

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

Identification of the product

Catalogue No.: 100313
 Product name: Hydrochloric acid 32% extra pure

Company/undertaking identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Tel: +49 6151 72-0
 Emergency telephone No.: Please contact the regional Merck representation in your country.

2. Composition/information on ingredients

Aqueous solution.

Hazardous ingredients:

Name according to EC Directives:

CAS-No.	EC No.	EC-Index-No.	Labelling according to EC Directives	Content:
Hydrochloric acid				
7647-01-0	231-595-7	017-002-01-X	C R 34-37	32 %

3. Hazards identification

Causes burns. Irritating to respiratory system.

4. First aid measures

After inhalation: fresh air. Call in physician.
 After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing.
 After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately call in ophthalmologist.
 After swallowing: make victim drink plenty of water, avoid vomiting (risk of perforation!). Immediately call in physician.
 Instructions for the doctor: Gastric lavage.

5. Fire-fighting measures

Suitable extinguishing media:
 In adaption to materials stored in the immediate neighbourhood.

Special risks:

Non-combustible. Hydrogen may form upon contact with metals (danger of explosion!). Ambient fire may liberate hazardous vapours. The following may develop in event of fire: hydrochloric acid.

Special protective equipment for fire fighting:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Other information:

Prevent fire-fighting water from entering surface water or groundwater. Contain escaping vapours with water.

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6. Accidental release measures

Person-related precautionary measures:
Avoid substance contact. Do not inhale vapours/aerosols. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

Additional notes:
Render harmless: neutralize with diluted sodium hydroxide solution or by throwing on lime, lime sand, or sodium carbonate.

7. Handling and storage*Handling:*

No further requirements.

Storage:

Tightly closed. Dry. Storage temperature: no restrictions.

Requirements for storage rooms and containers:
No metal containers.

8. Exposure controls/personal protection*Specific control parameter*

EC

Name	Hydrogen chloride
Value	5 ml/m ³ 8 mg/m ³

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when vapours/aerosols are generated.

Eye protection: required

Hand protection: required

Other protective equipment: Acid-resistant protective clothing.

Industrial hygiene:

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

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9. Physical and chemical properties

Form:	liquid		
Colour:	colourless to yellowish		
Odour:	pungent		
pH value			
at	(20 °C)	< 1	
Viscosity dynamic	(15 °C)	1.9	mPa*s
Melting point		-40	°C
Solidification point		~ 50	°C
Boiling point		not available	
Ignition temperature		not applicable	
Flash point		not applicable	
Explosion limits	lower	not applicable	
	upper	not applicable	
Vapour pressure	(20 °C)	21.3	hPa
Density	(20 °C)	1.16	g/cm ³
Solubility in			
water	(20 °C)	soluble	

10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

aluminium, amines, carbides, hydrides, fluorine, alkali metals, metals, potassium permanganate, strong alkalis, salts of oxyhalogenic acids, conc. sulfuric acid, aldehydes, sulfides, lithium silicide, vinylmethyl ether, semimetallic oxides, semimetallic hydrogen compounds.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

unsuitable working materials: metals, metal alloys.

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11. Toxicological information*Acute toxicity*

LC₅₀ (inhalation, rat): 3124 ppm(V) /1 h (calculated on the pure substance).

Subacute to chronic toxicity

Applicable to the toxicologically determinant component:
An embryotoxic effect need not be feared when the threshold limit value is observed.

Further toxicological information

Strongly corrosive substance.
After inhalation of vapours: Irritation symptoms in the respiratory tract.
After skin contact: burns.
After eye contact: burns, Risk of blindness!
After swallowing: Damage of: mouth, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach. After a latency period: cardiovascular failure.

Further data

The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Ecotoxic effects:
Quantitative data on the ecological effect of this product are not available.

Biological effects:
Toxic for aquatic organisms. Toxic effect on fish and plankton. Forms corrosive mixtures with water even if diluted. Damage to plant growth.

Further ecologic data:
The following applies to HCl in general: Harmful effect on aquatic organisms. Harmful effect due to pH shift. Biological effects: hydrochloric acid (including such due to reaction): lethal for fish as from 25 mg/l; *Leuciscus idus* LC₅₀: 862 mg/l (1N-solution). Harmful effects begin at: plants 6 mg/l. Does not cause biological oxygen deficit.

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations*Product:*

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

Merck Safety Data SheetAccording to EC Directive
91/155/EECCatalogue No.: 100313
Product name: Hydrochloric acid 32% extra pure**14. Transport information**

Land transport	GGVS, GGVE, ADR, RID
Classification	8/5b
Name	1789 CHLORWASSERSTOFFSAEURE (SALZSAEURE)
Transport by river	ADN, ADN R
Classification	not tested
Transport by sea	IMDG, GGVSee
Classification	8/UN 1789/PG II
Ems	8-03
Name	HYDROCHLORIC ACID
Transport by air	ICAO, IATA
Classification	8/UN 1789/PG II
Name	HYDROCHLORIC ACID

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVS/GGVE). Possible national deviations in other countries are not considered.

THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK !

15. Regulatory information

Labelling according to EC Directives

Symbol:	C	Corrosive
R-phrases:	34-37	Causes burns. Irritating to respiratory system.
S-phrases:	26-36/37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. Other information

Text of any R phrases referred to under heading 2:

34 Causes burns.
37 Irritating to respiratory system.

Change/addition in the chapter 8. Specific control parameter.

General update.

Regional representation:

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.