

SAFETY DATA SHEET

Product Trade Name: **Vertex**

Revision Date: 01-15-18

Revision Number: 1

11. Identification

1.1. Product Identifier Product

Trade Name: Vertex

Synonyms:

Chemical Family: Inorganic acid

Internal ID Code 888

1.2 Recommended use and restrictions on use Application:

Adjuvent

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier Aquapproach LLC.
18 Park Place Dr.
Gonzales , TX 78629

1.4. Emergency telephone number

Emergency Telephone Number 1-800-633-8253

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Skin Corrosion / Irritation	Category 1 B - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Corrosive to Metals.	Category 1 - H290

2.2. Label Elements

Hazard Pictograms



Signal Word

Danger

Hazard Statements

H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary Statements**Prevention**

P234 - Keep only in original container
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage

Storage

P405 - Store locked up
P406 - Store in corrosive resistant container with a resistant inner liner.

Disposal

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains**Substances**

Hydrochloric acid

CAS Number 7647-01-

0

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Hydrochloric acid	7647-01-0	5% - 20%	Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Met. Corr. 1 (H290)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures**4.1. Description of first aid measures****Inhalation**

If inhaled, move victim to fresh air and seek medical attention.

Eyes

In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Seek immediate medical attention/advice. Suitable emergency eye wash facility should be immediately available

Skin

In case of contact, immediately flush skin with plenty of soap and water for at least 30 minutes and remove contaminated clothing, shoes and leather goods immediately. Get medical attention immediately.

Ingestion Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe skin irritation with tissue destruction. Causes severe eye irritation which may damage tissue.

4.3. Indication of any immediate medical attention and special treatment needed Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special Exposure Hazards

May form explosive mixtures with strong alkalis. Decomposition in fire may produce toxic gases. Reaction with steel and certain other metals generates flammable hydrogen gas. Do not allow runoff to enter waterways.

5.3 Special protective equipment and precautions for fire-fighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures Use appropriate protective equipment.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

7. Handling and storage

7.1. Precautions for Safe Handling Handling

Precautions

Wash hands after use. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Launder contaminated clothing before reuse. **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store away from alkalis. Store in a cool well ventilated area. Keep container closed when not in use.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Hydrochloric acid	7647-01-0	TWA: 5 ppm	TWA: 2 ppm

8.2 Appropriate engineering controls

Engineering Controls	Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.
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8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection	Acid gas respirator.
Hand Protection	Impervious rubber gloves.
Skin Protection	Full protective chemical resistant clothing. Rubber boots.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

No

Physical State: Liquid

Odor: Pungent acrid

Color: Clear colorless **Odor**
information available

Threshold:

Property

Remarks/ - Method

pH:

Freezing Point/Range

Melting Point/Range

Boiling Point/Range

Flash Point

Flammability (solid, gas)

upper flammability limit

lower flammability limit

Evaporation rate

Vapor Pressure

Vapor Density

Specific Gravity

Water Solubility

Solubility in other solvents

Partition coefficient: n-octanol/water

Autoignition Temperature

Decomposition Temperature

Viscosity

Explosive Properties

Oxidizing Properties

Values

0.8

-46 °C / -50 °F

No data available

110 °C / 230 °F

No data available

No data available

No data available

No data available

No data available

26 mmHg

No data available

1.16

Soluble in water

No data available

No data available

No data available

No data available

No data available

No information available

No information available

9.2. Other information

Molecular Weight

VOC Content (%)

36.5 g/mol

No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability Stable

10.3. Possibility of Hazardous Reactions Will

Not Occur

10.4. Conditions to Avoid None

anticipated

10.5. Incompatible Materials Strong

alkalis.

10.6. Hazardous Decomposition Products

Flammable hydrogen gas. Chlorine. Hydrogen sulfide.

11. Toxicological Information**11.1 Information on likely routes of exposure****Principle Route of Exposure** Eye or skin contact, inhalation.**11.2 Symptoms related to the physical, chemical and toxicological characteristics** Acute**Toxicity**

Inhalation Causes severe respiratory irritation.
Eye Contact Causes severe eye irritation. May cause eye burns.
Skin Contact Causes severe skin irritation. May cause skin burns on prolonged contact.
Ingestion Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity Prolonged, excessive exposure may cause erosion of the teeth.**11.3 Toxicity data****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	7647-01-0	No data available	5010 mg/kg (Rabbit) > 5010 mg/kg (Rabbit) 1449 mg/kg (Mouse)	3124 mg/L (Rat) 1h 3.2 mg/L (Mouse) 8.3 mg/L (Rat) 1405 mg/L (Rat) 554 mg/L (Mouse)
Substances	CAS Number	Skin corrosion/irritation		
Hydrochloric acid	7647-01-0	Causes severe burns		

Substances	CAS Number	Eye damage/irritation
Hydrochloric acid	7647-01-0	Causes severe burns

Substances	CAS Number	Skin Sensitization
Hydrochloric acid	7647-01-0	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Hydrochloric acid	7647-01-0	No information available

Substances	CAS Number	Mutagenic Effects
Hydrochloric acid	7647-01-0	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Hydrochloric acid	7647-01-0	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Hydrochloric acid	7647-01-0	Embryo and fetotoxicity has been observed in female rats exposed to maternally toxic levels of hydrogen chloride (450 mg/m ³ , 1hr.).

Substances	CAS Number	STOT - single exposure
Hydrochloric acid	7647-01-0	May cause respiratory irritation.

Substances	CAS Number	STOT - repeated exposure
Hydrochloric acid	7647-01-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Hydrochloric acid	7647-01-0	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Hydrochloric acid	7647-01-0	No information available	LC50 282 mg/L (Gambusia affinis) LC50 20.5 mg/L (Lepomis macrochirus) LC50 (96h) 3.25 – 3.5 (pH) (Lepomis macrochirus)	EC50 (3h) >= 5 and <= 5.5 (pH) (Activated sludge, domestic)	EC50 (48h) 4.9 (pH) (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrochloric acid	7647-01-0	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrochloric acid	7647-01-0	0.25

12.4. Mobility in soil

Substances	CAS Number	Mobility
Hydrochloric acid	7647-01-0	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Hydrochloric Acid - 15153 kg.)
NAERG: NAERG 157

US DOT Bulk DOT (Bulk) Not applicable

Canadian TDG

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable

IMDG/IMO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Hydrochloric Acid - 15153 kg.)
EMS: EmS F-A, S-B

IATA/ICAO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Hydrochloric Acid - 15153 kg.)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

Special Precautions for User: None

15. Regulatory Information US Regulations

US TSCA Inventory	All components listed on inventory or are exempt.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Additional information Acute Health Hazard
EPA SARA (313) Chemicals	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 3450 Gallons based on Hydrochloric acid (CAS: 7647-01-0).
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of: Corrosivity D002
California Proposition 65 MA	All components listed do not apply to the California Proposition 65 Regulation.
Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.

Canadian Regulations

Canadian DSL Inventory

All components listed on inventory or are exempt.

16. Other information

For additional information on the use of this product, contact Aquaproach LLC.

Key or legend to abbreviations and acronyms bw

– body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

ErC50 – Effective Concentration growth rate 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50% LL50

– Lethal Loading 50% mg/kg –
milligram/kilogram mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PEL – Permissible Exposure Limit ppm

– parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter mmHg -
millimeter mercury w/w -
weight/weight d - day

Key literature references and sources for data

www.ChemADVISOR.com/
OSHA
ECHA C&L

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End of Safety Data Sheet