

**Safety data sheet**  
according to 1907/2006/EC, Article 31

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

- **1.1 Product identifier**
- **Trade name:** Hydrochloric Acid-Alcohol - Mixture (0.75 % HCl) solution
- **Article number:** 257097
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemical
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- Tel.: +49 (0)6151 93570  
Fax.: +49 (0)6151 935711  
msds@applichem.com
- **Further information obtainable from:** Dept. Compliance
- **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Flam. Liq. 2 H225 Highly flammable liquid and vapour.  
Met. Corr.1 H290 May be corrosive to metals.  
Eye Irrit. 2 H319 Causes serious eye irritation.

- **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**



GHS02 GHS05

- **Signal word** Danger
- **Hazard statements**  
H225 Highly flammable liquid and vapour.  
H290 May be corrosive to metals.  
H319 Causes serious eye irritation.
- **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43-XXXX	ethanol Flam. Liq. 2, H225; Eye Irrit. 2, H319	>50-<100%
CAS: 7647-01-0 EINECS: 231-595-7 Reg.nr.: 01-2119484862-27-XXXX	hydrogen chloride Met. Corr. 1, H290; Skin Corr. 1B, H314; STOT SE 3, H335	>1-≤2.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Take affected persons out into the fresh air.  
Keep quiet and cover.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Clean with water and soap. If possible, also wash with polyethylene glycol 400.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Seek medical treatment.
- **After swallowing:**  
Rinse out mouth.  
make victim drink water (maximum of 2 drinking glasses)  
If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**  
Dizziness  
Dizziness
- **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 or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**  
Combustible.  
Vapours are heavier than air and may spread along floors.  
Forms explosive mixtures with air at ambient temperatures.  
Beware of backfiring.  
Formation of toxic gases is possible during heating or in case of fire.

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In case of fire, the following can be released:  
carbon oxides (CO, CO<sub>2</sub>).

• **5.3 Advice for firefighters**

• **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

• **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

## SECTION 6: Accidental release measures

• **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid substance contact.

Protect against electrostatic charges.

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

Avoid substance contact.

Do not inhale steams/aerosols.

Ensure adequate ventilation

• **6.2 Environmental precautions:**

danger of explosion!

Do not allow to enter sewers/ surface or ground water.

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

Absorb with liquid-binding material (AppliSorb).

Ensure adequate ventilation.

Dispose of the material collected according to regulations.

• **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**

Keep away from heat and direct sunlight.

Store in cool, dry place in tightly closed receptacles.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Work only in fume cupboard.

• **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

• **7.2 Conditions for safe storage, including any incompatibilities**

• **Storage:**

• **Requirements to be met by storerooms and receptacles:**

Provide solvent resistant, sealed floor.

Keep receptacles tightly sealed.

Store in a cool location.

• **Information about storage in one common storage facility:** Not required.

• **Further information about storage conditions:**

Keep away from open flames, hot surfaces and sources of ignition.

Store in cool, dry conditions in well sealed receptacles.

Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

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

• **Storage class:** 3

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- **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:**

#### **64-17-5 ethanol**

WEL Long-term value: 1920 mg/m<sup>3</sup>, 1000 ppm

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

WEL 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)

### · DNELs

#### **64-17-5 ethanol**

Oral	Long-term - systemic effects, general population	87 mg/kg
Dermal	Acute - systemic effects, worker	343 mg/kg
	Long term - systemic effects, general population	206 mg/kg
Inhalative	Acute - local effects, worker	1,900 mg/m <sup>3</sup>
	Long-term - systemic effects, worker	950 mg/m <sup>3</sup>
	Acute - local effects, general population	950 mg/m <sup>3</sup>
	Long-term - systemic effects, general population	114 mg/m <sup>3</sup>

### · PNECs

#### **64-17-5 ethanol**

Aquatic compartment - freshwater	0.96 mg/L
Aquatic compartment - marine water	0.79 mg/L
Aquatic compartment - water, intermittent releases	2.75 mg/L
Aquatic compartment - sediment in freshwater	3.6 mg/kg
Terrestrial compartment - soil	0.63 mg/kg
Sewage treatment plant	580 mg/L
Oral secondary poisoning	0.72 mg/kg food

- **Additional information:** The lists valid during the making were used as basis.

### · 8.2 Exposure controls

#### · **Personal protective equipment:**

#### · **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.

#### · **Respiratory protection:**

Filter A

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

#### · **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

#### · **Material of gloves**

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

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be checked prior to the application.

• **Penetration time of glove material**

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

• **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.7$  mm

Value for the permeation: Level  $\geq 480$  min

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

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.4$  mm

Value for the permeation: Level  $\geq 120$  min

• **Eye protection:**



Tightly sealed goggles

• **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

**SECTION 9: Physical and chemical properties**

• **9.1 Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:

Fluid

Colour:

Colourless

• **Odour:**

Alcohol-like

• **Odour threshold:**

Not determined.

• **pH-value:**

5.3

• **Change in condition**

Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range:

Undetermined.

• **Flash point:**

22 °C

• **Flammability (solid, gas):**

Not applicable.

• **Decomposition temperature:**

Not determined.

• **Auto-ignition temperature:**

Product is not selfigniting.

• **Explosive properties:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

• **Explosion limits:**

Lower:

2.5 Vol %

Upper:

13.5 Vol %

• **Vapour pressure at 20 °C:**

57.3 hPa

• **Density:**

Not determined.

• **Relative density**

Not determined.

• **Vapour density**

Not determined.

• **Evaporation rate**

Not determined.

• **Solubility in / Miscibility with water:**

Fully miscible.

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- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 64.3 %
- **9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** Forms explosive gas mixture with air.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Exothermic reactions with:  
strong acids  
alkaline earth metals  
alkali metals  
strong oxidants
- **10.4 Conditions to avoid**  
Danger of receptacles bursting because of high vapour pressure when heated.  
Forms explosive gas mixture with air.
- **10.5 Incompatible materials:**  
Exothermic reactions with:  
strong acids  
strong oxidants  
alkali metals  
alkaline earth metals
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5
- **Additional information:** Explosible with air in a vaporous/gaseous state.

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**  
Quantitative data on the toxicological effect of this product are not available.

Components	Type	Value	Species
<b>64-17-5 ethanol</b>			
Oral	LD50	8,350 mg/kg (mouse)	
		10,470 mg/kg (rat)	
Inhalative	LC50/4 h	116.9 mg/l (rat)	

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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• **Carcinogenicity**

**64-17-5 ethanol**

NOAEL (carcinogenicity) >3,000 mg/kg bw/day (rat)

Based on available data, the classification criteria are not met.

• **Reproductive toxicity**

**64-17-5 ethanol**

NOAEL (Fertility) 13,800 mg/kg bw/day (mouse)

Based on available data, the classification criteria are not met.

- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

• **Type of test**   **Effective concentration**   **Method**   **Assessment**

**64-17-5 ethanol**

EC50/72 h	275 mg/l (Algae)
EC50/48 h	12,900 mg/l (Algae)
LC50/24 h	11,200 mg/l (fish)
LC50/48 h	12,340 mg/l (daphnia magna)
LC50/96 h	13,000 mg/l (fish)

- **12.2 Persistence and degradability** The product is easily biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
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**

- **13.1 Waste treatment methods**
- **Recommendation**  
Chemicals must be disposed of in compliance with the respective national regulations.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.







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Trade name: Hydrochloric Acid-Alcohol - Mixture (0.75 % HCl) solution

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## SECTION 14: Transport information

· 14.1 UN-Number	UN2924
· ADR, IMDG, IATA	
· 14.2 UN proper shipping name	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), HYDROCHLORIC ACID)
· ADR, IMDG	
· IATA	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL, HYDROCHLORIC ACID)
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	3 (FC) Flammable liquids.
· Label	3+8
· IMDG	
	
· Class	3 Flammable liquids.
· Label	3/8
· IATA	
	
· Class	3 Flammable liquids.
· Label	3 (8)
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	338
· EMS Number:	F-E, S-C
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E

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- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• <b>IMDG</b></li><li>• <b>Limited quantities (LQ)</b></li><li>• <b>Excepted quantities (EQ)</b></li></ul> | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| <ul style="list-style-type: none"><li>• <b>UN "Model Regulation":</b></li></ul>  | UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), HYDROCHLORIC ACID), 3 (8), II                   |

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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**  
H225 Highly flammable liquid and vapour.  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.
- **Department issuing SDS:** Dept. Compliance
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
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)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 2: Flammable liquids – Category 2  
Met. Corr. 1: Corrosive to metals – Category 1  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- **\* Data compared to the previous version altered.**