

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** HYDROCHLORIC ACID ROTI®VOLUM 1 mol/l - 1N**Article number:** CN63**Registration number** Mixture - Registration numbers of the components, see Chapter 3**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the mixture**

Laboratory chemical

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: sicherheit@carlroth.de

**Further information obtainable from:** Department Health, Safety and Environment**1.4 Emergency telephone number:**

Poison Centre Munich

Telefon +49/(0)89 19240

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Met. Corr.1 H290 May be corrosive to metals.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS05

GHS07

**Signal word** Warning**Hazard-determining components of labelling:**

hydrogen chloride

**Hazard statements**

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

**Trade name: HYDROCHLORIC ACID ROTI®VOLUM 1 mol/l - 1N**

(Contd. of page 1)

H335 May cause respiratory irritation.

**Precautionary statements**

- P261 Avoid breathing mist/vapours/spray.  
 P280 Wear protective gloves / eye protection.  
 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. Continue rinsing.  
 P312 Call a POISON CENTER/doctor if you feel unwell.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.





**Additional information:**

-

**2.3 Other hazards**

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****3.2 Chemical characterisation: Mixtures****Description:** Aqueous solution.**Dangerous components:**

CAS: 7647-01-0	hydrogen chloride	10-<25%
EINECS: 231-595-7	 T R23;  C R35	
Index Number: 017-002-00-2	 Met. Corr. 1, H290; Skin Corr. 1B, H314;  STOT SE 3,	
Reg.nr.: 01-2119484862-27-XXXX	H335	

**Additional information:** For the wording of the listed risk phrases refer to section 16.**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Remove any clothing soiled by the product.

**After inhalation:**

Supply fresh air.  
 Seek medical treatment in case of complaints.

**After skin contact:**

Immediately rinse with water.  
 Seek medical treatment in case of complaints.

**After eye contact:**

Rinse opened eye for 10 minutes under running water. Then consult a doctor.

**After swallowing:**

Rinse out mouth and then drink water.  
 Do not induce vomiting; call for medical help immediately.

(Contd. on page 3)

**Trade name: HYDROCHLORIC ACID ROTI@VOLUM 1 mol/l - 1N**

(Contd. of page 2)

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

Irritation and corrosion

Coughing

Headache

gastric pain

**Hazards**

Risk of serious damage to eyes.

Danger of impaired breathing.

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

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:** CO<sub>2</sub>, powder, foam or water spray.**For safety reasons unsuitable extinguishing agents:**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Ambient fire may liberate hazardous vapours.

In case of fire, the following can be released:

Hydrogen chloride (HCl)

Carbon monoxide and carbon dioxide

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained respiratory protective device.

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment.

Do not inhale vapours. Avoid contact with the eyes and skin.

**6.2 Environmental precautions**

Do not allow product to reach sewage system or any water course.

**6.3 Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. Pyracidosorb-ROTH® Art. No.0411.1).

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Handle and open container with care.

(Contd. on page 4)



**Trade name: HYDROCHLORIC ACID ROTI@VOLUM 1 mol/l - 1N**

(Contd. of page 3)

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage:

#### Requirements to be met by storerooms and receptacles:

Do not store in corrodible metal.

#### Information about storage in one common storage facility:

Store away from foodstuffs.

Do not store together with alkalis (caustic solutions).

#### Further information about storage conditions:

Keep container tightly sealed.

Store receptacle in a well ventilated area.

**Recommended storage temperature:** 15 - 25 °C

## 7.3 Specific end use(s)

No further relevant information available.

## SECTION 8: Exposure controls/personal protection

### Additional information about design of technical facilities:

No further data; see item 7.

### 8.1 Control parameters

#### Ingredients with limit values that require monitoring at the workplace:

##### 7647-01-0 hydrogen chloride

WEL (Great Britain)	Short-term value: 8 mg/m <sup>3</sup> , 5 ppm Long-term value: 2 mg/m <sup>3</sup> , 1 ppm (gas and aerosol mists)
IOELV (EU)	Short-term value: 15 mg/m <sup>3</sup> , 10 ppm Long-term value: 8 mg/m <sup>3</sup> , 5 ppm

### DNELs

#### Worker

#### Long-term exposure - local effects:

##### 7647-01-0 hydrogen chloride

Inhalative	DNEL	8 mg/m <sup>3</sup> (worker)
------------	------	------------------------------

#### Short-term exposure - local effects:

##### 7647-01-0 hydrogen chloride

Inhalative	DNEL	15 mg/m <sup>3</sup> (worker)
------------	------	-------------------------------

### PNECs

##### 7647-01-0 hydrogen chloride

PNEC	0.036 mg/l (Marine water)
	0.036 mg/l (Fresh Water)
	0.045 mg/l (intermittent releases)

### Additional information:

The lists valid during the making were used as basis.

### 8.2 Exposure controls

#### Personal protective equipment:

#### General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

(Contd. on page 5)

**Trade name: HYDROCHLORIC ACID ROTI@VOLUM 1 mol/l - 1N**

(Contd. of page 4)

Immediately remove all soiled and contaminated clothing.  
Avoid contact with the eyes and skin.  
Do not inhale gases / fumes / aerosols.  
Wash hands before breaks and at the end of work.

**Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

**Respiratory protection:**

Required when vapours/aerosols are generated: Filter E(-P2)  
When selecting your respiratory unit: Consider the "Rules for the use of respiratory protection equipment" (BGR190).

**Protection of hands:**

Protective gloves  
Check protective gloves prior to each use for their proper condition.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

Nitrile rubber, NBR  $\geq 0.2$  mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

Value for the permeation: Level  $\geq 6$

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR  $\geq 0.2$  mm

Value for the permeation: Level  $\geq 6$

**Eye protection:**

Tightly sealed goggles

**Body protection:**

Protective work clothing

(Contd. on page 6)



Trade name: HYDROCHLORIC ACID ROTI@VOLUM 1 mol/l - 1N

(Contd. of page 5)

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

#### Appearance:

Form:	Fluid
Colour:	Colourless
Odour:	Slightly pungent.
Odour threshold:	No information available.

pH-value at 20 °C: < 1

#### Change in condition

Melting point/Melting range:	No information available.
Boiling point/Boiling range:	> 100 °C

Flash point: Not applicable.

Flammability (solid, gaseous): No information available

Ignition temperature: No information available

Decomposition temperature: No information available

Self-igniting: Product is not self-igniting.

Danger of explosion: Product does not present an explosion hazard.

#### Explosion limits:

Lower:	No information available.
Upper:	No information available.
Oxidizing properties:	No information available.

Vapour pressure at 20 °C: 23 hPa

Density at 20 °C: ca. 1.1 g/cm<sup>3</sup>

Vapour density: No information available

Evaporation rate: No information available

Solubility in / Miscibility with water:

Fully miscible.

Partition coefficient (n-octanol/water): No information available

#### Viscosity:

Dynamic:	No information available.
Kinematic:	No information available.

**9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

May be corrosive to metals.

### 10.2 Chemical stability

#### Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

### 10.3 Possibility of hazardous reactions

Contact with the below mentioned substances may cause violent reactions or an explosion.

Alkalines

Alkali metals

(Contd. on page 7)



**Trade name: HYDROCHLORIC ACID ROTI®VOLUM 1 mol/l - 1N**

(Contd. of page 6)

Metals  
conc. sulfuric acid  
potassium permanganate

**10.4 Conditions to avoid**

No information available.

**10.5 Incompatible materials:**

various metals

**10.6 Hazardous decomposition products:**

In case of fire: see item 5.

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects****Acute toxicity:****LD/LC50 values relevant for classification:**

Quantitative data on the toxicity of this product are not available.

**Primary irritant effect:****on the skin:**

Irritant to skin and mucous membranes.

**on the eye:**

Strong irritant with the danger of severe eye injury.

**after inhalation:**

Irritations in the respiratory tract, coughing, dyspnoea.

**Sensitisation:**

No sensitising effects known.

**CMR effects:****Germ cell mutagenicity:**

No known significant effects or critical hazards.

**Carcinogenicity:**

No known significant effects or critical hazards.

**Reproductive toxicity:**

No known significant effects or critical hazards.

**Aspiration hazard:**

No aspiration toxicity classification.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Additional toxicological information:**

After swallowing irritations in the mouth, throat, oesophagus and gastrointestinal tract.  
gastric pain

**Further information:**

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

## SECTION 12: Ecological information

**12.1 Toxicity****Aquatic toxicity:**

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

(Contd. on page 8)

**Trade name: HYDROCHLORIC ACID ROTI®VOLUM 1 mol/l - 1N**

(Contd. of page 7)

**12.2 Persistence and degradability**

No further relevant information available.

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**Ecotoxicological effects:****Remark:**

Harmful effect on aquatic organisms due to pH shift.  
Do not allow to enter waters, waste water, or soil!

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

## SECTION 13: Disposal considerations

**Waste treatment methods****Recommendation**

This material and its container must be disposed of as hazardous waste.  
The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

**Uncleaned packaging:****Recommendation:**

Disposal according to official regulations.

## SECTION 14: Transport information

**14.1 UN-Number**

ADR, IMDG, IATA

UN1789

**14.2 UN proper shipping name**ADR  
IMDG, IATA1789 HYDROCHLORIC ACID, solution  
HYDROCHLORIC ACID, solution**14.3 Transport hazard class(es)**

ADR, IMDG, IATA



**Class**  
**Label**

8 Corrosive substances.  
8

(Contd. on page 9)

# Safety data sheet

according to 1907/2006/EC, Article 31



Printing date 01.09.2014

Version number 3

Revision: 01.09.2014

**Trade name: HYDROCHLORIC ACID ROTI®VOLUM 1 mol/l - 1N**

(Contd. of page 8)

<b>14.4 Packing group</b>	
<b>ADR, IMDG, IATA</b>	II
<b>14.5 Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>14.6 Special precautions for user</b>	
<b>Danger code (Kemler):</b>	Warning: Corrosive substances. 80
<b>EMS Number:</b>	F-A,S-B
<b>Segregation groups</b>	Acids
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
Not applicable.	
<b>Transport/Additional information:</b>	
<b>ADR</b>	
<b>Limited quantities (LQ)</b>	1L
<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>Transport category</b>	2
<b>Tunnel restriction code</b>	E
<b>IMDG</b>	
<b>Limited quantities (LQ)</b>	1L
<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>UN "Model Regulation":</b>	UN1789, HYDROCHLORIC ACID, solution, 8, II

## SECTION 15: Regulatory information

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

#### National regulations:

**Information about limitation of use:** Employment restrictions concerning juveniles must be observed.

#### Breakdown regulations:

#### Waterhazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### Relevant phrases

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

R23 Toxic by inhalation.

(Contd. on page 10)



## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.09.2014

Version number 3

Revision: 01.09.2014

**Trade name: HYDROCHLORIC ACID ROTI®VOLUM 1 mol/l - 1N**

(Contd. of page 9)

R35 Causes severe burns.

**Department issuing MSDS:** Department: Health, Safety and Environment**Contact:** Frau Weckemann**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

LD50\*: Lethal Dose, 50 percent (Not relevant for classification)

LD50\*: Lethal Concentration, 50 percent (Not relevant for classification)

Met. Corr. 1: Corrosive to metals, Hazard Category 1

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

**\* Data compared to the previous version altered.**