

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

Printing date 11.03.2013

Version number 101

Revision: 14.12.2012

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

- 1.1 Product identifier**- Trade name** ETHANOL 641 (99%) VERG MEK/BITREX**- Article number:** 1000463900001**- 1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

- Application of the substance / the preparation

Solvents

antifreeze

Disinfectant

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

Höfer Chemie GmbH

Friedrichsthalerstr. 5

D - 66280 Sulzbach

Tel.: +49 (0) 6897 -999 0 890

- Informing department:

Product safety department. Tel.: +49 (0) 151 - 23 43 00 67

E-mail: info@hoefer-chemie.de

- 1.4 Emergency telephone number:

Poison Control Center, Mainz

Tel. 00 49 / 61 31 / 19 240

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.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

F; Highly flammable

R11: Highly flammable.

- Classification system:

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

- 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 GHS07

- Signal word Danger**- Hazard statements**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

- Precautionary statements

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241

Use explosion-proof electrical/ventilating/lighting/equipment.

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P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures** Ethanol, denatured
- **Description:**
Solvent mixture.
Mixture of the substances listed below with harmless additions.

- Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43	ethanol F R11 ----- Flam. Liq. 2, H225; Eye Irrit. 2, H319	> 95.5%
CAS: 78-93-3 EINECS: 201-159-0 Reg.nr.: 01-2119457290-43	butanone Xi R36; F R11 R66-67 ----- Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	< 1%

- **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 advice:** Instantly remove any clothing soiled by the product.
- **After inhalation**
Provide fresh-air circulation. If symptoms continue, consult a doctor. In case of respiratory failure or breathing irregularities, commence resuscitation or oxygen inhalation and immediately consult a doctor. In case of unconsciousness, place und transport the patient in a recovery position.
- **After skin contact**
Remove contaminated clothing immediately. Wash affected areas with plenty of water und soap. If irritation continues, contact a doctor.
- **After eye contact** Rinse immediately opened eye for several minutes under running water. Then consult doctor.
- **After swallowing**
Rinse out mouth with water.
Do not induce vomiting; instantly call for medical help.
- **4.2 Most important symptoms and effects, both acute and delayed**
Dizziness, double vision and other typical symptoms of alcoholic intoxication. Vomiting, unconsciousness. Irritation of skin, eyes and airways.
- **Information for doctor** Symptomatic treatment (decontamination, vital functions), no specific antidote known.

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- 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**CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.**- For safety reasons unsuitable extinguishing agents** Water with a full water jet.**- 5.2 Special hazards arising from the substance or mixture**

Can form explosive gas-air mixtures. In case of incomplete combustion carbon monoxide can arise. Fumes are heavier than air and distributed over ground. Inflammation is possible from a far distance.

- 5.3 Advice for firefighters**- Protective equipment:** Wear full protective suit with self-contained breathing apparatus.**- Additional information**

Endangered containers in the surrounding area should be cooled with a water-hose.

Damp down explosive gas-air mixtures with water spray jet.

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

Wear protective equipment and keep unprotected persons away.

Extinguish naked flames. Remove flammable sources. No smoking. Avoid sparks. Avoid contact with skin, eyes and clothing. Avoid inhalation of fumes. Air contaminated rooms thoroughly. Protect against electrostatic sparks.

- 6.2 Environmental precautions:

Prevent material from reaching sewage system, holes and cellars.

If large amounts are released, the authorities must be informed.

- 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Dispose of contaminated material as waste according to item 13.

- 6.4 Reference to other sections

Danger of explosion

See Section 7 for information on safe handling

See Section 13 for information on disposal.

See Section 8 for information on personal protection equipment.

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

Keep containers tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Avoid contact with eyes or skin.

- Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- 7.2 Conditions for safe storage, including any incompatibilities**- Storage**

Protect against direct sunlight, other sources of heat and ignition.

Keep containers tightly closed. Store in cool, dry conditions.

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- **Requirements to be met by storerooms and containers:**
Observe official regulations on storage and handling of water hazardous substances
Store in cool location.
- **Information about storage in one common storage facility:**
Pay attention to regulations / technical guidelines on mixed storage of flammable liquids.
- **Further information about storage conditions:**
Unsuitable material for containers and conduits: aluminum and their alloys.
Provide earthing of containers, equipment, pumps and ventilation facilities.
- **Storage class 3 (VCI - Konzept, 2007)**
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:**
Room ventilation i.e. vacuum suction. Measures to be taken against electro-static sparks.

- 8.1 Control parameters

- **Components with critical values that require monitoring at the workplace:**

64-17-5 ethanol (50-100%)

WEL Long-term value: 1920 mg/m³, 1000 ppm

78-93-3 butanone (< 2.5%)

WEL Short-term value: 899 mg/m³, 300 ppm
Long-term value: 600 mg/m³, 200 ppm
Sk, BMGV

- DNELs

64-17-5 ethanol

Oral	DNEL (population)	87 mg/kg bw/day (Long-term - systemic effects)
Dermal	DNEL (population)	206 mg/kg bw/day (Long-term - systemic effects)
	DNEL (worker)	343 mg/kg bw/day (Long-term - systemic effects)
Inhalative	DNEL (population)	950 mg/m ³ (Acute - local effects)
		114 mg/m ³ (Long-term - systemic effects)
	DNEL (worker)	1900 mg/m ³ (Acute - local effects)
		950 mg/m ³ (Long-term - systemic effects)

- PNECs

64-17-5 ethanol

PNEC	0.63 mg/kg dw (soil)
	580 mg/l (sewage treatment plant)
PNEC aqua	0.96 mg/l (freshwater)
	0.79 mg/l (marine water)
PNEC sediment	3.6 mg/kg dw (freshwater)
	2.9 mg/kg dw (marine water)

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

- 8.2 Exposure controls

- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from food, beverages and fodder.
Wash hands during breaks and at the end of the work.

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Instantly remove any soiled and impregnated garments.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

- Breathing equipment:

Not necessary if room is well-ventilated.

Use breathing protection in case of insufficient ventilation.

- Recommended filter device for short term use:

Combination filter A-P2

Take care of limitations and rules for the use of breathing protection equipment (BGR 190).

- Protection of hands:

Protective gloves.

Check protective gloves prior to each use for their proper condition.

- Material of gloves

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 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.

- Penetration time of glove material

Note information regarding permeation rate, penetration times and the degradation supplied by the manufacturer of gloves just as workplace-specific conditions.

Change gloves if notice sign of disenchantment.

Material of gloves is recommended for a short-term single use to protect from splashes. For permanent usage contact manufacturer of gloves.

- Eye protection: Tightly sealed safety glasses.

- Body protection:

Standard protective working clothes, chemical resistant safety-shoes or wellingtons. If skin contact is possible, wear impenetrable protective clothing.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Fluid

Colour: Colourless

- Smell: Sweetish

- pH-value (100 g/l) at 20 °C: ca. 7.0

- Change in condition

Melting point/Melting range: Not determined

Boiling point/Boiling range: ~ 78 °C

- Flash point: 12 °C (DIN 51755)

- Ignition temperature: 425 °C (DIN 51794)
for ethanol

- Self-inflammability: Product is not selfigniting.

- Danger of explosion: Product is not explosive. However, formation of explosive air/steam mixtures is possible.

- Critical values for explosion:

Lower: ~ 3.5 Vol %

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Upper:	~ 15 Vol %	
- Vapour pressure at 20 °C:	57 mbar	
- Density at 20 °C	ca. 0.808 g/cm ³	
- Solubility in / Miscibility with Water:	Fully miscible	
- Viscosity:	1.19 mPas	
- 9.2 Other information	Evaporation number (ethanol):	8,0 (Ether = 1) (DIN 53170)
	Evaporation number (ethanol):	1,7 (nBuAc = 1) (ASTM D 3539)

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Can be distilled without decomposing at normal pressure
To avoid: warmth, flames, sparks
- **10.3 Possibility of hazardous reactions**
Reacts with oxygen
Reactions with strong oxidizing agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
strong oxidizing agents
Strong acids
- **10.6 Hazardous decomposition products:** Formation of carbon monoxide and carbon dioxide in case of fire.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

64-17-5 ethanol

Oral	LD50	10470 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rab)
Inhalative	LC 50 / 4 h	> 20 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** Slight irritant, but not sufficient to trigger an EC label.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Subacute to chronic toxicity:** Can cause liver damage.

- **STOT-repeated exposure:**

64-17-5 ethanol

Oral	NOAEL	1760 mg/kg (rat) (OECD 408, 90 d, target organ: liver)
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- **Additional toxicological information:**
High exposures irritates the mucous membranes of the eyes and the respiratory and digestive system.
High concentrations of vapors in air may cause drowsiness and dizziness.

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- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

The ingredients in this mixture do not meet the criteria for classification as CMR categories according to CLP.

* **SECTION 12: Ecological information**- **12.1 Toxicity**- **Aquatic toxicity:****64-17-5 ethanol**EC 50 / 48 h > 10000 mg/l (*Daphnia magna*)EC 50 / 72 h 275 mg/l (*Chlorella vulgaris*)LC 50 / 48 h 8140 mg/l (*Leuciscus idus*)- **12.2 Persistence and degradability**

The product is readily biodegradable,

biodegradability: BOD 5 (20 °C): ethanol = 71 % ThOD

2-butanone = 83 % des ThOD

- **12.3 Bioaccumulative potential** No bioaccumulation expected. The product is biodegradable and water soluble.- **12.4 Mobility in soil** Product is water soluble.- **Additional ecological information:**- **General notes:**

Do not allow to enter drainage system, surface or ground water

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

- **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**

The following advice is related to new material and not to any processed products. In case of a mixture with other products other disposal methods may become necessary. If in doubt seek advice from product supplier or from local authorities.

- **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

If possible, send to be recycled, otherwise burn or deposit in a certified facility.

- **Uncleaned packagings:** Disposal must be made according to official regulations.- **Recommendation:**

Rented packaging: After optimal emptying, close immediately and return to the supplier without cleaning. Care should be taken that no other materials get into the packaging.

Other containers: After complete emptying and cleaning, send to be reconditioned or recycled.

Caution: Leftovers in the containers may cause the risk of explosion.

Uncleaned containers should not be perforated, cut or welded.

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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*** SECTION 14: Transport information**

- 14.1 UN-Number - ADR, IMDG, IATA	UN1170
- 14.2 UN proper shipping name - ADR - IMDG - IATA	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION
- 14.3 Transport hazard class(es) - ADR - Class - Label	3 (F1) Flammable liquids. 3
- IMDG, IATA - Class - Label	3 Flammable liquids. 3
- 14.4 Packing group - ADR, IMDG, IATA	II
- 14.5 Environmental hazards: - Marine pollutant:	Not applicable. No
- 14.6 Special precautions for user - Kemler Number: - EMS Number:	Warning: Flammable liquids. 33 F-E,S-D
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
- UN "Model Regulation":	UN1170, ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, 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 young persons must be observed.

- Technical instructions (air):

Class	Share in %
NK	50-100

- VOC 100% volatile organic compounds (Council Directive 1999/13/EC).

- Water hazard class:

Water hazard class 1 (self assessment according to German VwVwS (Regulations for water-hazardous substances): slightly hazardous for water.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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- Relevant phrases

Complete wording of hazard statements and risk phrases (H- and R-phrases) mentioned in section 3. These phrases refer to the constituents. The labelling for this product is stated in section 2.

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

R11 Highly flammable.

R36 Irritating to eyes.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

- Department issuing data specification sheet: see item 1: Informing departement

- 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 Organization

NOAEL: No Observed Adverse Effect Level

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 Harmonized System of Classification and Labelling of Chemicals

CLP: Classification, Labelling and Packaging (Regulation (EC) No. 1272/2008)

TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

- * Data compared to the previous version altered.