

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifiers**Product name: **CYCLOHEXENE**CAS-No.: **110-83-8**Product Number: **A67453****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 liquids (Category 2); Acute toxicity, Oral (Category 4); Acute toxicity, Dermal (Category 3).**According to European Directive 67/548/EEC as amended:** Highly flammable. Harmful in contact with skin and if swallowed.**2.2 Label elements**

Pictogram:



Signal word: Danger

Hazard statement(s): H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H311 Toxic in contact with skin.**Precautionary statement(s):** P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P280 Wear protective gloves/ protective clothing. P312 Call a POISON CENTER or doctor/physician if you feel unwell.**According to European Directive 67/548/EEC as amended.**



Hazard symbol(s):

R-phrases(s): R11 Highly flammable. R21/22 Harmful in contact with skin and if swallowed.

S-phrases(s): S16 Keep away from sources of ignition - No smoking. S29 Do not empty into drains. S33 Take precautionary measures against static discharges. S36/37 Wear suitable protective clothing and gloves.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Cyclohexene (Synonyms : Tetrahydrobenzene)

Formula: **CH:CH(CH₂)₃CH₂**

Molecular Weight: **82.14g/mol**

CAS-No.: **110-83-8**

EC-No.: **203-807-8**

Index-No.: **603-009-00-3**

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. Take victim immediately to hospital.

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: Nausea, Dizziness, Headache, Central nervous system depression, Exposure to high airborne concentrations can cause anaesthetic effects.

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: Use water spray, alcohol-resistant foam, dry chemical or carbon 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: Wear respiratory protection. 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.

7.3 Specific end uses: no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: Contains no substances with occupational exposure limit values.

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 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 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:** Colourless
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: no data available
- e) Melting/freezing point: 104 °C Melting point/range: no data available
- f) Initial boiling point and boiling range: 83 °C
- g) Flash point: 12 °C - closed cup
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: 1-5%(V)
- k) Vapour pressure: 1.31 hPa at 25 °C
- l) Vapour density: 2.84 - (Air = 1.0)
- m) Relative density: 0.811 g/mL at 25 °C
- n) Water solubility: insoluble
- o) Partition coefficient: n-octanol/water: 3.27
- 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: Contains the following stabiliser(s): BHT (0.01 %)

10.3 Possibility of hazardous reactions: no data available

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

10.5 Incompatible materials: Strong oxidizing agents

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 - 1,940 mg/kg

LD50 Dermal - rabbit - > 200 mg/kg

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity: 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: no data available

Specific target organ toxicity - single exposure: no data available

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 Harmful if swallowed.

Skin Toxic if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Nausea, Dizziness, Headache, Central nervous system depression, Exposure to high airborne concentrations can cause anaesthetic effects.

Additional Information: RTECS: GW2500000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Toxicity to fish LC50 - *Poecilia reticulata* (guppy) - 7.1 mg/L - 96 h

Toxicity to daphnia and other aquatic invertebrates.

EC50 - *Daphnia magna* (Water flea) - 5.3 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: Toxic 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: 2256 IMDG: 2256 IATA: 2256

14.2 UN proper shipping name

ADR/RID: CYCLOHEXENE

IMDG: CYCLOHEXENE

IATA: CYCLOHEXENE

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: -

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

No data