

Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

Revision date: 20.12.2022

Version: 6.4

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SECTION 1: Identification

Product identifier

Trade name/designation:	Hydrochloric acid 5.0 N
Product No.:	BDH7419-1, BDH7419-10, BDH7419-4
Synonymes:	none
CAS No.:	7647-01-0
Other means of identification:	

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

Recommended Use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Supplier

VWR International

Street	2360 Argentia Road
Postal code/City	Mississauga, Ontario
	Canada L5N 5Z7
Telephone	+1-800-932-5000 toll-free within US/Canada
Telefax:	+1-610-728-2103

Emergency phone number

Telephone +1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

Preparation Information

VWR International - Product Information Compliance

E-mail SDS@avantorsciences.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Substance or mixture corrosive to metals, category 1	H290
Skin irritation, category 2	H315
Eye irritation, category 2	H319
Specific target organ toxicity (single exposure), category 3, Respiratory tract irritation	H335

2.2 Label elements

Labelling in accordance with (SOR/2015-17)

Hazard pictograms



Signal word: Warning

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

Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P337+P313	If eye irritation persists: Get medical advice/attention.
P390	Absorb spillage to prevent material damage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Hazards not otherwise classified (HNOC)

none

SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Hazardous ingredients GHS Classification in accordance with (SOR/2015-17)

Substance name	Concentration	Identifier	Hazard classes and hazard categories
Hydrochloric acid	10 - < 25%	CAS No.: 7647-01-0	Met. Corr. 1 - H290 Skin Corr. 1B - H314 STOT SE 3 - H335

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Remove victim out of the danger area. Do not leave affected person unattended. Change contaminated, saturated clothing.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. If unconscious but breathing normally, place in recovery position and seek medical advice. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact

Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

In case of ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person or a person with cramps. Get medical advice/attention.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms/effects, acute and delayed

Irritant and corrosive effects: Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation. Cough. Dyspnoea. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

4.3 Indication of any immediate medical attention and special treatment needed

No special information on medical attention and special treatment available.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

The product itself does not burn.
Co-ordinate fire-fighting measures to the fire surroundings.
Water spray.
Dry extinguishing powder.
Alcohol resistant foam.
Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons

Full water jet.

5.2 Specific hazards arising from the chemical

In case of fire may be liberated:
Hydrogen chloride (HCl)

5.3 Advice for firefighters

Non-combustible corrosive substances (liquid).
Do not breathe gas/fume/vapor/spray.
Fight fire with normal precautions from a reasonable distance.
Protective equipment and precautions for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Avoid contact with eyes and skin. Do not breathe gas/fume/vapor/spray. Remove victim out of the danger area. Provide adequate ventilation. First Aid, decontamination, treatment of symptoms.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Rinse affected areas with water. Dispose according to legislation. Ventilate affected area.

6.4 Additional information

Personal protection equipment (PPE): see section 8 Disposal information: see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling
Use extractor hood (laboratory).
Use only in well-ventilated areas.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Avoid contact with eyes and skin.
Use personal protective equipment as required.
Measures to prevent fire, aerosol and dust generation
Usual measures for fire prevention.
Use only in well-ventilated areas.
Measures required to protect the environment
Do not empty into drains.
Collect spillage.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: 15-25 °C
Storage: Keep container tightly closed and in a well-ventilated place. Keep/Store only in original container. Protect from moisture.
Packaging materials: Glass Polyethylene PP (Polypropylene) Unsuitable material for taking up: Metal container

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

Suitable material:	CR (polychloroprene, chloroprene rubber)
Thickness of the glove material:	0,13 mm
Breakthrough time:	101 min

By long-term hand contact

Suitable material:	CR (polychloroprene, chloroprene rubber)
Thickness of the glove material:	-
Breakthrough time:	> 480 min

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Color:	colorless
(b) Odor:	pungent
(c) Odor threshold:	no data available

Safety relevant basic data

(d) pH:	< 1 (20 °C)
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	no data available
(g) Flash point:	no data available
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	not applicable
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapor pressure:	no data available
(l) Vapor density:	no data available
(m) Density:	1.08 g/cm ³ (20 °C)
(n) Solubility(ies)	
Water solubility:	soluble (20°C)
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	not applicable
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable
(u) Particle characteristics:	does not apply to liquids

9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Corrosive to metals

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Explosion hazard with:

Alkali metals

Alkaline earth metal

Alkali (lye)

Violent reaction with:

light metals

Powdered metals

Exothermic reaction with:

Water

Substance, organic

10.4 Conditions to avoid

Heat

Humidity

10.5 Incompatible materials

Metal

10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

no data available

Acute dermal toxicity:

Hydrochloric acid - LD50: > 5010 mg/kg - Rabbit - (Japan GHS Basis for Classification Data)

Acute inhalation toxicity:

Hydrochloric acid - LC50: 8.3 mg/l (30 min) - Rat - (IUCLID)

Hydrochloric acid - LC50: 45.6 mg/l (5 min) - Rat - (IUCLID)

Irritant and corrosive effects

Primary irritation to the skin:

Causes skin irritation.

Irritation to eyes:

Causes serious eye irritation.

Irritation to respiratory tract:

May cause respiratory irritation.

Respiratory or skin sensitization

In case of skin contact: not sensitizing

In case of inhalation: not sensitizing

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Fish toxicity:

no data available

Daphnia toxicity:

Hydrochloric acid - LC50: 250 mg/l (48 h) - Portmann, J.E., and K.W. Wilson 1971. The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals. Shellfish Information Leaflet No.22 (2nd Ed.):12 p.

Hydrochloric acid - EC50: 0.45 (pH: 4.9) mg/l (48 h) Daphnia Magna - OECD 202

Algae toxicity:

Hydrochloric acid - EC50: 0.73 (pH: 4.7) mg/l (72 h) freshwater - OECD 201

Hydrochloric acid - NOEC: mg/l (72 h) freshwater - OECD 201

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

not applicable

12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to the environment.

12.7 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal. Before discharge into sewage plants the product normally needs to be neutralised.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (TDG)

UN-No.:	1789
Proper Shipping Name:	HYDROCHLORIC ACID
Class(es):	8
Packing group:	III
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN-No.:	1789
Proper Shipping Name:	HYDROCHLORIC ACID
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	III
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	1
EmS-No.	F-A S-B
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not relevant

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1789
Proper Shipping Name:	HYDROCHLORIC ACID
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	III
Special precautions for user:	

SECTION 15: Regulatory information

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

Domestic Substance List:

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

Revision date	Version	Print date
20.12.2022	6.4	20.12.2022

Additional information

Indication of changes Review and revision of Sections 4, 5, 6, 7 and 10.

If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.