

HYDROCHLORIC ACID

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name Hydrochloric Acid
Synonyms / Other names Aqueous Hydrogen chloride, Muriatic acid.

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

Recommended Use Acid etching, steel pickling, oil and gas, ore and mineral, food processing, pharmaceutical, organic chemical synthesis

1.3 Details of the supplier of the safety data sheet

Supplier Novichem Co.
 30 Magnolia Str, Qaem Maqam Farahani Ave.
 Tehran15886/13941 IRAN

1.4. Emergency and contact telephone numbers

Contact telephone number : +98-21-88329799 (Product information)
 (product information):

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to (EC) No. 1272/2008

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3

Environmental hazards Not classified

Physical Hazards

Substances/mixtures corrosive to metal	Category 1
--	------------

2.2 Label elements



Signal word
DANGER

Hazard statements

H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H290 - May be corrosive to metals

Precautionary statements - EU (28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P280 - Wear protective gloves/protective clothing and eye/face protection
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ 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
 P501 - Dispose of contents/ container to an approved waste disposal plant

Supplementary precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 P310 - Immediately call a POISON CENTER or doctor/ physician
 P321 - Specific treatment (see supplemental first aid instructions on this label)
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P363 - Wash contaminated clothing before reuse
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
 P405 - Store locked up

Indication of danger

Xi - Irritant

R-code(s)

Xi;R36/37/38

Contains`1

Hydrochloric acid

3. Composition/information on ingredients
3.1 Substances
3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification	REACH registration
Hydrochloric acid	231-595-7	7647-01-0	33	Acute Tox.- Irritating to eyes, respiratory system and skin	No data available

4. First aid measures

4.1 Description of first-aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
Eye contact	Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop as described the casualty should be transferred to hospital as soon as possible.

Main symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

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

The product itself does not burn, Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

Contact with metals may evolve flammable hydrogen gas.

Hazardous combustion products

Fire or high temperatures create: Hydrogen chloride gas.

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

Hazchem code ADG

2R

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls

Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

Hygiene measures

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Use only in area provided with appropriate exhaust ventilation. Keep airborne concentrations below exposure limits. Keep away from heat.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store and transport with oxidizers. Strong alkalis.
Storage class	Chemical storage.
Packaging material	Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Component	Spain	Switzerland	Turkey	UK
Hydrochloric acid	10 ppm VLA-EC 15 mg/m ³ VLA-EC 5 ppm VLA-ED indicative limit value 7.6 mg/m ³ VLA-ED indicative limit value	4 ppm STEL 6 mg/m ³ STEL 2 ppm MAK 3.0 mg/m ³ MAK	10 ppm STEL 15 mg/m ³ STEL 5 ppm TWA 8 mg/m ³ TWA	5 ppm STEL aerosol mist and gas 8 mg/m ³ STEL aerosol mist and gas 1 ppm TWA aerosol mist and gas 2 mg/m ³ TWA aerosol mist and gas

Component information

Kit components

No biological limit allocated

Derived No Effect Level (DNEL)

Hydrochloric acid

Inhalation 15 mg/m³

Long term exposure local effects

Hydrochloric acid

Inhalation 8 mg/m³

Predicted No Effect Concentration (PNEC)

Hydrochloric acid

Fresh water 36 µg/L

Sea water 36 µg/L

Intermittent release 45 µg/L

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure

Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

Personal protective equipment

Eye protection	It is good practice to wear goggles when handling any chemical. Tightly fitting safety goggles.
Hand protection	Wear chemical resistant gloves such as nitrile or neoprene, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
Respiratory protection	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Use respirator with organic vapor/acid gas protection (E, yellow).
Skin and body protection	Wear appropriate personal protective clothing to prevent skin contact, Eye wash and emergency shower must be available at the work place.

Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product.


9. Physical and chemical properties
9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aqueous solution
Odor	Pungent
Color	Colorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	< 2	
pH @ dilution	No information available	
Melting/freezing point	< 0 °C	
Boiling point/range	~100 °C	
Flash point	Not Applicable	
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	31.33 hPa (@ 20°C)	
Vapor density	1.267	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	1.161 - 1.19 g/cm ³	(@ 20°C).
Water solubility	Miscible with water.	
Kinematic viscosity	No information available	
Dynamic viscosity	1 mPa.s (@ 20 °C)	
Log Pow	Not determined	
Explosive properties	Not Applicable	
Oxidizing properties	None known.	

10. Stability and reactivity

10.1 Reactivity

Gives off hydrogen by reaction with metals.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong oxidizing agents. Alkali metals.

10.6 Hazardous decomposition products

Fire or high temperatures create: Hydrogen chloride.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product information

Inhalation May cause irritation of respiratory tract.

Eye contact Causes serious eye irritation.

Skin contact Causes skin irritation.

Ingestion Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal

12. Ecological information

Acute toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Toxicity to algae

See component information below.

Toxicity to fish

See component information below.

Toxicity to daphnia and other aquatic invertebrates

See component information below.

Component	Freshwater fish species data	Freshwater algae	Water flea data
Hydrochloric acid 7647-01-0 (15)	282 mg/L LC50 (Gambusia affinis) = 96 h	No information available	No information available

12.2 Persistence and degradability

Product level data available.

12.3 Bioaccumulative potential

There is no data available for this product.

12.4 Mobility in soil
Mobility

The product is miscible with water. May spread in water systems.

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods
Waste from residues / unused products

Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

EWC Waste disposal No.

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 16 10 01, 16 03 03

14. Transport information

14.1 UN Number

UN/ID No. (ADR/RID/ADN/ADG)	UN 1789
UN No. (IMDG)	UN 1789
UN No. (ICAO)	UN 1789

14.2 Proper shipping name

HYDROCHLORIC ACID SOLUTION

14.3 Hazard class(es)

ADR/RID/ADN Hazard class 8
 IMDG Hazard class 8
 ICAO Hazard class/division 8

14.4 Packing group

ADR/RID/ADN Packing Group II
 IMDG Packing group II
 ICAO Packing group II

14.5 Environmental hazard

Marine pollutant No

14.6 Special precautions

Hazard identification no (ADR) 80
 EmS (IMDG) F-A, S-B
 Hazchem code ADG 2R

15. Regulatory information

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

Germany, Water Endangering Classes (VwVwS) Hazardous to water/Class 1

Protective Equipment



ADR (Europe)



DSCL (Europe)



16. Other information

Information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.