

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name: **Acetaldehyde**
 CAS-No.: **75-07-0**
 Product Number: **F75501**

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 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 liquids (Category 1), Carcinogenicity (Category 2), Eye irritation (Category 2), Specific target organ toxicity - single exposure (Category 3)
According to European Directive 67/548/EEC as amended: Extremely flammable. Limited evidence of a carcinogenic effect. Irritating to eyes and respiratory system.


2.2 Label elements

Pictogram			
Signal word		Danger	

Hazard statement(s): H319 Causes serious eye irritation. H224 Extremely flammable liquid and vapour. H335 May cause respiratory irritation. H351 Suspected of causing cancer.

Precautionary statement(s): P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P281 Use personal protective equipment as required. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)		
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R-phrases(s): R12 Extremely flammable. R36/37 Irritating to eyes and respiratory system. R40 Limited evidence of a carcinogenic effect.

S-phrases(s): S16 Keep away from sources of ignition - No smoking. S33 Take precautionary measures against static discharges. S36/37 Wear suitable protective clothing and gloves.

2.3 Other hazards – no data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Acetaldehyde (Synonyms : Ethanal)

Formula: **CH₃CHO**
Molecular Weight: **44.05**
CAS-No.: **75-07-0**
EC-No.: **200-836-8**
Index-No.: **605-003-00-6**

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: Rinse thoroughly with plenty of water for at least 15 minutes.

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: Blurred vision,
Unconsciousness

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: Carbon oxides

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: Use personal protective equipment. 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. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local 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 contact with skin and eyes. 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. Recommended storage temperature: 2 - 8 °C Store under inert gas. Air sensitive.

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
Acetaldehyde	75-07-0	STEL	50ppm 92mg/m ³	UK. EH40 WEL
Acetaldehyde	75-07-0	TWA	20ppm 37mg/m ³	UK. EH40 WEL

Workplace Exposure Limits

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: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory

practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (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:** Colourless
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: no data available
- e) Melting/freezing point: -125 °C Melting point/range: no data available
- f) Initial boiling point and boiling range: 21 °C
- g) Flash point: -40 °C - closed cup
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: 4-60%(V)
- k) Vapour pressure: 1,008.5 hPa at 20 °C; 1,451 hPa at 30 °C; 2,660 hPa at 55 °C
- l) Vapour density: 1.52 - (Air = 1.0)
- m) Relative density: 0.785 g/cm³ at 25 °C
- n) Water solubility: completely miscible
- o) Partition coefficient: n-octanol/water: 0.5
- p) Autoignition temperature: no data available
- 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: no data available

10.3 Possibility of hazardous reactions: no data available

10.4 Conditions to avoid: Air Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials: Oxidizing agents, Reducing agents, acids, Nitric acid, Peroxides, Bases, Sodium Hydroxide, Amines, Ammonia, Oxygen, Warning: acetaldehyde is oxidized rapidly and exothermically by air, to acetic acid, Acid anhydrides, Alcohols, Halogens, Ketones, Phenol, Hydrogen cyanide (hydrocyanic acid)

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 - 661 mg/kg. Remarks: Peripheral Nerve and Sensation: Spastic paralysis with or without sensory change.

Behavioural: Altered sleep time (including change in righting reflex). Lungs, Thorax, or Respiration: Dyspnoea.

LC50 Inhalation - rat - 4 h - 13300 ppm. Remarks: Behavioural: Excitement. Lungs, Thorax, or Respiration: Dyspnoea.

LD50 Dermal - rabbit - 3,540 mg/kg

Skin corrosion/irritation: Skin - rabbit - Mild skin irritation

Serious eye damage/eye irritation: Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitization: May cause allergic skin reaction.

Germ cell mutagenicity: Laboratory experiments have shown mutagenic effects.

Carcinogenicity: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies IARC: 2B - Group 2B: Possibly carcinogenic to humans (Acetaldehyde)

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: 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. Causes respiratory tract irritation.

Ingestion Harmful if swallowed.

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

Eyes Causes eye burns.

Signs and Symptoms of Exposure: Blurred vision, Unconsciousness

Additional Information: RTECS: AB1925000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 31 mg/l - 96 h

LC100 - *Leuciscus idus* (Golden orfe) - 124 - 156 mg/l - 48 h

Toxicity to daphnia and other aquatic invertebrates.

EC50 - *Daphnia magna* (Water flea) - 48 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: Harmful to aquatic life.

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. Offer surplus and non-recyclable solutions to a licensed disposal company. 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: 1089 IMDG: 1089 IATA: 1089

14.2 UN proper shipping name

ADR/RID: ACETALDEHYDE

IMDG: ACETALDEHYDE

IATA: ACETALDEHYDE

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: I IMDG: I IATA: I

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

no data available