


<p>Page 1 of 6</p> <p>Print Date 26.11.2018</p>	<p><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p>Ethanol 96% (V/V), unvergällt</p>	 <p>Revision Date 26.11.2018</p>
---	--	---

## 1 Identification of the substance/mixture and of the company/undertaking

· **Informations to product No. 7232**

· **Product name:**

**Ethanol 96% (V/V), unvergällt**  
Ethanolum 96 per centum

· **Supplier of the Product / responsible Company:**

Caesar & Loretz GmbH

Herderstr. 31

40721 Hilden

Tel.: 02103/4994-0

Fax: 02103/32360

e-mail: info@caelo.de

· **Emergency telephone:**

Giftinformationszentrum Mainz

Langenbeckstr. 1, 55131 Mainz

Tel.: 06131/19240

· **Relevant identified uses of the substance or mixture and uses advised against:**

No further relevant information available.

· **Application of the substance / mixture:**

Ingredient for pharmaceutical drugs or active pharmaceutical ingredient.

## 2 Hazards identification

· **GHS-Labeling Elements:**



· **Signal word:** Warning

· **H-Phrases:**

H225 Highly flammable liquid and vapour

· **P-Phrases:**

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking

P211 Do not spray on an open flame or other ignition source


**Flam. Liq. 2**

## 3 Composition / information on ingredients

· **Chemical characterization:**

· **CAS No. Substance name**

64-17-5 Ethanol (96% (V/V))

<p>Page 2 of 6</p> <p>Print Date 26.11.2018</p>	<p><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p>Ethanol 96% (V/V), unvergällt</p>	 <p>Revision Date 26.11.2018</p>
---	--	---

- **EINECS-No.:** 200-578-6
- **REACH-No.:** 01-2119457610-43-0010 (Ethanol)

• **CAS No. Substance name**

7732-18-5 Wasser (4% (V/V))

• **EINECS-No.:** 231-791-2

• **REACH Reg. No.:** Exempted from the obligation to register according to Annex 4 / 5 REACH-regulation.

• **INCI-Name:** Aqua

#### 4 First aid measures

- **After inhalation:** Fresh air. If irritation of respiratory ways continues, seek medical advice.
- **After skin contact:** Take off contaminated clothes and shoes, wash immediately with plenty of water.
- **after eye contact:** Rinse out with plenty of water with the eyelid wide open.
- **After swallowing:** Drink water. Induce vomiting. Seek medical advice.

#### 5 Fire-fighting measures


- **Suitable extinguishing media:** . All regular extinguishing media can be used. Select fire fighting measures suitable to surrounding environment.
- **Specific hazards during fire fighting:** Combustible. Vapours are heavier / denser than air and spread on floor. Ignition over distances possible.
- **Special protective equipment for fire-fighters:** Suitable protective clothes and respiratory protection.
- **Additional information:** Cool endangered containers with water. Combustible liquid.

#### 6 Accidental release measures:

- **Personal protective measures:** Good ventilation of working place. Do not inhale vapours. Avoid contact with substance. Keep away from ignition sources. Do not smoke. Protective equipment: Protection gloves of rubber or latex or PVC.
- **Environmental protective measures:** Prevent substance from entering into drainage ditch, surface waters, ground water and flowing waters.
- **Methods for cleaning:** Absorb with liquid-binding material: Sand, silica gel, acid binder, universal binder, saw dust. Disposal according to Chapter 13 of this MSDS. Clean up with water. Put leaking containers into a labelled rescue container.
- **General information:** Explosion hazard. Inform local authorities, if liquid is leaking into drainage. Vapours can form explosive mixtures with air.

#### 7 Handling and storage

- **Handling:**
- **Advice on safe handling:** Avoid enduring or repeated contact with skin. Remove all open flames or ignition sources. Do not smoke. Good ventilation, especially near the floor. (Vapours are heavier / denser than air). Prevent from entering into drainage.
- **Informations to fire or explosion protection:**

<p>Page 3 of 6</p> <p>Print Date 26.11.2018</p>	<p><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p>Ethanol 96% (V/V), unvergällt</p>	 <p>Revision Date 26.11.2018</p>
---	--	---

Keep away from ignition sources. Do not smoke.. Take measures to prevent electrostatic charging.

• **Storage:**

• **Requirements for storage areas and containers:** Store at a cool and good ventilated place. Keep container tightly closed. Protect from direct sunlight and other heat- or ignition sources.

• **Advices on common storage:** Do not store together with oxidants, self-igniting substances or flammable solids.

• **Additional informations to storage conditions:** Keep container tightly closed. Take measures to prevent electrostatic charging. Provide earthing for all used equipment. Do not use compressed air for filling, unloading or handling.

## 8 Exposure controls / personal protective equipment

**Components with limit values that require monitoring at the workplace:**

**AGW(TRGS 900):**

Ethanol (CAS: 64-17-5), 90% (V/V)

960 mg/m<sup>3</sup>, 500 ml/m<sup>3</sup>

1900 mg/m<sup>3</sup>, 1000 ml/m<sup>3</sup>

• **General protective and hygiene measures:**

Wash hands before breaks and after work.

Do not inhale vapours.

Avoid contact with eyes and skin.

• **Respiratory protection:**

Respiratory filter required. Up to 0,5 Vol.% filter A2 (Colour brown), up to 1,0 Vol.% filter A3, mote than 1,0 Vol.% independent respiratory equipment.

• **Hand protection:** Protection gloves of PVC or rubber.

• **Eye protection:** Safety glasses.

• **Body protection:** Solvent proof shoes and protection clothing.

## 9 Physical and chemical properties

• **Form:** liquid

• **Colour:** colourless

• **Odour:** alcoholic

• **Melting point / melting range:** -114 °C

• **Boiling point / boiling range:** 78 °C

• **Flash point:** 17 °C

• **Ignition temperature:** 425 °C

• **Explosion hazard:** The product is not explosive, but explosive mixtures of vapour with air can be formed.

• **Explosion limits:**

• **lower:** 3 Vol %

• **upper:** 15 Vol %


• **Vapour pressure:** (20 °C) 4000 Pa

• **Density:** (20 °C) 0,83 g/cm<sup>3</sup>

• **Solubility in / Miscibility with**

• **Water** Completely miscible.

• **pH-range:** neutral

<p>Page 4 of 6</p> <p>Print Date 26.11.2018</p>	<p><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p>Ethanol 96% (V/V), unvergällt</p>	 <p>Revision Date 26.11.2018</p>
---	--	---

## 10 Stability and reactivity

- **Thermal decomposition / conditions to avoid:** No decomposition during appropriate use. Under normal pressure the product can be distilled without decomposition.
- **Hazardous reactions:** Reactions with oxidants and strong acids.
- **Hazardous decomposition products:** Acetaldehyde after reaction with strong oxidants.

## 11 Toxicological information

### • Acute toxicity:

#### **LD/LD50-data relevant for hazard classification:**

LD50(oral, Rat, female): 15010 mg/kg (OECD 401)  
LD50(oral, Rat, male): 10600 mg/kg (OECD 401)  
LD50(oral, Rat): 6200 mg/kg (IUCLID)  
LD50(oral, Rabbit): 6300 mg/kg  
LD50(oral, Guinea pig): 5560 mg/kg  
LD50(oral, Mouse): 8350 mg/kg (OECD 401)  
LD50(i.p., Rat, young animals): > 5500 mg/kg (OECD 401)  
LD50(i.p., Rat, old animals): > 4070 mg/kg (OECD 401)  
LD50(i.p., Mouse, male): > 9020 mg/kg (OECD 401)  
LD50(i.p., Mouse, female): > 9450 mg/kg (OECD 401)  
LC50(inhal., Rat, female): 55 mg/l/4h (OECD 403)  
LC50(inhal., Rat, male): 51 mg/l/4h (OECD 403)  
LC50(inhal., Rat): 125 mg/l/4h (IUCLID)  
LC50(inhal., Mouse): >60 ml/l/1h (OECD 403)

### • Repeated exposition:

NOAEL(Rat, oral, female, 90d): 1730 mg/kg/d (OECD 408)  
NOAEL(Rat, inhal., male, 20d): >20 mg/l (OECD 403)

### • Primary irritant effect:

- **on skin:** Not irritant (OECD 404)
- **on eyes:** Irritant (OECD 405)
- **on respiratory organs:** Slightly irritant.
- **Sensitization:** no sensitizing effect known.
- **Sub-acute / chronic toxicity:** repeated exposition can cause neuronal damage. These effects were observed only at high dosage. Mutagenity: Not mutagen.
- **Additional toxicological informations:** High concentrations can cause fatigue, vertigo or unconsciousness. Vapours and liquid can cause eye irritations.

## 12 Ecological information

### • Information about elimination (persistence and degradability):

Easily biodegradable. rapid photochemical oxidation in air.

• **Log pOW:** log P(o/w): -0,32.


• **Mobility and bioaccumulation potential:** Soluble in water. Disappears within one day by evaporation and dissolution. No substantial bioaccumulation. If big quantities are released, the product can penetrate into soil and have harmful effect on ground water.

### • Aquatic toxicity:

Fish toxicity:

LC50: 11200 mg/l/24h (Oncorhynchus mykiss, US EPA E03-05)

LC50: 13000 mg/l/96h (Oncorhynchus mykiss, OECD 203)

<p>Page 5 of 6</p> <p>Print Date 26.11.2018</p>	<p><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p>Ethanol 96% (V/V), unvergällt</p>	 <p>Revision Date 26.11.2018</p>
---	--	---

Daphnia toxicity:

LC50: 12340 mg/l/48h (Daphnia magna, ASTM E729-80)

Water plants:

EC50: 275 mg/l/72h (Chlorella vulgaris, OECD 201)

EC10: 12 mg/l/72h (Chlorella vulgaris, OECD 201)

Bacteria (Pseudomonas putida): Toxic concentration limit: 6500 mg/l

Activated sludge : Damage above 15g/l

• **Behaviour in sewage plants:** EC50: > 1000 mg/l.

• **Additional information:** Can cause lack of oxygen in environmental waters.

CSB: 1700 mg/g

BSB5: 1000 mg/g

• **Water hazard class:** 1 (VwVwS): slightly hazardous for water.

### 13 Disposal considerations

- **Product:**
- **Recommendation:** Disposal according to local regulations as pharmaceutical waste ..
- **Empty contaminated packaging:**
- **Recommendation:** Disposal according to the local regulations. Empty container completely and let evaporate residues in a safe place. Warning: Residues can be a source of explosion hazard.

### 14 Transport informations

- **Land transport according to ADR:**
- **Proper shipping name:** Ethanol (ethyl alcohol)
- **Class:** 3
- **UN-number:** 1170
- **Packing group:** II
- **Classification code:** F1
- **Limited quantities (Table 3.4.6. ADR):** 1I
- **Hazard classification number:** 33
- **Special provisions (Chapter 3.3 ADR):** 144
- **Additional informations for sea transport IMDG:**
- **EMS-No.:** F-E, S-D
- **Properties:** Fp=17°C

### 15 Regulatory information

• **Labelling according to actual legislation (GHS, Globally Harmonized System of Classification and Labelling of Chemicals):**

The product is classified and labelled according to GHS-regulations.

• **Hazard symbols:** GHS02

• **Signal word:** Warning

• **H-Phrases:**


H225 Highly flammable liquid and vapour

• **P-Phrases:**

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking

P211 Do not spray on an open flame or other ignition source

• **National regulations (Germany):**

<p>Page 6 of 6</p> <p>Print Date 26.11.2018</p>	<p><b>Material Safety Data Sheet</b> according to Regulation (EC) No. 1907/2006 (REACH)</p> <p>Ethanol 96% (V/V), unvergällt</p>	 <p>Revision Date 26.11.2018</p>
---	--	---

- **Water hazard class:** see chapter 12
- **Storage class TRGS 510:** 3
- **VbF class:** B

## 16 Other Information

The information provided in this MSDS is correct to the best of our knowledge at the date of edition.

- **Reason for last revision:** Adjustment to regulation (EC) 1907/2006 (REACH) and GHS-labelling system.