

# Safety data for hydrochloric acid (concentrated)

 Hazard: Toxic Hazard: Corrosive Hazard: hazardous in the environment

Click here for data on hydrochloric acid in student-friendly format, from the HSci project

[Glossary of terms on this data sheet.](#)

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

## General

Synonyms: muriatic acid, chlorohydric acid. [Data for dilute Hydrochloric acid can be found [here](#).]

Molecular formula: HCl

CAS No: 7647-01-0

EC No: 231-595-7

Annex I Index No: 017-002-01-X

## Physical data

Appearance: clear colourless or slightly yellow liquid with pungent odour.  
Concentrated acid is fuming.

Melting point: -25 C

Boiling point: 109 C

Specific gravity: 1.19

Vapour pressure:

Flash point:

Explosion limits:

Autoignition temperature:

## Stability

Stable. Avoid heat, flames. Incompatible with most common metals, amines, metal oxides, acetic anhydride, propiolactone, vinyl acetate, mercuric sulphate, calcium phosphide, formaldehyde, alkalies, carbonates, strong bases, sulphuric acid, chlorosulphonic acid.

## Toxicology

Extremely corrosive. Inhalation of vapour can cause serious injury. Ingestion may be fatal. Liquid can cause severe damage to skin and eyes. TLV 5 ppm.

### Toxicity data

(The meaning of any abbreviations which appear in this section is given here.)

ORL-RBT LD50 900 mg kg<sup>-1</sup>

IPR-MUS LD50 40 mg kg<sup>-1</sup>

IHL-RAT LC50 3124 ppm/1h.

IHL-HMN LCLO 1300 ppm 30min

### Risk phrases

(The meaning of any risk phrases which appear in this section is given here.)

R23 R24 R25 R34 R36 R37 R38.

## Transport information

(The meaning of any UN hazard codes which appear in this section is given here.)

UN No 1789. Packing group II. Hazard class 8.0. Transport category 2.

## Environmental information

Lethal to fish from 25 mg/l up. Toxic for aquatic organisms due to pH shift.

## Personal protection

Safety glasses or face mask, gloves. Effective ventilation.

### Safety phrases

(The meaning of any safety phrases which appear in this section is given here.)

S26 S36 S37 S39 S45.

[Return to Physical & Theoretical Chemistry Lab. Safety home page.]

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