

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifiers**Product name: **CHLOROBENZENE**CAS-No.: **108-90-7**Product Number: **A66965****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 sheetCompany : 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 3); Acute toxicity (Category 4); Chronic aquatic toxicity (Category 2)**According to European Directive 67/548/EEC as amended:** Flammable. Harmful by inhalation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.**2.2 Label elements**

Pictogram			
Signal word	Warning		

Hazard statement(s)

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273 Avoid release to the environment.

Hazard symbol(s)

Xn Harmful

N Dangerous for the environment

R-phrases)

R10 Flammable.

R20 Harmful by inhalation.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S24/25 Avoid contact with skin and eyes.

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards – no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chlorobenzene

Formula:	C₆H₅Cl
Molecular Weight:	112.56g/mol
CAS-No.:	108-90-7
EC-No.:	203-628-5
Index-No.:	602-033-00-1

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: 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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. 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 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). Keep in suitable, closed containers for disposal.

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. 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

Components with workplace control parameters

Component	CAS No.	Value	Control Parameters	Update
Chlorobenzene	108-90-7	STEL	3ppm (UK) 15ppm (EU) / 70mg/m ³ (EU)	2006-04-06 / 2006-02-09
Chlorobenzene	108-90-7	TWA	1ppm (UK) 5ppm (EU) / 23mg/m ³ (EU)	2006-04-06 / 2006-02-09

UK. EH40 Occupational Exposure Limits: Remarks Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

Europe Commission Directive 91/322/EEC on establishing indicative limit values. Remarks Indicative.

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

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

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., 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: -45 °C Melting point/range: no data available
- f) Initial boiling point and boiling range: 132 °C
- g) Flash point: 27.0 °C - closed cup
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: 1.3-7.1%(V)
- k) Vapour pressure: 15.7 hPa at 25.0 °C
- l) Vapour density: 1.106 g/cm³ at 25 °C
- m) Relative density: no data available
- n) Water solubility: no data available
- o) Partition coefficient: n-octanol/water: 2.89
- p) Autoignition temperature: 637 °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

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

11.1 *Information on toxicological effects*

Acute toxicity

LC50 Inhalation - rat - 2965 ppm

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

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

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 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

no data available

Additional Information

RTECS: CZ0175000

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish LC100 - *Leuciscus idus* (Golden orfe) - 0.03 - 28 mg/L - 48.0 h

LC50 - *Cyprinodon variegatus* (sheepshead minnow) - 10 mg/L - 96.0 h

LC50 - *Lepomis macrochirus* (Bluegill) - 4.5 - 7.4 mg/L - 76.0 h

NOEC - *Cyprinodon variegatus* (sheepshead minnow) - 6.2 mg/L - 96.0 h

Toxicity to daphnia and other aquatic invertebrates.

EC50 - *Daphnia magna* (Water flea) - 4.30 - 16.00 mg/L - 24 h

EC50 - No information available. - 7.60 mg/L - 24 h

NOEC - *Daphnia magna* (Water flea) - < 1.4 mg/L - 11 d

LC50 - *Daphnia magna* (Water flea) - 10.7 mg/L - 48 h

Toxicity to algae EC50 - No information available. - 235.00 mg/L - 48 h

EC50 - *Pseudokirchneriella subcapitata* (green algae) - 12.50 mg/L - 96 h

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Bioaccumulation *Leuciscus idus* (Golden orfe) - 3 d

Bioconcentration factor (BCF): 75

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 organisms, may cause long-term adverse effects in the aquatic environment.

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. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. 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: 1134 IMDG: 1134 IATA: 1134

14.2 UN proper shipping name

ADR/RID: CHLOROBENZENE

IMDG: CHLOROBENZENE

IATA: CHLOROBENZENE

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

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

14.6 Special precautions for users

EMS-No: F-E, S-D

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

Acute Tox. Acute toxicity

Aquatic Chronic Chronic aquatic toxicity

Flam. Liq. Flammable liquids

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

H411 Toxic to aquatic life with long lasting effects.

N Dangerous for the environment

Xn Harmful

R10 Flammable.

R20 Harmful by inhalation.

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