

SAFETY DATA SHEET according to EC directive 2001/58/EC

Ethanol 96 vg. 1 % MEKVersion 1.1
Revision Date 26.04.2006

Print Date 13.06.2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : ETHANOL 96 VG. 1 % MEK
Supplier : Brenntag GmbH
Stinnes-Platz 1
DE 45472 Muelheim an der Ruhr
Responsible Department : Einkauf Technik Sicherheit (ETS)
Telephone : +49 (0)208-7828-0
Telefax : +49 (0)208-7828-7299
Emergency telephone : +49 (0)208-7828-0
number

2. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical nature**

Preparation consisting of the following components:

Hazardous components

ethanol Concentration: $\geq 95,00\%$
CAS-No.: 64-17-5 EC-No.: 200-578-6 Index-No.: 603-002-00-5
Classification: F; R11

butanone Concentration: $< 2,50\%$
CAS-No.: 78-93-3 EC-No.: 201-159-0 Index-No.: 606-002-00-3
Classification: F; R11 Xi; R36 R66 R67

For the full text of the R phrases mentioned in this Section, see Section 16.

3. HAZARDS IDENTIFICATION**Risk advice to man and the environment**

F R11 Highly flammable.

Other information

The product is classified and labelled in accordance with EC directives or respective national laws.

4. FIRST AID MEASURES

General advice : Remove victim from exposure, lie down. Take off all contaminated clothing immediately.
Inhalation : Move to fresh air. Oxygen, if needed.
Skin contact : Wash off immediately with plenty of water. If skin irritation

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- Eye contact : persists, call a physician.
: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.
: Consult a physician.

Notes to physician

- Hazards : Contains ethanol. Depending on the quantity and other circumstances consumption of ethanol can lead to a state of mental excitement and subsequent intoxication with symptoms like loss of self-control, dizziness or vomiting.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Extinguishing media which must not be used for safety reasons : high volume water jet
- Specific hazards during fire fighting : Vapours may form explosive mixtures with air. In case of fire hazardous decomposition products may be produced such as: Carbon oxides
- Special protective equipment for fire-fighters : Choose protective equipment according to size of fire. Wear self-contained breathing apparatus and full protective suit when necessary.
- Additional advice : Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Use personal protective equipment. Keep away from heat and sources of ignition. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Provide adequate ventilation. Evacuate personnel to safe areas.
- Environmental precautions : Prevent entering sewers, basements and workpits Risk of explosion. Avoid subsoil penetration.
- Methods for cleaning up : Ensure adequate ventilation. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Treat recovered material as described in the section "Disposal considerations". After cleaning, flush away traces with water.

7. HANDLING AND STORAGE**Handling**

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- Advice on safe handling : Handle and open container with care. Vapours are heavier than air and may spread along floors. Use only in well-ventilated areas.
- Advice on protection against fire and explosion : In use, may form flammable/explosive vapour-air mixture. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Use only explosion-proof equipment. Vapours are heavier than air and may spread along floors. Flash back possible over considerable distance.

Storage

- Requirements for storage areas and containers : Keep in an area equipped with solvent resistant flooring. Keep containers tightly closed in a cool, well-ventilated place.
- Advice on common storage : Store in accordance with the particular national regulations.
- German storage class : 3A: Flammable Liquids

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**

ethanol		CAS-No.: 64-17-5
MAK:	960 mg/m ³ , 500 ppm,	TRGS 900
Top limit: 4		
If in compliance with the MAK and BAT values, then there should be no risk to the fetus.		TRGS 900
butanone		CAS-No.: 78-93-3
MAK:	600 mg/m ³ , 200 ppm,	TRGS 900
Top limit: =1=		
If in compliance with the MAK and BAT values, then there should be no risk to the fetus.		TRGS 900
Can be absorbed through the skin.		TRGS 900
TWA:	600 mg/m ³ , 200 ppm,	EU ELV
STEL:	900 mg/m ³ , 300 ppm,	EU ELV

Personal protective equipment

- Respiratory protection : Required, if exposure limit is exceeded (e.g. OEL); Recommended Filter type:A
- Hand protection : solvent-resistant gloves (butyl-rubber); Protective gloves should be replaced at first signs of wear.
- Eye protection : Goggles giving complete protection to the eyes
- Body Protection : Protective work clothing
- Hygiene measures : Take off all contaminated clothing immediately. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist. Keep away from food, drink and animal feedingstuffs.

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Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday.

Engineering measures

Refer to protective measures listed in sections 7 and 8.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form : liquid
Colour : colourless
Odour : alcoholic

Safety data

Boiling point/range : ca. 78 °C
Flash point : ca. 12 °C
Explosive properties : Formation of explosive air/vapour mixtures is possible.
Lower explosion limit : 3,5 %(V)
Upper explosion limit : 15 %(V)
Vapour pressure : ca. 60 mbar; 20 °C
Density : 0,808 g/cm³; 20 °C
Water solubility : completely miscible

10. STABILITY AND REACTIVITY

Conditions to avoid : Heat, flames and sparks.
Materials to avoid : strong acids and oxidizing agents; alkali metals
Hazardous reactions : In use, may form flammable/explosive vapour-air mixture.
General advice : No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Ingestion : ethanol: LD50 rat 6.200 mg/kg
butanone: LD50 rat 3.300 mg/kg
Inhalation : ethanol: LC50 rat 124,7 mg/l 4 h
butanone: LC50 rat > 15 mg/l 6 h
Skin Absorption : butanone: LD50 rabbit 6.400 - 8.000 mg/kg
Skin contact : Prolonged skin contact may defat the skin and produce dermatitis.
Eye contact : Irritating to eyes.
Sensitization : No sensitizing effect known.
Further information : Exposure to ethanol may result in drowsiness and headache. Other symptoms may include stupor, nausea, mental excitement or depression, vomiting, flushing and coma. It can

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cause narcosis, impaired perception and incoordination. Ingestion of this compound can enhance the effects of several medicines like sedatives, tranquilizers, insulin, monoamine oxidase inhibitors, and antidepressants. Inhalation of aerosols may cause irritation to mucous membranes.

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

Biodegradability : Readily biodegradable
Toxicity to fish : ethanol: LC50 Leuciscus idus melanotus 8.150 mg/l 48 h
Toxicity to daphnia : ethanol:
EC50 Daphnia magna 9.268 - 14.221 mg/l 48 h
Toxicity to algae : ethanol: EC0 scenedesmus quadricauda 5.000 mg/l 168 h

Further information on ecology

Additional ecological information : Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

13. DISPOSAL CONSIDERATIONS

Product : Disposal together with normal waste is not allowed. Do not let product enter drains. Can be disposed of as a solid waste or burned in a suitable installation subject to local regulations.

packaging : Empty remaining contents. Do not burn, or use a cutting torch on, the empty drum. Risk of explosion. Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Clean container with water.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

14. TRANSPORT INFORMATION

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ADR	:	UN-No	1993
		Class	3
		Packaging group	II
		Classification Code	F1
		ADR/RID-Labels	3
		Risk No.	33
		Description of the goods	FLAMMABLE LIQUID, N.O.S. (Ethyl methyl ketone (Methyl ethyl ketone), Ethanol) Special Provision 640D
RID	:	UN-No	1993
		Class	3
		Packaging group	II
		Classification Code	F1
		ADR/RID-Labels	3
		Risk No.	33
		Description of the goods	FLAMMABLE LIQUID, N.O.S. (Ethyl methyl ketone (Methyl ethyl ketone), Ethanol) Special Provision 640D
IMDG	:	UN-No	1993
		Class	3
		Packaging group	II
		ADR/RID-Labels	3
		EmS	F-E, S-E
		Description of the goods	FLAMMABLE LIQUID, N.O.S. (Ethyl methyl ketone (Methyl ethyl ketone), Ethanol)

15. REGULATORY INFORMATION**Labelling according to EC Directives**

The product is classified and labelled in accordance with EC directives or respective national laws.



F Highly flammable

R-phrases)	R11	Highly flammable.
S-phrases)	S 7	Keep container tightly closed.
	S16	Keep away from sources of ignition - No smoking.
	S29	Do not empty into drains.
	S33	Take precautionary measures against static discharges.

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National legislation

- WGK (DE) : WGK:1; slightly water endangering; Self-classification according VwVwS of 17 May 1999, Annex 4
- Major Accident Hazard Legislation : Falls under the German StörfallV. 7b
- Regulation : Occupational restrictions: Take note of Dir 92/85/EEC on the safety and health of pregnant workers at work and of Dir 94/33/EC on the protection of young people at work.

16. OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3:**

- R11 Highly flammable.
R36 Irritating to eyes.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

Indicates updated section.