



SAFETY DATA SHEET

Date of issue: 31/07/02

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No: 28304

ID No.: 1010600

Product name: **Ethanol 99.7-100% (absolute) GPR**

Use of the substance/preparation: General chemical reagent. Organic solvent

Manufacturer/supplier identification

Company: VWR International Ltd
Hunter Boulevard, Magna Park, Lutterworth, Leicestershire, England, LE17 4XN
Telephone : + 44 (0) 1455 558600 Telefax : + 44 (0) 1455 558586

Emergency telephone No.: + 44 (0) 1202 669700

2. Composition/information on ingredients

Chemical characterization

Alcohol

Product name: Ethanol
Synonyms: Ethyl alcohol

CAS number: 64-17-5
EC Index No.: 603-002-00-5
Molecular formula: $C_2H_6O = 46.07 \text{ g/mol}$

EC-No.: 200-578-6

3. Hazards identification

Highly flammable.

4. First aid measures

- Eye contact: Irrigate thoroughly with water for at least 10 minutes. If discomfort persists, obtain medical attention.
- Inhalation: Remove from exposure, rest and keep warm. In severe cases obtain medical attention.
- Skin contact: Wash off thoroughly with soap and water. Remove contaminated clothing and wash before re-use. In severe cases, OBTAIN MEDICAL ATTENTION.
- Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. OBTAIN MEDICAL ATTENTION.

5. Fire-fighting measures

Special risks:

Highly flammable. Vapour/air mixture explosive.

Suitable extinguishing media:

Water spray, dry powder or vaporising liquids

6. Accidental release measures

Shut off all sources of ignition. Wear appropriate protective clothing. Ensure supply of fresh air in enclosed rooms.

Small amounts (e.g. <500ml): If local regulations permit, mop up with plenty of water and run to waste, diluting greatly with running water. Otherwise absorb on an inert absorbent, transfer to container and arrange removal by disposal company.

Ventilate area to dispel residual vapour.

For large spillages liquids should be contained with sand or earth and both liquids and solids transferred to salvage containers.

Any residues should be treated as for small spillages.

7. Handling and storage

Handling:

Take precautions against static discharge. All electrical equipment must be flameproofed.

Unsuitable working materials: various plastics.

Storage:

Store at room temperature (15 to 25°C recommended). Keep well closed and protected from direct sunlight and moisture. Store small containers in suitable flammable liquid storage cabinets when not in use. Larger drums (200l) must be kept in purpose-built stores.

8. Exposure controls/personal protection

UK Exposure Limits:

WEL - Ethanol:

Long term: 1920 mg/m³ (1000 ppm)

Monitoring procedure:

Using a suitable pump, draw a known quantity of workplace air through an absorption tube calibrated for the material concerned.

Personal protective equipment:

Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation.

As appropriate to the situation and the quantity handled.

- Ventilation: Fume cupboard, flameproof
- Respirator: Self-contained breathing apparatus
- Gloves: Butyl rubber, Viton™, PE/EVAL (Silver Shield)
- Eye Protection: Goggles or face-shield
- Other Precautions: Plastic apron, sleeves, boots - if handling large quantities

9. Physical and chemical properties

General information:

Form: liquid
Colour: colourless
Odour: characteristic

Health, safety and environmental information:

Melting temperature -117°C
Boiling temperature 78°C
Density(g/ml) 0.8
Vapour pressure 59 hPa (43mmHg) (20°C)
Relative vapour density: 1.59
Solubility in water Miscible in all proportions
pH value 7
Flash point 13°C
Explosion limits: lower: 3.3 %v/v
upper: 19 %v/v
Auto-ignition temperature 425°C
Viscosity: 1.2 mPas (20°C)
Log P(o/w): -0.32
Additional data: Dielectric constant: 24.3 (25°C)
Dipole moment: 1.7 Debye (20°C)
Refractive index: 1.3614 (20°C)

10. Stability and reactivity

Stable.

Substances to be avoided

alkali metals, alkaline earth metals, oxidizing agents, halogen-halogen compounds, alkali oxides, nonmetallic halides, anhydrides/acids, ethylene oxide, fluorine, hydrides, mercury compounds, silver compounds.
The possibility of reaction with other substances cannot be excluded.

11. Toxicological information

- After ingestion: Damage to: mucous membrane. Rapid absorption.
- After eye contact: May irritate.
- After skin contact: Degreasing effect on the skin, possibly followed by secondary inflammation.
After absorption: euphoria. After a latency period: dizziness, inebriation, paralysis, cyanosis, narcosis, respiratory paralysis.

Further data

LD50 (oral, rat): 6200 mg/kg
LC50 (inhalation, rat): >8000 mg/1/4h
LD50 (dermal, rabbit): >20000 mg/kg
Skin irritation test (rabbit): Slight irritation
Eye irritation test (rabbit):: Slight irritation
Ames-Test: negative
Sensitization test (Magnussun and Kligman)(guinea pig): negative

We have no evidence of carcinogenic effects. Evidence of reproductive effects.

12. Ecological information

Biological degradability: good. Bioaccumulation potential: low (Log Pow <2). In high concentrations: Harmful to aquatic organisms.

Further ecological data:

Fish toxicity:

LC50 (L.idus): 8140 mg.l/48h

Daphnia toxicity:

LC50 (Daphnia magna): 9268 - 14221 mg.l/48h

Algeal toxicity:

ECo (Scenedesmus quadricauda): 5000 mg/l/7d

Bacterial toxicity:

ECo (Pseudomonas putida): 6500 mg/l/16h

Remarks:

Adverse ecological effects cannot be excluded in the event of improper handling or disposal.

13. Disposal considerations

Chemical residues are generally classified as hazardous or special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company. Rinse out empty containers thoroughly before returning for recycling.

When recovery and recycling is not possible, incineration in a high temperature incinerator is the recommended method of disposal.

14. Transport information

UN-No.: 1170

Class: 3

Packaging group: II

Proper shipping name: ETHANOL

15. Regulatory information

Labelling according to EC directives

Symbol(s): F Highly flammable.

R-phrases: R11

Highly flammable.

S-phrases: S7-16

Keep container tightly closed. Keep away from sources of ignition - No smoking.

EC-No.: 200-578-6

Local Regulations

Within the UK, the use of this material must be assessed under the Dangerous Substances and Explosive Atmospheres (DSEAR) Regulations.

U.K. Transport Category 2

Within the UK, the use of this material must be assessed under the Control of Substances Hazardous to Health (COSHH) regulations.

16. Other information

Revision.

Supersedes issue of 23/01/01

Reason for alteration Changes in Section : 9, 11, 12.

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