

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifiers**Product name: **ETHANOL**CAS-No.: **64-17-5**Product Number: **A67738****1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Philip Harris Ltd., 2 Gregory Street, Hyde, Cheshire, SK14 4HR,

UNITED KINGDOM

Telephone: +44 (0)845 1200 506 Fax: +44 (0)161 367 2140

Email: enquiries@philipharris.co.uk

1.4 Emergency telephone numberEmergency Phone #: **+44 (0)845 1200 506****2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****According to Regulation (EC) No1272/2008:** Flammable solids (Category 1); Acute aquatic toxicity (Category 1); Chronic aquatic toxicity (Category 1)**According to European Directive 67/548/EEC as amended:** Highly flammable.**2.2 Label elements**

Pictogram

Signal word

Danger

Hazard statement(s): H225 Highly flammable liquid and vapour.**Precautionary statement(s):** P210 Keep away from heat/sparks/open flames/hot surfaces.**Hazard symbol(s):** F Highly flammable**R-phrase(s):** R11 Highly flammable.**S-phrase(s):** S7 Keep container tightly closed. S16 Keep away from sources of ignition.**2.3 Other hazards** – no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ethanol (Synonyms : Ethyl alcohol)

Formula:	CH₃CH₂OH
Molecular Weight:	46.07
CAS-No.:	64-17-5
EC-No.:	200-578-6
Index-No.:	603-002-00-5

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact: Wash off with soap and plenty of water.

In case of eye contact: Flush eyes with water as a precaution.

If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed: no data available

4.3 Indication of immediate medical attention and special treatment needed: no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

5.2 Special hazards arising from the substance or mixture: no data available

5.3 Precautions for fire-fighters: Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information: Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections: For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic

7.3 Specific end uses: no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS No.	Value	Control Parameters	Update
Ethanol	64-17-5	TWA	1000ppm 1920mg/m ³	2005-04-06

UK. EH40 Occupational Exposure Limits. Remarks Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection: Face shield and safety glasses

Skin protection: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.

Body Protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance: **Form:** Liquid **Colour:** Clear, colourless
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: no data available
- e) Melting/freezing point: 114 °C Melting point/range: no data available
- f) Initial boiling point and boiling range: 78.3 °C
- g) Flash point: 14.0 °C - closed cup
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: 3.3-19% (V)
- k) Vapour pressure: 59.5 hPa at 20.0 °C
- l) Vapour density: 0.789 g/mL at 20 °C
- m) Relative density: no data available
- n) Water solubility: completely soluble
- o) Partition coefficient: n-octanol/water: no data available
- p) Autoignition temperature: 363 °C
- q) Decomposition temperature: no data available
- r) Viscosity: no data available
- s) Explosive properties: no data available
- t) Oxidizing properties: no data available

9.2 Other safety information: no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity: no data available

10.2 Chemical stability: Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions: no data available

10.4 Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials: Alkali metals, Ammonia, Oxidizing agents, Peroxides

10.6 Hazardous decomposition products: Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: LD50 Oral - rat - 7,060 mg/kg. Remarks: Lungs, Thorax, or Respiration: Other changes.

LC50 Inhalation - rat - 10 h - 20000 ppm

Skin corrosion/irritation: Skin - rabbit - Irritating to skin. - 24 h

Serious eye damage/eye irritation: Eyes - rabbit - Mild eye irritation - 24 h

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity: Carcinogenicity - mouse – Oral: Tumourigenic: Equivocal tumourigenic agent by RTECS criteria. Liver: Tumours. Blood: Lymphomas including Hodgkin's disease. This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity: Reproductive toxicity - Human - female – Oral: Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects. Effects on Newborn: Drug dependence.

Specific target organ toxicity - single exposure: Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Central nervous system depression, narcosis, Damage to the heart.

Additional Information: RTECS: KQ6300000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - 13,000.00 mg/L - 96 h

LC50 - *Oncorhynchus mykiss* (rainbow trout) - 10,400.00 mg/L - 96 h

LC50 - *Pimephales promelas* (fathead minnow) - 15,300.00 mg/L - 96 h

LC50 - other fish - 10,000.00 mg/L - 24 h

Toxicity to daphnia and other aquatic invertebrates.

EC50 - *Daphnia magna* (Water flea) - 9.30 mg/L - 48 h

12.2 Persistence and degradability: no data available

12.3 Bioaccumulative potential: no data available

12.4 Mobility in soil: no data available

12.5 Results of PBT and vPvB assessment: no data available

12.6 Other adverse effects: no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN-Number

ADR/RID: 1170 IMDG: 1170 IATA: 1170

14.2 UN proper shipping name

ADR/RID: ETHANOL

IMDG: ETHANOL

IATA: ETHANOL

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for users

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

no data available

16. OTHER INFORMATION

Flam. Liq. Flammable liquids

H225 Highly flammable liquid and vapour.

F Highly flammable

R11 Highly flammable.