Hydrochloric acid

30721-1L-GL

Version 1.6 Revision Date 30.11.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	:	Hydrochloric acid
SDS-number	:	000000020253
Type of product	:	Substance
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name	:	hydrochloric acid
Index-No.	:	017-002-01-X
REACH Registration Number	:	no data available

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

Use of the Substance/Mixture	:	Laboratory chemicals
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:		
For further information, please contact:	:	SafetyDataSheet@Honeywell.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1-303-389-1414 (Medical)
	:	Poison Control Center:

Hydrochloric acid

30721-1L-GL

Version 1.6 Revision Date 30.11.2023

United Kingdom: (+44) 844 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Corrosive to metals Category 1
H290 May be corrosive to metals.
Skin corrosion Category 1A
H314 Causes severe skin burns and eye damage.
Specific target organ toxicity - single exposure Category 3 - Respiratory system
H335 May cause respiratory irritation.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :

Signal word : Danger

Hazard statements :	H290	May be corrosive to metals.
	H314	Causes severe skin burns and eye damage.
	H335	May cause respiratory irritation.
Precautionary statements :	P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P284	In case of inadequate ventilation wear respiratory protection.
	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P302 + P352	IF ON SKIN: Wash with plenty of water.
	P304 + P340	IF INHALED: Remove person to fresh air and keep 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.

	P308 + P313	Continue rinsing. IF exposed or concerned: Get medical advice/ attention.

2.3. Other hazards

Results of PBT and vPvB assessment, see chapter 12.5. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
hydrochloric acid	7647-01-0 017-002-01-X 231-595-7	Skin Corr. 1A; H314 STOT SE 3; H335; Respiratory system	37 %	Eye Dam. 1; H319:>= 1 % STOT SE 3; H335:>= 10 % Skin Corr. 1B; H315:10 - < 25 % Met. Corr. 1; H290:>= 0,1 % Skin Corr. 1A; H314:>= 25 %

3.2. Mixtures

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

Hydrochloric acid

30721-1L-GL

Version 1.6 Revision Date 30.11.2023

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:
First aider needs to protect himself. Remove from exposure, lie down. Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation:
Remove to fresh air. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact:
Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact:
Protect unharmed eye. Irrigate eyes for at least 15 minutes with copious quantities of water, keeping eyelids apart and away from eyeballs during irrigation. Call a physician immediately.

Ingestion:
Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

No data available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:
Gaseous hydrogen chloride (HCl).
Exposure to decomposition products may be a hazard to health.

5.3. Advice for firefighters

In the event of fire and/or explosion do not breathe fumes.
Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.The product itself does not burn.Do not use a solid water stream as it may scatter and spread fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and materials for containment and cleaning up

Rinse away small amounts with water.
Clean-up methods - large spillage
Neutralize with lime milk or soda and flush with plenty of water.
Suppress (knock down) gases/vapours/mists with a water spray jet.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly closed. Use only acid resistant equipment. When diluting, always add the product to water. Never add water to the product. Do not breathe vapours or spray mist.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Hygiene measures:
Separate rooms are required for washing, showering and changing clothes. Keep working clothes separately. Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Store in original container. Keep container tightly closed and in a well-ventilated place. Do not leave vessels/containers open Containers should be protected against falling down. Avoid product residues in/on containers.

Advice on common storage:
Do not store together with: Oxidizing agents alkalines

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
hydrochloric acid	EH40 WEL TWA	2 mg/m3 1 ppm Gas and aerosol mists.		
hydrochloric acid	EH40 WEL	Gas and aerosol mists.		Listed
hydrochloric acid	EU ELV TWA	8 mg/m3 5 ppm		Indicative
hydrochloric acid	EU ELV STEL	15 mg/m3 10 ppm		Indicative
hydrochloric acid	EH40 WEL STEL	8 mg/m3 5 ppm Gas and aerosol mists.	15 minutes	

EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
TWA - Time weighted average
EH40 WEL - UK. EH40 Workplace Exposure Limits (WELs), as amended
-
EU ELV - EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended
STEL - Short term exposure limit

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
hydrochloric acid	Workers / Acute local effects		15 mg/m3	Inhalation	

hydrochloric acid	Workers / Long-term local effects		8 mg/m3	Inhalation	
hydrochloric acid	Consumers / Acute local effects		15 mg/m3	Inhalation	
hydrochloric acid	Consumers / Long-term local effects		8 mg/m3	Inhalation	

No PNEC data available.

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.
Do not breathe vapours or spray mist.

Engineering measures
Use with local exhaust ventilation.
Use only acid resistant equipment.
acid resisting floor
Emergency sprinkling nozzle

Personal protective equipment
Respiratory protection:
In the case of vapour formation use a respirator with an approved filter.

Hand protection:
Glove material: Chloroprene
Break through time: > 480 min
Glove thickness: 0,65 mm
Camapren®720
Gloves must be inspected prior to use.
Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles

Skin and body protection:
acid-proof protective clothing

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	:	liquid
(b) Colour	:	colourless
(c) Odour	:	stinging
(d) Melting point/freezing point	:	ca. -35 °C
(e) Boiling point/boiling range	:	ca. 42 °C at 1.013 hPa
(f) Flammability	:	Not applicable
(g) Lower and upper explosion limit	:	Lower explosion limit Not applicable

	:	Upper explosion limit Not applicable
(h) Flash point	:	Not applicable
(i) Auto-ignition temperature	:	Not applicable
(j) Decomposition temperature	:	No decomposition if used as directed. Fire or intense heat may cause violent rupture of packages.
(k) pH	:	> 0,1 at 20 °C
(l) Viscosity, kinematic	:	not determined
(m) Solubility(ies)	:	Water solubility: completely miscible
(n) Partition coefficient: n-octanol/water	:	No data available
(o) Vapour pressure	:	965 hPa at 50 °C 190 hPa at 20 °C
(p) Density and / or relative density	:	ca. 1,190 g/cm3 at 20 °C
(q) Relative vapour density	:	No data available
(r) Particle characteristics	:	No data available

9.2 Other Information

Hydrochloric acid is at 20.2 % azeotropic.

Corrosive to metals	:	Corrosive to metals
Evaporation rate	:	No data available

Viscosity, dynamic	:	1,9 mPa.s at 15 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

No decomposition if used as directed.
Fire or intense heat may cause violent rupture of packages.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Keep away from heat.
Protect from moisture.

10.5. Incompatible materials

Gives off hydrogen by reaction with metals.
Incompatible with strong bases and oxidizing agents.
Ammonia
Amines

10.6. Hazardous decomposition products

Hydrogen, by reaction with metals
Hydrogen chloride gas
Chlorine (Cl_2)

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) Acute toxicity

Acute oral toxicity:
Toxicity is determined by the corrosivity of the product.

Acute dermal toxicity:
Toxicity is determined by the corrosivity of the product.

Acute inhalation toxicity:
Toxicity is determined by the corrosivity of the product.

Acute toxicity (other routes of administration):
No data available

(b) Skin corrosion/irritation:
Species: Rabbit
Result: Corrosive
Method: OECD Test Guideline 404

(c) Serious eye damage/eye irritation:
Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

(d) Respiratory or skin sensitisation:
Species: Guinea pig
Classification: non-sensitizing
Method: OECD Test Guideline 406
Test substance: anhydrous substance

(e) Germ cell mutagenicity:
Note: Not classified due to data which are conclusive although insufficient for classification.

(f) Carcinogenicity:
Note: Not classified due to data which are conclusive although insufficient for classification.

(g) Reproductive toxicity:
Remarks: Not classified due to data which are conclusive although insufficient for classification.

(h) STOT-single exposure:
No data available

(i) STOT - repeated exposure:
Note: Not classified due to data which are conclusive although insufficient for classification.

(j) Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
LC50
semi-static test
Species: Lepomis macrochirus (Bluegill sunfish)
Value: 3,25 - 3,5 mg/l
Exposure time: 96 h

Toxicity to aquatic plants:
EC50
Growth rate
Species: Chlorella vulgaris (Fresh water algae)
Value: 4,7 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to aquatic invertebrates:
EC50
static test
Species: Daphnia (water flea)
Value: 4,92 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

12.2. Persistence and degradability

Biodegradability:
The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Substance is not persistent, bioaccumulative, and toxic (PBT).
Substance is not very persistent and very bioaccumulative (vPvB).

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

Neutralisation will reduce ecotoxic effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006
For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number or ID number
ADR/RID:1789 IMDG:1789 IATA:1789

14.2 UN proper shipping name
ADR/RID:HYDROCHLORIC ACID
IMDG:HYDROCHLORIC ACID
IATA:Hydrochloric acid

14.3 Transport hazard class(es)
ADR/RID:8 IMDG: 8 IATA: 8

14.4 Packaging group
ADR/RID:II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID:no Marine pollutant: no

14.6 Special precautions for user
IMDG Code segregation group (SGG1) – ACIDS,

14.7 Maritime transport in bulk according to IMO instruments
No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC SEVESO III		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

hydrochloric acid	:	H314	Causes severe skin burns and eye damage.
		H335	May cause respiratory irritation.

Hydrochloric acid

30721-1L-GL

Version 1.6 Revision Date 30.11.2023

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.
This information should not constitute a guarantee for any specific product properties.