

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2013

Reviewed on 03/08/2013

## 1 Identification of substance

- **Product details**
- **Trade name: Ethanol**
- **Manufacturer/Supplier:**  
QIAGEN GmbH, QIAGEN Str. 1, 40724 Hilden, Germany  
Tel.: (+49)-2103/29-0
- **Information department:**  
QIAGEN Technical Service  
QIAGEN Inc., 27220 Turnberry Lane, Valencia, CA 91355, USA  
Tel.: 1-800-DNA-PREP (1-800-362-7737)  
Email: techservice-us@qiagen.com
- **Emergency information:**  
CHEMTREC  
USA & Canada 1-800-424-9300  
Outside USA & Canada +1 703-527-3887

## 2 Composition/Data on components

- **Chemical characterization**
  - **Description:** Mixture of substances listed below with nonhazardous additions.
  - **Dangerous components:**
- |                  |         |
|------------------|---------|
| 64-17-5 ethanol  | 50-100% |
| 67-56-1 methanol | 2.5-10% |

## 3 Hazards identification

- **Hazard description:**  
Harmful  
Highly flammable
- **Information pertaining to particular dangers for man and environment:**  
Highly flammable.  
Harmful by inhalation, in contact with skin and if swallowed.  
Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**  
Health = 2  
Fire = 3  
Reactivity = 0
- **WHMIS-ratings (scale 0 - 4)**  
Health = \*2  
Fire = 3  
Reactivity = 0

## 4 First aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Immediately call a doctor.

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## 5 Fire fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Person-related safety precautions:** Ensure adequate ventilation
- **Measures for environmental protection:**  
Do not allow product to reach sewage system or any water course.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.

## 7 Handling and storage

- **Handling:**
- **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

## 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
  - **Components with limit values that require monitoring at the workplace:**
  - **CAS No. Designation of material % Type Value Unit**
- | CAS No. | Designation of material | %                                 | Type | Value | Unit |
|---------|-------------------------|-----------------------------------|------|-------|------|
| 64-17-5 | ethanol                 |                                   |      |       |      |
|         | PEL                     | 1900 mg/m <sup>3</sup> , 1000 ppm |      |       |      |
|         | REL                     | 1900 mg/m <sup>3</sup> , 1000 ppm |      |       |      |
|         | TLV                     | 1880 mg/m <sup>3</sup> , 1000 ppm |      |       |      |
- **Personal protective equipment:**
  - **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
  - **Protection of hands:** Protective gloves
  - **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.
  - **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.
  - **Eye protection:** Tightly sealed goggles

## 9 Physical and chemical properties

- **General Information**

Form: Fluid

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- Color:** Colorless
- Odor:** Alcohol-like
- **Change in condition**
    - Melting point/Melting range:** -114.5°C (-174°F)
    - Boiling point/Boiling range:** 78°C (172°F)
  - **Flash point:** ≤ 21°C (≤ 70°F)
  - **Ignition temperature:** 425°C (797°F)
  - **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
  - **Explosion limits:**
    - Lower:** 3.5 Vol %
    - Upper:** 15 Vol %
  - **Vapor pressure at 20°C (68°F):** 59 hPa (44 mm Hg)
  - **Density:** Not determined.
  - **Solubility in / Miscibility with Water at 20°C (68°F):** 1.000 g/l

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Dangerous reactions** Reacts with acids, alkalis and oxidizing agents.
- **Dangerous products of decomposition:** No dangerous decomposition products known.

## 11 Toxicological information

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
- 67-56-1 methanol**
  - Oral LD50 13000 mg/kg (rat)
- 64-17-5 ethanol**
  - Oral LD50 7060 mg/kg (rat)
  - Inhalative LC50/4 h 20000 mg/l (rat)
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

## 12 Ecological information

- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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## 13 Disposal considerations

- **Product:**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **DOT regulations:**
- **Hazard class:** 3
- **Identification number:** UN1170
- **Packing group:** II
- **Proper shipping name (technical name):** ETHANOL SOLUTION
- **Label:** 3
- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** 3 Flammable liquids
- **Danger code (Kemler):** 3
- **UN-Number:** 1170
- **Packaging group:** II
- **Description of goods:** 1170 ETHANOL (ETHYL ALCOHOL) SOLUTION
- **Maritime transport IMDG:**
- **IMDG Class:** 3
- **UN Number:** 1170
- **Label:** 3
- **Packaging group:** II
- **Marine pollutant:** No
- **Propper shipping name:** ETHANOL (ETHYL ALCOHOL) SOLUTION
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1170
- **Label:** 3
- **Packaging group:** II
- **Propper shipping name:** ETHANOL SOLUTION

## 15 Regulations

- **Sara**
- **Section 313 (Specific toxic chemical listings):**  
None of the ingredients is listed.
- **TSCA (Toxic Substances Control Act):**
- **Proposition 65**
- **Chemicals known to cause cancer:**  
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for females:**  
None of the ingredients is listed.
- **Chemicals known to cause reproductive toxicity for males:**  
None of the ingredients is listed.
- **Chemicals known to cause developmental toxicity:**  
All ingredients are listed.

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- **Cancerogenity categories**
- **EPA (Environmental Protection Agency)**  
None of the ingredients is listed.
- **IARC (International Agency for Research on Cancer)**  
None of the ingredients is listed.
- **NTP (National Toxicology Program)**  
None of the ingredients is listed.
- **TLV (Threshold Limit Value established by ACGIH)**  
64-17-5 ethanol: A4 (50-100%)
- **MAK (German Maximum Workplace Concentration)**  
64-17-5 ethanol: 5
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**  
None of the ingredients is listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**  
None of the ingredients is listed.
- **Product related hazard informations:**  
The product has been classified and marked in accordance with directives on hazardous materials.
- **Hazard symbols:**  
Harmful  
Highly flammable
- **Risk phrases:**  
Highly flammable.  
Harmful by inhalation, in contact with skin and if swallowed.  
Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
- **Safety phrases:**  
Keep container tightly closed.  
Keep away from sources of ignition - No smoking.  
Avoid contact with skin and eyes.  
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Wear suitable protective clothing, gloves and eye/face protection.
- **National regulations:**
- **Technical instructions (air):**
- **Class Share in %**
- **NK 50-100**
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

## 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.