

**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: **F76864****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

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Email: enquiries@philipharris.co.uk

**1.4 Emergency telephone number**Emergency 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:	<b>CH<sub>3</sub>CH<sub>2</sub>OH</b>
Molecular Weight:	<b>46.07g/mol</b>
CAS-No.:	<b>64-17-5</b>
EC-No.:	<b>200-578-6</b>
Index-No.:	<b>603-002-00-5</b>

### 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 <sup>3</sup>	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.