

## 1. Identification

**Product identifier** Hydrochloric acid, > 37%

**Other means of identification**

**Synonyms** Aqueous hydrogen chloride, muriatic acid

**Recommended use** pH adjustment for water treatment, metal processing, sugar refining.

**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

**Company name** Olin Chlor Alkali Products  
**Address** 490 Stuart Road, NE  
Cleveland, TN 37312

**Company name** Pioneer Americas, LLC (d/b/a Olin Chlor Alkali Products)  
**Address** 490 Stuart Road, NE  
Cleveland, TN 37312

**Company name** Olin Canada ULC (d/b/a Olin Chlor Alkali Products)  
**Address** 2020 University, Suite 2190  
Montreal, Quebec H3A 2A5

### General Information

**Telephone** (888) 658-6SDS (737)  
**Website** olinchloralkali.com  
**Contact person** ORC SDS Control Group  
**Emergency phone number** CHEMTREC  
US: 1-800-424-9300 Canada: 1-800-567-7455

## 2. Hazard(s) identification

**Physical hazards** Corrosive to metals Category 1

**Health hazards** Acute toxicity, oral Category 4  
Skin corrosion/irritation Category 1  
Serious eye damage/eye irritation Category 1  
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

**OSHA defined hazards** Not classified.

### Label elements



**Signal word** Danger

**Hazard statement** May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage.  
May cause respiratory irritation.

### Precautionary statement

**Prevention** Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

<b>Response</b>	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Hydrogen chloride	7647-01-0	> 37
Water	7732-18-5	< 63

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention IMMEDIATELY. Call a physician or poison control center immediately.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Contact with this material will cause burns to the skin, eyes and mucous membranes.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Dry chemical. Foam. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Water. Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Deactivation materials include lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, and dilute sodium hydroxide. Prevent entry into waterways, sewer, basements or confined areas.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

**Environmental precautions****7. Handling and storage****Precautions for safe handling**

Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Observe good industrial hygiene practices. Do not empty into drains. Use caution when combining with water; DO NOT add water to acid, ALWAYS add acid to water while stirring to prevent release of heat, steam and fumes.

**Conditions for safe storage, including any incompatibilities**

Store in a well-ventilated place. Store away from incompatible materials. Store in containers specially designed for this product and strength. Keep away from heat, sparks and open flame. Extremely corrosive to most metals. Gas fuming potential increases with solution strength. Use a fume scrubber to prevent gas fume release to the environment. Due to high vapor potential, tanks should be equipped with a pressure and vacuum relief device. Typical compatible storage materials include rubber-lined steel, fiberglass reinforced plastic or polyethylene.

**8. Exposure controls/personal protection****Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Hydrogen chloride (CAS 7647-01-0)	Ceiling	7 mg/m <sup>3</sup>
		5 ppm

**US. ACGIH Threshold Limit Values**

Components	Type	Value
Hydrogen chloride (CAS 7647-01-0)	Ceiling	2 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Hydrogen chloride (CAS 7647-01-0)	Ceiling	7 mg/m <sup>3</sup>
		5 ppm

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles). Face-shield. Wear a full-face respirator, if needed.

**Skin protection****Hand protection**

Chemical resistant gloves.

**Other**

Wear appropriate chemical resistant clothing.

**Respiratory protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Do not get this material on clothing. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless to slightly yellow.

Odor Pungent.

Odor threshold Not available.

pH < 1 (at 25°C)

Melting point/freezing point -17 °F (-27.22 °C)

Initial boiling point and boiling range 122 °F (50 °C)

Flash point Not applicable.

Evaporation rate 1 (Approximately, water = 1)

Flammability (solid, gas) Not available.

### Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not applicable.

Explosive limit - upper (%) Not applicable.

Vapor pressure 150 mm Hg @ (68°F/20°C)

Vapor density Not available.

Relative density 1.19

### Solubility(ies)

Solubility (water) Completely soluble.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 2 cP @ (68°F/20°C)

### Other information

Bulk density Not applicable.

Molecular weight 36.46 g/mol

## 10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Contact with metal may release flammable hydrogen gas. Contact with incompatible materials. Do not mix with other chemicals.

Incompatible materials Incompatible with bases, amines, acid anhydrides, metals and metal oxides, carbonates, sulfides, cyanides, and sulfites. May induce hazardous polymerization with aldehydes and epoxides.

Hazardous decomposition products Hydrogen chloride gas.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation Vapors and mist will irritate throat and respiratory system and cause coughing.

Skin contact Causes skin burns.

Eye contact Causes eye burns.

**Ingestion**

Harmful if swallowed. Causes digestive tract burns. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

**Symptoms related to the physical, chemical and toxicological characteristics**

Contact with this material will cause burns to the skin, eyes and mucous membranes. Permanent eye damage including blindness could result.

**Information on toxicological effects**

**Acute toxicity** Harmful if swallowed.

Components	Species	Test Results
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Hydrogen chloride (CAS 7647-01-0)

**Acute**

*Inhalation*

LC50	Rat	3124 mg/l, 1 Hours
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*Oral*

LD50	Rabbit	900 mg/kg
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**Skin corrosion/irritation** Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization** This product is not expected to cause respiratory sensitization.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Hydrogen chloride (CAS 7647-01-0) 3 Not classifiable as to carcinogenicity to humans.

**NTP Report on Carcinogens**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not classified.

**Chronic effects** Prolonged inhalation may be harmful.

**12. Ecological information**

**Ecotoxicity** Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Components	Species	Test Results
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Hydrogen chloride (CAS 7647-01-0)

**Aquatic**

Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> ) 282 mg/l, 96 hours
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**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	Clean-up material may be a RCRA Hazardous Waste on disposal. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	Spills are corrosive and may carry a D-002 EPA hazardous waste designation. The waste code should be assigned in discussion between the user, the producer and the waste disposal company. Spills are subject to CERCLA reporting requirements: RQ = 5000 lbs (≈ 500 gal.; 2270 kg).
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

<b>UN number</b>	UN1789
<b>UN proper shipping name</b>	Hydrochloric acid
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	8
<b>Packing group</b>	II
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	A3, A6, B3, B15, IB2, N41, T8, TP2, TP12
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

#### IATA

<b>UN number</b>	UN1789
<b>UN proper shipping name</b>	Hydrochloric acid
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	8L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>UN number</b>	UN1789
<b>UN proper shipping name</b>	HYDROCHLORIC ACID
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

CERCLA Hazardous Substance: Hydrochloric acid, CAS # 7647-01-0, RQ = 5000 lbs

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Hydrogen chloride (CAS 7647-01-0) LISTED

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard categories

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - Yes

#### SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Hydrogen chloride	7647-01-0	5000	500		

SARA 311/312 Hazardous chemical Yes

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Hydrogen chloride	7647-01-0	> 37

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Hydrogen chloride (CAS 7647-01-0)

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Hydrogen chloride (CAS 7647-01-0)

Safe Drinking Water Act (SDWA) Not regulated.

#### Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Hydrogen chloride (CAS 7647-01-0) 6545

#### Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Hydrogen chloride (CAS 7647-01-0) 20 %WV

#### DEA Exempt Chemical Mixtures Code Number

Hydrogen chloride (CAS 7647-01-0) 6545

### US state regulations

#### US. Massachusetts RTK - Substance List

Hydrogen chloride (CAS 7647-01-0)

#### US. New Jersey Worker and Community Right-to-Know Act

Hydrogen chloride (CAS 7647-01-0)

#### US. Pennsylvania Worker and Community Right-to-Know Law

Hydrogen chloride (CAS 7647-01-0)

#### US. Rhode Island RTK

Hydrogen chloride (CAS 7647-01-0)

#### US. California Proposition 65

This product is not listed, but it may contain elements known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 Safe Drinking Water and Toxic Enforcement Act. For additional information, contact Olin Technical Services (800-299-6546).

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

Issue date	22-October-2014
Revision date	05-August-2015
Version #	02
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0

### NFPA ratings



### Disclaimer

Olin Chlor Alkali Products cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.