

SAFETY DATA SHEET

Preparation Date: 10/23/2015

Revision Date: 2/5/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: H-195
Product Name: HYDROCHLORIC ACID, 50 PERCENT (V/V), APHA, AQUEOUS SOLUTION

Other means of identification

Synonyms: Hydrochloric Acid, 50% Solution
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

Label elements

Danger

Hazard statements
 Harmful if swallowed

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Harmful if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation
May be corrosive to metals



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if swallowed

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container

Precautionary Statements - Response

*Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)*

Absorb spillage to prevent material damage

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Store in corrosive resistant/ .? container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Water	7732-18-5	80
Hydrogen chloride	7647-01-0	20

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4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
- Skin Contact:** Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Do not give Sodium Bicarbonate (Baking Soda). Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Severe skin and eye irritation or burns
 - Irritating to respiratory system
 - Burning sensation of the respiratory tract
 - Coughing
 - Hoarseness of the voice
 - Choking sensation
 - Dyspnea (Shortness of breath and difficulty breathing)
 - Thirst
 - May cause difficulty swallowing
 - May cause abdominal pain, nausea, vomiting, diarrhea
 - Weak, rapid pulse or rapid heart rate (Tachycardia)
 - Shock

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

- Suitable Extinguishing Media:** The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

Contact with metals may evolve flammable hydrogen gas. Calcium carbide reacts with hydrogen chloride gas with incandescence. Uranium phosphide reacts with hydrochloric acid to release spontaneously flammable phosphine. Rubidium acetylene carbide burns with slightly warm Hydrochloric acid. Lithium silicide in contact with hydrogen chloride becomes incandescent. When dilute hydrochloric acid is used, gas that is spontaneously flammable in air is evolved. Magnesium boride treated with concentrated hydrochloric acid produces spontaneously flammable gas. Cesium acetylene carbide burns in hydrogen chloride gas. Cesium carbide ignites in contact with Hydrochloric acid unless acid is dilute. Hydrogen chloride in contact with the following can cause an explosion, ignition on contact, or other violent/vigorous reaction: Acetic anhydride AgClO + CCl₄ Alcohols + hydrogen cyanide, Aluminum Aluminum-titanium alloys (with HCl vapor), 2-Amino ethanol, Ammonium hydroxide, Calcium carbide Ca₃P₂ Chlorine + dinitroanilines (evolves gas), Chlorosulfonic acid Cesium carbide Cesium acetylene carbide, 1,1-Difluoroethylene Ethylene diamine Ethylene imine, Fluorine, HClO₄ Hexalithium disilicide H₂SO₄ Metal acetylides or carbides, Magnesium boride, Mercuric sulfate, Oleum, Potassium permanganate, beta-Propiolactone Propylene oxide Rubidium carbide, Rubidium, acetylene carbide Sodium (with aqueous HCl), Sodium hydroxide Sodium tetraselenium, Sulfonic acid, Tetraselenium tetranitride, U₃P₄, Vinyl acetate. Silver perchlorate with carbon tetrachloride in the presence of hydrochloric acid produces trichloromethyl perchlorate which detonates at 40 deg. C.

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk.

Methods for cleaning up Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
Bases
Metals
Organic materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Water	7732-18-5	None	None	None	None
Hydrogen chloride	7647-01-0	5 ppm Ceiling 7 mg/m ³ Ceiling	5 ppm Ceiling 7 mg/m ³ Ceiling	2 ppm Ceiling	None

Canada

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Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Water	7732-18-5	None	None	None	None
Hydrogen chloride	7647-01-0	2 ppm Ceiling 3 mg/m ³ Ceiling	2 ppm Ceiling	2 ppm Ceiling	5 ppm Ceiling 7.5 mg/m ³ Ceiling

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Water	7732-18-5	None	None
Hydrogen chloride	7647-01-0	None	5 ppm Ceiling 7 mg/m ³ Ceiling

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Face-shield and Goggles
- Skin and body protection:** Chemical resistant protective suit
Gloves
Boots
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: No information available.	Color: Clear. Colorless.
Odor: Slightly. Irritating. Pungent.	Taste No information available.	Formula: No information available
Molecular/Formula weight: No information available	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): No information available	Bulk density: No information available	Density (g/cm³): No information available
Specific gravity: 1.1	pH: No information available	Vapor pressure @ 20°C (kPa): No information available

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Evaporation rate:
No information available

Vapor density:
No information available

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
No information available

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Easily soluble in cold water
Easily soluble in hot water
Soluble in diethyl ether

10. STABILITY AND REACTIVITY

Reactivity

For Hydrogen chloride or concentrated Hydrochloric Acid:

Reacts with most metals to produce flammable Hydrogen gas.

Sodium reacts very violently with gaseous hydrogen chloride.

Calcium phosphide and Hydrochloric acid undergo a very energetic reaction.

Hydrogen chloride reacts with oxidizers releasing chlorine gas.

Hydrogen chloride gas is emitted when Hydrochloric acid comes in contact with Sulfuric acid.

Adsorption of Hydrochloric acid onto Silicon dioxide results in exothermic reaction.

Hydrogen chloride causes aldehydes and epoxides to violently polymerize.

Reacts violently with bases, oxidizers forming toxic chlorine gas.

Reacts, often violently or vigorously or exothermically, with acetic anhydride, active metals, aliphatic amines, alkanolamines, alkylene oxides, aromatic amines, amides, 2-aminoethanol, ammonia, ammonium hydroxide, calcium phosphide, chlorosulfonic acid, ethylene diamine, ethyleneimine, epichlorohydrin, isocyanates, metal acetylides, oleum, organic anhydrides, perchloric acid, 3-propiolactone, uranium phosphide, sulfuric acid, vinyl acetate, vinylidene fluoride, alcohols + hydrogen cyanide, Aluminum phosphide, Aluminum-titanium alloys, 2-Amino ethanol, Ammonium hydroxide, Ammonium, 1,4-Benzoquinone diimine, Cesium telluroacetylated, Chlorine + dinitroanilines, Chloroacetaldehyde oxime, Cyanogen chloride, 1,1-Difluoroethylene, dinitroanilines, Ethylene, Ethyl 2-formylpropionate oxime, Hexalithium disilicide, Hydrogen peroxide, Methyl vinyl ether, Nitric acid + glycerol, Potassium, Potassium permanganate, beta-Propiolactone, Propylene oxide, Rubidium acetylide, Silver chlorite, Sodium 2-allyloxy-6-nitrophenylpyruvate oxime, Sodium hydroxide, Sodium cyanide, 2,4,6-Tri(2-acetylhydrazino)-1,3,5-trinitrobenzene, Sulfonic acid, Cesium cyanotridecahydrodecaborate(2-), Potassium ferricyanide, Vinylidene fluoride, Potassium ferrocyanide, Ammonium hexacyanoferrate (II).

Reaction with oxidizers such as permanganates, chlorates, chlorites, and hypochlorites may produce chlorine or bromine gas.

Reacts vigorously with alkalis and with many organic materials.

Cesium acetylene carbide burns in hydrogen chloride gas.

Lithium silicide in contact with hydrogen chloride becomes incandescent.

Magnesium boride in contact with concentrated hydrochloric acid produces spontaneously flammable gas.

Rubidium acetylene carbide burns with slightly warm hydrochloric acid.

Rubidium carbide ignites in contact with hydrochloric acid unless acid is dilute.

Uranium phosphide reacts with hydrochloric acid to release spontaneously flammable phosphine.

Calcium carbide reacts with hydrogen chloride gas with incandescence.

Absorption of gaseous hydrogen chloride on mercuric sulfate becomes violent @ 125 deg C.

Reaction of silver perchlorate with carbon tetrachloride in presence of small amount of hydrochloric acid produces trichloromethyl perchlorate, which detonates @ 40 deg C.

Cesium carbide ignites in contact with hydrochloric acid unless acid is dilute.

Hydrochloric acid in the presence of alcohol and glycols results in dehydration reactions.

Hydrogen chloride gas can react with formaldehyde to form bis(chloromethyl)ether, a human carcinogen.

Exothermic reaction with water

Attacks some plastics, rubber, and coatings.

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials.

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Incompatible Materials: Oxidizing agents
Bases
Metals
Organic materials

Hazardous decomposition products: No information available.

Other Information

Corrosivity: Severe corrosive effect on 304 Stainless Steel
Severe corrosive effect on 316 Stainless Steel
Severe corrosive effect on Bronze
Severe corrosive effect on Copper

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

Water	
CAS-No.	7732-18-5
LD50/oral/rat = > 90 mL/kg Oral LD50 Rat	
LD50/oral/mouse = No information available	
LD50/dermal/rabbit = No information available	
LD50/dermal/rat = No information available	
LC50/inhalation/rat = No information available	
LC50/inhalation/mouse = No information available	
Other LD50 or LC50information = No information available	

Hydrogen chloride	
CAS-No.	7647-01-0
LD50/oral/rat = 238 - 277 mg/kg Oral LD50 Rat 700 mg/kg Oral LD50 Rat (test substance: 31.5% hydrochloric acid solution)	
LD50/oral/mouse = No information available	
LD50/dermal/rabbit = >5010 mg/kg (Test substance: 31.5% hydrochloric acid solution - from European Chemicals Bureau IUCLID dataset)	
LD50/dermal/rat = No information available	
LC50/inhalation/rat = 3124 ppm Inhalation LC50 Rat 1 h 1562 ppm 4 h 1.68 mg/L Inhalation LC50 Rat 1h	
LC50/inhalation/mouse = 1108 ppm 1 h	
Other LD50 or LC50information = 900 mg/kg oral LD50 Rabbit (no information on test substance)	

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

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LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes severe irritation and burns.

Eye Contact: Causes severe irritation and burns.

Inhalation Harmful by inhalation. Irritating to respiratory system.

Ingestion Harmful if swallowed. Causes irritation and burning, ulceration, or perforation of the gastrointestinal tract and resultant peritonitis, gastric hemorrhage and infection. Can also cause nausea, vomiting (with "coffee ground" emesis), diarrhea, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shock, strictures and stenosis (esophageal, gastric, pyloric). May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys- renal failure, nephritis). Acute ingestion can also cause erosion of tooth enamel.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated inhalation and/or ingestion may affect liver, and cause bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis. It may also affect respiratory tract (changes in pulmonary function, chronic bronchitis, overt respiratory tract abnormalities), teeth (yellowing of teeth and erosion of tooth enamel), kidneys, and behavior/central nervous system (muscle contraction or spasticity). Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact with vapor/mist can cause conjunctivitis.

Sensitization: No information available.

Mutagenic Effects: Animal experiments showed mutagenic effects
Cytogenic analysis - hamster ovary
Cytogenic analysis (hamster lung)

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Hydrogen chloride	7647-01-0	Group 3 - Not classifiable - Monograph 54 [1992]	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Hydrogen chloride - 7647-01-0

Freshwater Fish Species Data: 282 mg/L LC50 Gambusia affinis 96 h
862 mg/L LC50 Leuciscus idus

Water Flea Data: <56 mg/L LC50 Daphnia magna 72h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes

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Water	7732-18-5	None	None	None	None
Hydrogen chloride	7647-01-0	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)
Hazard Class: 8
Subsidiary Class: No information available
Packing group: II
Emergency Response Guide Number: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): [DOT]: (R5) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 5000 pounds (2270 Kilograms).
Description: UN1789,Hydrochloric acid ,8,PG II,Solution

TDG (Canada)

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant: No Information available
Description: UN1789,HYDROCHLORIC ACID,8,PG II,Solution

ADR

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)
Hazard Class: 8
Packing Group: II
Subsidiary Risk: No information available
Description: UN1789 Hydrochloric acid,8,II,,Solution

IMO / IMDG

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant: No information available
EMS: F-A

RID

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: UN1789 Hydrochloric acid,8,II,Solution

ICAO

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)

Product code: H-195

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Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Description: UN1789,Hydrochloric acid,8,PG II,Solution

IATA

UN-No: UN1789
Proper Shipping Name: Hydrochloric acid (Solution)
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 8L
Special Provisions No information available
Description: UN1789,Hydrochloric acid,8,PG II,Solution

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Water	7732-18-5	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Hydrogen chloride	7647-01-0	PresentACTIV E	Present KE-20189	Present	Present (1)-215	Present	Present	Present 231-595-7

U.S. Regulations

Hydrogen chloride

Massachusetts RTK: Present
Massachusetts EHS: extraordinarily hazardous
New Jersey RTK Hazardous Substance List: 1012
New Jersey (EHS) List: 1012 500 lb TPQ
 2909 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
New Jersey TCPA - EHS: 15000lbTQ
 5000lbTQ
 5600lbTQ
 2000lbTQ

Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Michigan PSM HHC: = 5000 lb TQ

Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 5000 lb RQ
 100 lb RQ

Louisiana Reportable Quantity List for Pollutants: 5000lbfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4
 2270kgfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4
 5000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period
 1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere

California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 182.1057

FDA - 21 CFR - Total Food Additives 133.129, 155.191, 155.194, 160.105, 160.185, 172.560, 172.892, 182.1057

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

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This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Water	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
Hydrogen chloride	7647-01-0	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Water	7732-18-5	None	None	None	None	None
Hydrogen chloride	7647-01-0	5000 lb final RQ 2270 kg final RQ	5000 lb EPCRA RQ	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Water	7732-18-5	Not Applicable	Not Applicable
Hydrogen chloride	7647-01-0	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Water
7732-18-5 (80)
Hydrogen chloride
7647-01-0 (20)

WHMIS 2015 Hazard Classification
Not a dangerous product according to HPR classification criteria

Hydrogen Chloride: Gases under pressure - Liquefied gas: H280 Contains gas under pressure, may explode when heated.; Corrosive to Metals - Category 1: H290 May be corrosive to metals. (potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Inhalation - Category 3: H331 Toxic if inhaled.; Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.
Hydrochloric Acid: Corrosive to Metals - Category 1: H290 May be corrosive to metals. (potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Oral - Category 4: H302 Harmful if swallowed. (3.6% in aqueous solution); Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled.; Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation. (3.6% in aqueous solution); Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation. (3.6% in aqueous solution)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

E Corrosive material

Product code: H-195

Product name: HYDROCHLORIC ACID, 50 PERCENT (V/V), APHA, AQUEOUS SOLUTION

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Components

Water

Hydrogen chloride

WHMIS 1988

Uncontrolled product according to WHMIS classification criteria

A,D1A,E

D1A,E

E 0.036% in aqueous solution, 0.36% in aqueous solution, 3.6% in aqueous solution

D1B,E 28% in aqueous solution

D1A,E 31.45% in aqueous solution, 35.2% in aqueous solution

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Hydrogen chloride	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Water	7732-18-5	Present	Not Listed
Hydrogen chloride	7647-01-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Hydrogen chloride	7647-01-0	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Hydrogen chloride	7647-01-0	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Water	7732-18-5	
Hydrogen chloride	7647-01-0	<p>Hydrogen Chloride: Gases under pressure: H280 Contains gas under pressure, may explode when heated.; Acute toxicity - Inhalation - Acute Tox. 3: H331 Toxic if inhaled. (Minimum classification); Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage.017-002-00-2</p> <p>Hydrochloric Acid: Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (C >= 25 %); Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 10 %)017-002-01-X</p> <p>Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (C >= 25 %); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation. (10 % <= C <25 %); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye</p>

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		irritation. (10 % <= C <25 %); Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 10 %)017-002-01-X
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EU - CLP (1272/2008)

R-phrase(s)

R34 - Causes burns.

R37 - Irritating to respiratory system.

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 1/2 - Keep locked up and out of the reach of children.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Hydrogen chloride	7647-01-0	Hydrogen Chloride T; R23 C; R35 Hydrochloric Acid: + hydrochloric acid ... % C; R34 - Xi; R37 Concentration Limit(s) : C >= 25 % C; R34-37 10 % <= C < 25 % Xi; R36/37/38	Hydrogen Chloride: 0.02%<=C<0.2% Xi;R36/37/38 0.2%<=C<0.5% C;R34 0.5%<=C<1% C;R20-34 1%<=C<5% C;R20-35 5%<=C T;C;R23-35	For Hydrogen Chloride: S1/2 S9 S26 S36/37/39 S45 Hydrochloric Acid: S(1/2)-S26-S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.

C - Corrosive.

16. OTHER INFORMATION

Preparation Date: 10/23/2015
Revision Date: 2/5/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against

Product code: H-195

Product name: HYDROCHLORIC ACID, 50 PERCENT (V/V), APHA, AQUEOUS SOLUTION

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infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet