

SAFETY DATA SHEET

according to EC directive 2001/58/EC
Version 3.0 Revision Date 14.05.2007
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : **Hydrochloric acid**

Product Number : 30721
Brand : Riedel

Company : Sigma-Aldrich Company Ltd.
The Old Brickyard
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Dorset
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : HCl

CAS-No.	EC-No.	Index-No.	Classification	Concentration [%]
Hydrochloric acid				
7647-01-0	231-595-7	017-002-01-X	C, R34- R37	37
Water				
7732-18-5	231-791-2	-	-	63

For the full text of the R phrases mentioned in this Section, see Section 16.

3. HAZARDS IDENTIFICATION

Risk advice to man and the environment
Causes burns. Irritating to respiratory system.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Hydrochloric acid	7647-01-0	STEL	5 ppm 8 mg/m ³	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
		TWA	1 ppm 2 mg/m ³	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
		TWA	5 ppm 8 mg/m ³	2000-06-01	EU. Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC. OJ no. L 142 of 16.6.2000, p. 47-50.
		STEL	10 ppm 15 mg/m ³	2000-06-01	EU. Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in

implementation of Council Directive 98/24/EC. OJ no. L 142 of 16.6.2000, p. 47-50.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	light yellow
Odour	pungent

Safety data

pH	no data available
Melting point	-30 °C
Boiling point	110 °C
Flash point	not applicable
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	227 hPa at 21.1 °C 547 hPa at 37.7 °C
Density	1.2 g/cm ³ at 25 °C
Water solubility	soluble
Viscosity, dynamic	2.3 mPa.s at 15 °C

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Bases, Amines, Alkali metals, Metals, permanganates, e.g. potassium permanganate, Fluorine, metal acetylides, hexalithium disilicide

Hazardous decomposition products**Hazardous decomposition products formed under fire conditions.**

Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rabbit - 900 mg/kg (Hydrochloric acid)

LC50 Inhalation - rat - 1 h - 3124 ppm (Hydrochloric acid)

Irritation and corrosion

no data available (Hydrochloric acid)

Sensitization

no data available (Hydrochloric acid)

Chronic exposure

no data available (Hydrochloric acid)

Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be harmful if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.
Ingestion	May be harmful if swallowed. Causes burns.

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

no data available

Ecotoxicity effects

Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**ADR/RID**

UN-No.: 1789 Class: 8 Packing group: II
Proper shipping name: HYDROCHLORIC ACID

IMDG

UN-No.: 1789 Class: 8 Packing group: II EMS-No: F-A, S-B
Proper shipping name: HYDROCHLORIC ACID
Marine pollutant: No

IATA

UN-No.: 1789 Class: 8 Packing group: II
Proper shipping name: Hydrochloric acid

15. REGULATORY INFORMATION**Labelling according to EC Directives**

EC Label

Hazard symbols

C Corrosive

R-phrases(s)

R34 Causes burns.

R37 Irritating to respiratory system.

S-phrases(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazardous components which must be listed on the label:

7647-01-0 Hydrochloric acid

16. OTHER INFORMATION**Text of R phrases mentioned in Section 2**

R34 Causes burns.

R37 Irritating to respiratory system.

Further information

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