolonged storage. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes. Keep away from strong bases and metals. Use caution when opening. Do not use with metal spatula or other metal items. Do not breathe vapor or mist. Use only with adequate ventilation or respiratory protection.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Do not store in metal containers. Store away from alkalies. Separate from oxidizing materials.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None listed	None listed	None listed
Hydrochloric acid	2 ppm Ceiling	50 ppm IDLH	5 ppm Ceiling; 7 mg/m3 Ceiling

OSHA Vacated PELs:

None.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Liquid
Color:	Colorless
Odor:	Pungent
pH:	Acidic
Vapor Pressure:	84 mm Hg @ 20°C
Vapor Density:	1.27 (air=1)
Evaporation Rate:	>1.00 (N-butyl acetate)
Viscosity:	Not available
Boiling Point:	Not available
Freezing/Melting Point:	Not available
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	1.0 – 1.2
Molecular Formula:	Not applicable
Molecular Weight:	Not applicable

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

High temperatures, strong oxidants.

Incompatibilities with Other Materials:

Metals, strong oxidizing agents, strong reducing agents, bases, acetic anhydride, alcohols, amines, sulfuric acid, vinyl acetate, epoxides (e.g. butyl glycidyl ether), chlorosulfonic acid, carbides, beta-propiolactone, ethyleneimine, propylene oxide, lithium silicides, 2-aminoethanol, 1,1-difluoroethylene, magnesium boride, mercuric sulfate, aldehydes, cyanides, sulfides, phosphides.

Hazardous Decomposition Products:

Hydrogen chloride, hydrogen gas.

Hazardous Polymerization:

Has not been reported.

Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000.
CAS# 7647-01-0: MW4025000, MW4031000.

LD50/LC50:

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg

CAS# 7647-01-0:
Inhalation, mouse: LC50 = 1108 ppm/1H;
Inhalation, mouse: LC50 = 20487 mg/m3/5M;
Inhalation, mouse: LC50 = 3940 mg/m3/30M;
Inhalation, rat: LC50 = 3124 ppm/1H;
Inhalation, rat: LC50 = 7004 mg/m3/30M;
Inhalation, rat: LC50 = 45000 mg/m3/5M;
Oral, rabbit: LD50 = 900 mg/kg

Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7647-01-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:
No information found

Teratogenicity:
Female rats were exposed to 450 mg/m3 of HCl for 1 hour either prior to mating or on day 9 of pregnancy. Developmental effects were observed in the offspring. However, this exposure caused toxic effects, including mortality, in the mothers.

Reproductive:
No information found

Mutagenicity:
See actual entry in RTECS for complete information.

Neurotoxicity:
No information found

Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: 3.6 mg/L; 48Hr; Lethal (unspecified)
Environmental: Will exhibit extensive evaporation from soil surfaces. Upon transport through the soil, hydrochloric acid will dissolve some of the soil materials (especially those with carbonate bases) and the acid will neutralize to some degree.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

	1% to 40% W/W	0.5% to 1% W/W	0% to 0.5% W/W
Shipping Name:	Hydrochloric acid solution	Hydrochloric acid solution	Not regulated
Hazard Class:	8	8	
UN Number:	UN1789	UN1789	
Packing Group:	PG II	PG III	

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Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 7647-01-0 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ):

CAS# 7647-01-0: final RQ = 5000 pounds (2270 kg)

CERCLA/SARA Section 313:

This material contains Hydrogen chloride (CAS# 7647-01-0, 1-50%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

OSHA - Highly Hazardous:

CAS# 7647-01-0 is considered highly hazardous by OSHA.

US State

State Right to Know:

Hydrochloric acid can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Regulations:

None.

European/International Regulations

Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7647-01-0 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 7647-01-0 is listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: November 1, 1997
Revision Date: October 9, 2009

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