

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

1.1 Product identifiers

Product name: **HEXANE FRACTION**

CAS-No.: **110-54-3**

Product Number: **A68109**

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 2), Reproductive toxicity (Category 2), Aspiration hazard (Category 1), Specific target organ toxicity - repeated exposure (Category 2), Skin irritation (Category 2), Specific target organ toxicity - single exposure (Category 3), Chronic aquatic toxicity (Category 2)

According to European Directive 67/548/EEC as amended: Highly flammable. Possible risk of impaired fertility. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Pictogram



Signal word

Danger

Hazard statement(s): H225 Highly flammable liquid and vapour. H315 Causes skin irritation. H373 May cause damage to organs through prolonged or repeated exposure. H304 May be fatal if

swallowed and enters airways. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects. H361f Suspected of damaging fertility.

Precautionary statement(s): P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P273 Avoid release to the environment. P281 Use personal protective equipment as required. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331 Do NOT induce vomiting.

Hazard symbol(s): F Highly flammable Xn Harmful N Dangerous for the environment

R-phrase(s): R11 Highly flammable. R38 Irritating to skin. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R62 Possible risk of impaired fertility. R65 Harmful: may cause lung damage if swallowed. R67 Vapours may cause drowsiness and dizziness. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s): S9 Keep container in a well-ventilated place. 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. S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets. S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

2.3 Other hazards – no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

n-Hexane (Synonyms : Hexane Fraction)

Formula: $\text{CH}_3(\text{CH}_2)_4\text{CH}_3$

Molecular Weight: 86.18g/mol

CAS-No.: 110-54-3

EC-No.: 203-777-6

Index-No.: 601-037-00-0

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. 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 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 contact with skin and eyes. Avoid inhalation of vapour or mist. Flash back possible over considerable distance. Container explosion may occur under fire conditions. 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

Components with workplace control parameters

Component	CAS No.	Value	Control Parameters	Update
n-Hexane	110-54-3	TWA	20ppm 72mg/m ³	2007-08-01
n-Hexane	110-54-3	TWA	20ppm 72mg/m ³	2006-02-09

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.

Europe. Indicative occupational exposure limit values 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: 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:** Colourless
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: pH 7.0
- e) Melting/freezing point: 95 °C Melting point/range: no data available
- f) Initial boiling point and boiling range: 69 °C
- g) Flash point: 26.0 °C - closed cup
- h) Evaporation rate: 15.8
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: 1.2-7.7%(V)
- k) Vapour pressure: 341.3 hPa at 37.7 °C, 176.0 hPa at 20.0 °C
- l) Vapour density: no data available
- m) Relative density: 0.659 g/mL at 25 °C

- n) Water solubility: Insoluble
o) Partition coefficient: n-octanol/water: 3.90 - 4.11
p) Autoignition temperature: 234 °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: Exposure to moisture may affect product quality. Heat, flames and sparks.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Carbon oxides

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: LD50 Oral - rat - 25,000 mg/kg

LC50 Inhalation - rat - 4 h - 48000 ppm

Skin corrosion/irritation: no data available

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

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity: Carcinogenicity - rat - Inhalation

Tumourigenic: Carcinogenic by RTECS criteria. Tumourigenic Effects: Testicular tumours.

Reproductive toxicity: Suspected human reproductive toxicant. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure: May cause damage to organs.

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: May be fatal if swallowed and enters airways.

Potential health effects

Inhalation Harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.

Ingestion May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

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

Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Prolonged or repeated contact with skin may cause: defatting, Dermatitis, Contact with eyes can cause: Redness, Blurred vision, Provokes tears., Effects due to ingestion may include: Gastrointestinal discomfort, Central nervous system depression, Lung irritation, chest pain, pulmonary edema, giddiness, slowed reaction time, slurred speech, Headache, Dizziness, Drowsiness, Unconsciousness

Additional Information: RTECS: MN9275000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 2.5 mg/L - 96.0 h

Toxicity to daphnia and other aquatic invertebrates.

EC50 - *Daphnia magna* (Water flea) - 3,878.00 mg/L - 48 h

Toxicity to algae EC50 - *Chlorella vulgaris* (Fresh water algae) - 12,840.00 mg/L - 3 h

EC50 - SKELETOMA - 0.30 mg/L - 8 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 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. 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: 1208 IMDG: 1208 IATA: 1208

14.2 UN proper shipping name

ADR/RID: HEXANES

IMDG: HEXANES

IATA: HEXANES

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

MS-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: Aquatic Chronic Chronic aquatic toxicity. Asp. Tox. Aspiration hazard
Flam. Liq. Flammable liquids. H225 Highly flammable liquid and vapour. H304 May be fatal if
swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility. H373 May cause damage to organs through prolonged or
repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Repr. Reproductive toxicity. Skin Irrit. Skin irritation. STOT RE Specific target organ toxicity - repeated
exposure. F Highly flammable. N Dangerous for the environment. Xn Harmful.
R11 Highly flammable. R38 Irritating to skin. R48/20 Harmful: danger of serious damage to health by
prolonged exposure through inhalation. R51/53 Toxic to aquatic organisms, may cause long-term
adverse effects in the aquatic environment. R62 Possible risk of impaired fertility. R65 Harmful: may
cause lung damage if swallowed. R67 Vapours may cause drowsiness and dizziness.
Repr.Cat.3 Toxic to Reproduction Category 3