

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Hydrogen Chloride Solution, 1.0 N
PRODUCT NUMBER: H245
COMPANY INFO: PhytoTech Labs Inc.
 14610 W 106th St. Lenexa, KS 66215
 Phone: 1-888-749-8682 or 1-913-341-5343
 www.phytotechlab.com
EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
 1-352-323-3500 - International
RECOMMENDED USE: For Laboratory use or Further Manufacturing only
RESTRICTIONS ON USE: Products sold by PhytoTech Labs Inc. are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, in vitro diagnostics, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification:

H290 – Corrosive to metals (Category 1)
 H314 – Skin corrosion (Category 1)
 H318 – Serious eye damage (Category 1)

GHS Label elements, including hazard and precautionary statements:

Pictogram:



Signal Word: **Danger**

Hazard Statements:

H290 - May be corrosive to metals.
 H314 - Causes severe skin burns and eye damage.

Precautionary Statements:

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.
 P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Hydrochloric Acid; Muriatic Acid
CAS No.: 7647-01-0
Formula: HCl
Molecular Weight: 36.46
EC No.: 231-595-7

Ingredient	CAS Number	Percent	Hazardous
Hydrochloric Acid	7647-01-0	<10%	OSHA PEL: 5 ppm; ACGIH TLV: 2 ppm
Water	7732-18-5	>90%	No exposure limits established by OSHA or ACGIH

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Protective Equipment and Precaution for Firefighters:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Hazardous Combustion Products:	May emit toxic fumes under fire conditions.
Toxic Gases Produced:	Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Bases, Alkali metals, Fluorine, hexalithium disilicide

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Method of Containment and Cleanup:	Clean-up personnel should wear proper protective equipment and clothing. Contain spilled material and do not let product enter drains. Soak up with inert absorbent material and place in a suitable, closed container for disposal in accordance with all local, state/provincial, and national requirements. Ventilate the area if necessary. Do not let products enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling:	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Avoid aerosols. Avoid incompatible substances. Keep away from sources of ignition. No smoking. Wash thoroughly after use.
Conditions for Safe Storage:	Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Hygroscopic.

Incompatibilities: Potassium permanganate, aqueous sodium mixtures, aluminum, metals, plastics, strong mineral acids, metal oxides, amines, sodium bicarbonate, cyanides, sulfides, sulfites, formaldehyde, acetates, perchloric acid, phosphides

Recommended Storage Temperature: Room Temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Occupational Exposure Limits: 5 ppm, 7 mg/m³

ACGIH Threshold Limit Values (TLVs): 2 ppm

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: Appropriate respirator

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless Liquid

pH: No data available

Solubility: Miscible with Water

Melting Range: No data available

Vapor Density: No data available

Vapor Pressure: 23 hPa (68°F/20°C)

Specific Gravity: 1.092 g/mL at 25°C (77°F)

Odor: Pungent odor

Odor Threshold: No data available

Viscosity: No data available

Relative Density: No data available

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: No data available

Flammability (solid, gas): No data available

Partition coefficient: No data available

n-octanol/water): No data available

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point: 40°C (104°F)

Flammable Limits: Upper (%) – No data available Lower (%) – No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use

Possibility of Hazard Reactions: Will not occur

Conditions to Avoid: Heat, direct sunlight, moisture, mechanical shock

Incompatibles Materials:	Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Bases, Alkali metals, Fluorine, hexalithium disilicide
Hazardous Decomposition Products:	Hydrogen chloride gas, chloride gas, hydrogen gas

11. TOXICOLOGICAL INFORMATION

Toxicity:	LD ₅₀ (Oral-Rat)(mg/Kg)	No data available
	LD ₅₀ (Oral-Rat)(mg/Kg):	No data available
	LD ₅₀ (IP-Mouse)(µg/Kg)	No data available
Carcinogenicity:	NTP:	No
	IARC:	Yes (Group 3)
	Z List:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available	
Symptoms Associated with Overexposure:	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness.	
Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	Stomach - irregularities	
Medical Conditions Aggravated by Exposure:	Pre-existing skin disorders	
Routes of Entry:	Inhalation, ingestion, skin contact, and eye contact	
NIOSH/RTECS NO:	Not listed	

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No data available
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	No data available

13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	No data available

14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	Corrosive liquids, flammable, n.o.s. (Hydrochloric acid)	
	Hazard Class:	8	Packaging Group: III
	UN:	1789	
	Marine Pollutant:	No	Poison inhalation hazard: No

International:

IMDG:	Proper Shipping Name:	Corrosive liquids, flammable, n.o.s. (Hydrochloric acid)		
	Hazard Class:	8	Packaging Group: III	EMS-No.: F-E, S-C
	UN:	1789		
	Marine Pollutant:	No		
IATA:	Proper Shipping Name:	Corrosive liquids, flammable, n.o.s. (Hydrochloric acid)		
	Hazard Class:	8	Packaging Group: III	
	UN:	1789		

15. REGULATORY INFORMATION

TSCA: Yes

SARA TITLE III:

Section 302 (EHS) Ingredients:	Yes
Section 313 Ingredients:	Yes
Section 304 (EHS/CERCLA) Ingredients:	Yes

Section 311/312 Hazard: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components: CAS No.: 7647-01-0 Hydrochloric acid

Pennsylvania Right to Know Components: CAS No.: 7647-01-0 Hydrochloric acid

New Jersey Right to Know Components: CAS No.: 7647-01-0 Hydrochloric acid

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating:

Health Hazard	Flammability	Physical Hazard	Personal Protection
3	0	0	B
Health Hazard	Flammability	Instability	Special Hazard
3	0	0	

NFPA Rating:

PhytoTech Labs Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. PhytoTech Labs Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.

Revision Date: 13 July 2026