



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

- Product Name** • **Hydrochloric Acid – 35%**
- Synonyms** • Hydrochloric Acid, HCl, Aqueous Hydrogen Chloride, Chlorohydric Acid, Hydrochloriatic Acid, Muriatic Acid
- CAS Number** • 7647-01-0

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Relevant identified use(s)** • Acid Applications

1.3 Details of the supplier of the safety data sheet

- Manufacturer** • Westlake Vinyls, Inc.
P.O. Box 527
2468 Industrial Parkway Calvert City, KY 42029
United States
www.westlake.com
- Telephone (General)** • 270-395-4151

1.4 Emergency telephone number

- Manufacturer** • (800) 424-9300 - Chemtrec - Transportation emergency

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

- CLP** • Skin Corrosion 1B - H314
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
- DSD/DPD** • Corrosive (C)
R34, R37

2.2 Label Elements

CLP

DANGER



- Hazard statements**
- H314 - Causes severe skin burns and eye damage.
 - H335 - May cause respiratory irritation

Precautionary statements

- Prevention**
- P260 - Do not breathe mists, vapors, and/or spray.
 - P264 - Wash thoroughly after handling.
 - P271 - Use only outdoors or in a well-ventilated area.
 - P280 - Wear protective gloves, clothing, and eye/face protection, .
- Response**
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
 - P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P310 - Immediately call a POISON CENTER or doctor/physician.
 - P363 - Wash contaminated clothing before reuse.
 - P321 - Specific treatment, see supplemental first aid information.
 - P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

- Storage/Disposal**
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 - P405 - Store locked up.
 - P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



- Risk phrases**
- R34 - Causes burns.
 - R37 - Irritating to respiratory system.

- Safety phrases**
- S36 - Wear suitable protective clothing.
 - S37 - Wear suitable gloves.
 - S39 - Wear eye/face protection.
 - S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other Hazards

- CLP**
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

- DSD/DPD**
- This product is considered dangerous according to the European Directive 67/548/EEC.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Skin Corrosion 1B - H314
 - Serious Eye Damage 1 - H318

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements**
- Causes severe skin burns and eye damage. - H314
 - Causes serious eye damage - H318

Precautionary statements

- Prevention**
- Do not breathe mists, vapors, and/or spray. - P260
 - Wash thoroughly after handling. - P264
 - Wear protective gloves, clothing, and eye/face protection, . - P280
- Response**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. - P303+P361+P353
 - Immediately call a POISON CENTER or doctor/physician. - P310
 - Wash contaminated clothing before reuse. - P363
 - Specific treatment, see supplemental first aid information. - P321
 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. - P301+P330+P331

- Storage/Disposal**
- Store locked up. - P405
 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

- WHMIS**
- Compressed Gas - A
 - Very Toxic - D1A
 - Corrosive - E

2.2 Label elements

WHMIS



- Compressed Gas - A
- Very Toxic - D1A
- Corrosive - E

2.3 Other hazards

- WHMIS**
- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Hydrochloric acid	CAS:7647-01-0 EC Number:231-595-7 EU Index:017-002-00-2	31% TO 36%	Inhalation-Rat LC50 • 3124 ppm 1 Hour(s)	EU DSD/DPD: Annex VI, Table 3.2: T; R23; C; R35 EU CLP: Annex VI, Table 3.1: Skin Corr. 1B, H315; STOT SE 3: Resp. Irrit., H335 OSHA HCS 2012: Skin Corr. 1B; Eye Corr. 1;	NDA

3.2 Mixtures

- Material does not meet the criteria of a mixture.

Section 4 - First Aid Measures

4.1 Description of first aid measures

- Inhalation** • Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
- Skin** • For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Get medical attention immediately.
- Eye** • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get medical attention immediately.
- Ingestion** • If swallowed, rinse mouth with water (only if the person is conscious) Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Give plenty of water to drink. Do not use mouth-to-mouth method if victim ingested the substance. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to Physician** • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

- Suitable Extinguishing Media** • Use extinguishing agent suitable for type of surrounding fire.
- Unsuitable Extinguishing Media** • No data available

5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards** • Containers may explode when heated. Acid reacts with most metals to release hydrogen gas, which can form explosive mixtures with air.

Hazardous Combustion Products • Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive fumes.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
SMALL FIRES: Move containers from fire area if you can do it without risk.
Runoff from fire control may cause pollution.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions • Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures • Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Dike to collect large liquid spills.
A vapor suppressing foam may be used to reduce vapors.
Use water spray to reduce vapors or divert vapor cloud drift.
Neutralize residue with sodium bicarbonate, soda ash, slaked lime or other appropriate neutralizing agent. Test area with litmus paper to ensure neutralization is complete.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling • Handle and open container with care. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapours, spray. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage • Keep container tightly closed. Store in a cool, dry, well-ventilated place. Keep away from incompatible materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Hydrochloric acid (7647-01-0)	Ceilings	2 ppm Ceiling	5 ppm Ceiling; 7 mg/m3 Ceiling	5 ppm Ceiling; 7 mg/m3 Ceiling

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation 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.

Personal Protective Equipment

Respiratory

- 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 symptoms are experienced.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate gloves.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Clear, colorless liquid with a pungent bleach like odor.
Color	Clear, colorless.	Odor	Pungent, bleach-like odor.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	185°F(85°C)@ 31 wt %, 135°F(57°C)@ 36 wt %	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	1
Specific Gravity/Relative Density	20° Be: 1.1600 @ 15.6/15/6°, 22.5° Be: 1.1836 @ 15.6/15/6°C	Water Solubility	Soluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	78 mmHg (torr) @ 20 C(68 F)	Vapor Density	31% HCl= 9.67 lbs/gal, 36% HCl= 9.87 lbs/gal

Evaporation Rate	Data lacking	Volatiles (Wt.)	35 %
Volatiles (Vol.)	35 %		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable, but reacts very easily with other metals.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- No data available

10.5 Incompatible materials

- Most metals. Alkalies, metallic oxides, amines, esters, and certain other organics cause exothermic reactions, possibly violent. Carbonates, cyanides, sulfides yield toxic gases. Water reactive materials such as sulfuric acid, oleum, and acetic anhydride cause exothermic reaction.

10.6 Hazardous decomposition products

- Does not decompose.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

		Components
Hydrochloric acid (31% TO 36%)	7647-01-0	Acute Toxicity: Inhalation-Rat LC50 • 3700 ppm 30 Minute(s); Irritation: Eye-Rabbit • 5 mg 30 Second(s)-Rinse • Mild irritation; Skin-Human • 4 % 24 Hour(s) • Mild irritation; Mutagen: Cytogenetic analysis • Unreported Route-Hamster • Ovary (Somatic cell) • 8 mmol/L; Reproductive: Inhalation-Rat TCl ₀ • 450 mg/m ³ 1 Hour(s)(1D pre); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Specific Developmental Abnormalities:Homeostasis</i>

GHS Properties	Classification
Acute toxicity	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Aspiration Hazard	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Carcinogenicity	EU/CLP•Data lacking

	OSHA HCS 2012•Data lacking
Germ Cell Mutagenicity	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Skin corrosion/Irritation	EU/CLP•Skin Corrosion 1B OSHA HCS 2012•Skin Corrosion 1B
Skin sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-RE	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
STOT-SE	EU/CLP•Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation OSHA HCS 2012•Data lacking
Toxicity for Reproduction	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Respiratory sensitization	EU/CLP•Data lacking OSHA HCS 2012•Data lacking
Serious eye damage/Irritation	EU/CLP•Data lacking OSHA HCS 2012•Serious Eye Damage 1

Potential Health Effects

Inhalation

Acute (Immediate)

- May cause respiratory irritation. May cause corrosive burns - irreversible damage.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

Acute (Immediate)

- Causes severe skin burns and eye damage.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

Acute (Immediate)

- Causes serious eye damage.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

Acute (Immediate)

- May cause irreversible damage to mucous membranes.

Chronic (Delayed)

- Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.

Key to abbreviations

LC = Lethal Concentration

TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

Hydrochloric Acid – 35%			7647-01-0		
Dosage	Species	Duration	Results	Exposure Conditions	Comments
3.6 mg/L	Fish: Bluegill	48 Hour(s)	LC50	NDA	NDA
282 ppm	Fish: Mosquito Fish	96 Hour(s)	LC50	NDA	NDA

12.2 Persistence and degradability

- Hydrogen Chloride in water dissociates almost completely, and will be neutralized by natural alkalinity and carbon dioxide.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Hydrochloric acid will sink into the soil. This acid will dissolve some soil material (in particular, anything with a carbonate base), and will be somewhat neutralized. The remaining portion is thought to transport downward to the water table.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1789	Hydrochloric Acid	8	II	NDA
TDG	UN1789	HYDROCHLORIC ACID	8	II	NDA
IMO/IMDG	UN1789	HYDROCHLORIC ACID	8	II	NDA
IATA/ICAO	UN1789	Hydrochloric Acid	8	II	NDA

14.6 Special precautions for user

- None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute

Inventory						
Component	CAS	Australia AICS	Canada DSL	Canada NDSL	China	EU EINECS
Hydrochloric acid	7647-01-0	Yes	Yes	No	Yes	Yes
Inventory (Con't.)						
Component	CAS	EU ELNICS	Japan ENCS	Korea KECL	New Zealand	Philippines PICCS
Hydrochloric acid	7647-01-0	No	Yes	Yes	Yes	Yes
Inventory (Con't.)						
Component	CAS	TSCA				
Hydrochloric acid	7647-01-0	Yes				

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Hydrochloric acid

7647-01-0

A, D1A, E (listed under Hydrogen chloride); 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 - WHMIS - Ingredient Disclosure List

•Hydrochloric acid

7647-01-0

1 %

Environment

Canada - CEPA - Priority Substances List

•Hydrochloric acid

7647-01-0

Not Listed

Europe

Other

EU - Hazardous Substances Restricted or Prohibited in Electrical Equipment (2011/65/EU) (RoHS)

•Hydrochloric acid

7647-01-0

Not Listed

EU - Inventory of Cosmetic Ingredients Directive (INCI) (76/768/EEC) - Other Ingredients

•Hydrochloric acid

7647-01-0

Buffering

Japan

Environment

Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances

•Hydrochloric acid

7647-01-0

Not Listed

Japan - Pollutant Release Transfer Register (PRTR) - Class 2 Substances

•Hydrochloric acid

7647-01-0

Not Listed

Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

•Hydrochloric acid

7647-01-0

Not Listed

Other Agency Information

Other

CONEG - Model Toxics in Packaging Legislation

•Hydrochloric acid

7647-01-0

Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

•Hydrochloric acid

7647-01-0

5000 lb TQ; 5000 lb TQ

(anhydrous)

U.S. - OSHA - Specifically Regulated Chemicals

•Hydrochloric acid 7647-01-0 Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

•Hydrochloric acid 7647-01-0

U.S. - CAA (Clean Air Act) - Class I Ozone Depletors

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - CAA (Clean Air Act) - Class II Ozone Depletors

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•Hydrochloric acid 7647-01-0 5000 lb final RQ; 2270 kg final RQ

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

•Hydrochloric acid 7647-01-0 5000 lb EPCRA RQ (gas only)

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

•Hydrochloric acid 7647-01-0 500 lb TPQ (gas only)

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

•Hydrochloric acid 7647-01-0 1.0 % deminimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

•Hydrochloric acid 7647-01-0 Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•Hydrochloric acid 7647-01-0 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

•Hydrochloric acid 7647-01-0 Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date • 01/April/2015

Preparation Date • 01/April/2015

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Key to abbreviations
NDA = No data available