

1. Identification

Product identifier	Hydrochloric Acid 28-32%
Other means of identification	
Synonyms	Aqueous hydrogen chloride, Chlorohydric acid, HCl, Hydrochloric acid, Muriatic acid, Spirits of salt
Recommended use	Industrial Water Treatment
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Supplier	
Company name	PVS Benson
Address	1012 Gore Road Freelton, ON L0R1K0 Canada
Telephone	1-800-265-0014
e-mail	pvsbensoninfo@pvschemicals.com
Emergency phone number	24 hours/7 days: 1-519-821-0215
Supplier	See above.

2. Hazard identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not classified.	
Label elements		
Signal word	Danger	
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Harmful if swallowed. Harmful in contact with skin. Toxic if inhaled. May cause respiratory irritation.	
Precautionary statement		
Prevention	Keep only in original packaging. Do not breathe mist or vapour. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.	
Response	Absorb spillage to prevent material-damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTRE/doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
Storage	Store in a corrosion resistant container with a resistant inner liner. Store locked up. Store in a well-ventilated place.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Other hazards	None known.	

Supplemental information

68 % of the mixture consists of component(s) of unknown acute dermal toxicity. 68 % of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Hydrochloric acid		7647-01-0	28-32

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The concentration ranges are provided due to batch-to-batch variability.

4. First-aid measures

Inhalation	IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTRE/doctor. Specific treatment (see information on this label).
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTRE/doctor. Specific treatment (see information on this label).
Eye contact	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 CENTRE/doctor.
Ingestion	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTRE/doctor.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.
Indication of immediate medical attention and special treatment needed	Treat patient symptomatically.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Hazardous combustion products	May include and are not limited to: Hydrogen chloride. Chlorine gas.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not breathe mist or vapour. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Never return spills in original containers for re-use. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling	Do not get in eyes, on skin, or on clothing. Wear appropriate personal protective equipment. Do not breathe mist or vapour. Use only outdoors or in a well-ventilated area. Do not taste or swallow. Observe good industrial hygiene practices. Wash thoroughly after handling. When using, do not eat, drink or smoke. Add compound slowly to water, never water to compound.
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Conditions for safe storage, including any incompatibilities

FOR DRUM, TOTE, AND BOTTLE STORAGE CONTAINERS: Store in a cool, dry, well-ventilated place. Store only in closed, properly labeled containers. Store locked up. Store in a corrosion resistant container with a resistant inner liner. Store away from incompatible materials (see Section 10 of the SDS).

FOR BULK STORAGE CONTAINERS: Bulk storage tanks should be constructed of corrosion-resistant materials such as rubber- or glass-lined steel, fiberglass, or plastic. Bulk storage tanks should contain a dike sufficiently large enough to contain entire contents.

Keep out of reach of children.

8. Exposure controls/Personal protection

Occupational exposure limits**US. ACGIH Threshold Limit Values**

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	3 mg/m ³ 2 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm

Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7.5 mg/m ³ 5 ppm

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 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.

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

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection**

Rubber gloves. Confirm with a reputable supplier first.

Other

As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

Thermal hazards

Not applicable.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and immediately after handling the product. When using do not eat or drink.

9. Physical and chemical properties

Appearance	Aqueous solution.
Physical state	Liquid.
Form	Liquid.
Colour	Colourless to pale yellow
Odour	Pungent
Odour threshold	1 - 5 ppm
pH	< 1
Melting point/freezing point	-52.5 °C (-62.5 °F)
Initial boiling point and boiling range	85 °C (185 °F)
Flash point	None
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	35 mmHg @ 25°C
Vapour density	1.267 (Air=1)
Relative density	1.161 - 1.190 g/cm ³
Solubility(ies)	
Solubility (Water)	Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available.
Viscosity	1.75 cPs @ 20°C
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Percent volatile	100 %
Specific gravity	1.16

10. Stability and reactivity

Reactivity	May react with incompatible materials.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Bases. Strong oxidising agents. Reducing Agents. Metals. Amines.
Hazardous decomposition products	May include and are not limited to: Hydrogen chloride. Chlorine gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	Harmful in contact with skin. Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed. May cause stomach distress, nausea or vomiting.

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage.
Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
May cause respiratory irritation. Coughing.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Harmful in contact with skin. Harmful if swallowed. May cause respiratory irritation.

Components	Species	Test results
Hydrochloric acid (CAS 7647-01-0)		
Acute		
<i>Dermal</i>		
LD50	Mouse	1449 mg/kg
	Rat	5010 mg/kg
<i>Inhalation</i>		
LC50	Mouse	1108 ppm, 1 Hours 554 ppm
	Rat	2810 ppm, 1 Hours 1562 mg/l/4h 1405 ppm, 4 Hours
<i>Oral</i>		
LD50	Rabbit	900 mg/kg
	Rat	700 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Exposure minutes Not available.

Erythema value Not available.

Oedema value Not available.

Serious eye damage/eye irritation Causes serious eye damage.

Corneal opacity value Not available.

Iris lesion value Not available.

Conjunctival reddening value Not available.

Conjunctival oedema value Not available.

Recover days Not available.

Respiratory or skin sensitisation

Canada - Alberta OELs: Irritant

Hydrochloric acid (CAS 7647-01-0) Irritant

Respiratory sensitisation Not a respiratory sensitizer.

Skin sensitisation This product is not expected to cause skin sensitisation.

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

Carcinogenicity See below.

ACGIH Carcinogens

Hydrochloric acid (CAS 7647-01-0) A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Hydrochloric acid (CAS 7647-01-0) Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrochloric acid (CAS 7647-01-0) Volume 54 - 3 Not classifiable as to carcinogenicity to humans.

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 an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

Further information Not available.

12. Ecological information

Ecotoxicity See below

Ecotoxicological data

Components

Hydrochloric acid (CAS 7647-01-0)

Aquatic

Fish

LC50

Western mosquitofish (*Gambusia affinis*)

282 mg/L, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general Not 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

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products 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).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

General Canada: TDG Proof of Classification: In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue. If applicable, the technical name and the classification of the product will appear below.

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number UN1789
Proper shipping name Hydrochloric acid
Hazard class 8
Packing group II

TDG



15. Regulatory information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Hydrochloric acid (CAS 7647-01-0)

Class B

WHMIS status Controlled

International regulations

Inventory status

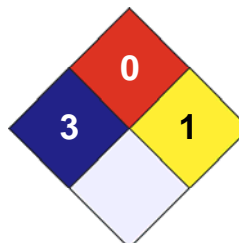
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 3
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	X

**Issue date**

07-April-2017

Revision date

07-April-2017

Version No.

01

Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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