

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

1.1 Product identifiers

Product name: **LEAD (II) OXIDE**

CAS-No.: **1317-36-8**

Product Number: **A68779**

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; Reproductive toxicity (Category 1A), Acute toxicity, Inhalation (Category 4), Acute toxicity, Oral (Category 4), Specific target organ toxicity - repeated exposure (Category 2), Acute aquatic toxicity (Category 1), Chronic aquatic toxicity (Category 1)

According to European Directive 67/548/EEC as amended: May cause harm to the unborn child. Possible risk of impaired fertility. Harmful by inhalation and if swallowed. Danger of cumulative effects. Very 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): H302 Harmful if swallowed. H332 Harmful if inhaled. H360 May damage fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s): P201 Obtain special instructions before use. P273 Avoid release to the environment. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P501 Dispose of contents/ container to an approved waste disposal plant.

Hazard symbol(s) T Toxic N Dangerous for the environment

R-phrases(s): R61 May cause harm to the unborn child. R20/22 Also harmful by inhalation and if swallowed. R33 Danger of cumulative effects. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R62 Possible risk of impaired fertility.

S-phrases(s): S53 Avoid exposure - obtain special instructions before use. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S60 This material and its container must be disposed of as hazardous waste. S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets. Restricted to professional users.

2.3 Other hazards – no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Lead monoxide

Formula: **PbO**
Molecular Weight: **223.2g/mol**
CAS-No.: **1317-36-8**
EC-No.: **215-267-0**
Index-No.: **082-001-00-6**

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: Flush eyes with water as a precaution.

If swallowed: 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: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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: no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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: Pick up and arrange disposal without creating dust. Sweep up and shovel. 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 contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

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
Lead monoxide	1317-36-8	TWA	0.15mg/m ³	1998-05-05

Europe Chemical Agents Directive - Annex I: Binding occupational exposure limit values. Remarks Binding

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: Safety glasses with side-shields conforming to EN166 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, 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 particle respirator type N100 (US) or type P3 (EN 143) 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: Powder | Colour: Yellow |
| b) Odour: | no data available | |
| c) Odour Threshold: | no data available | |
| d) pH: | pH 9.9 at 100 g/l at 20 °C | |
| e) Melting/freezing point: | 886 °C | Melting point/range: no data available |
| f) Initial boiling point and boiling range: | no data available | |
| g) Flash point: | no data available | |
| h) Evaporation rate: | no data available | |
| i) Flammability (solid, gas): | no data available | |
| j) Upper/lower flammability or explosive limits: | no data available | |
| k) Vapour pressure: | no data available | |
| l) Vapour density: | no data available | |
| m) Relative density: | 9.530 g/cm ³ | |
| n) Water solubility: | no data available | |
| o) Partition coefficient: n-octanol/water: | no data available | |
| 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: Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions: no data available

10.4 Conditions to avoid: no data available

10.5 Incompatible materials: Hydrogen peroxide, Strong oxidizing agents, acids

10.6 Hazardous decomposition products: Hazardous decomposition products formed under fire conditions. - Lead oxides

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: no data available

Skin corrosion/irritation: Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: Genotoxicity in vitro - Hamster - Embryo

Morphological transformation.

Carcinogenicity: IARC: 2A - Group 2A: Probably carcinogenic to humans (Lead monoxide)

Reproductive toxicity: May cause congenital malformation in the foetus. Known human reproductive toxicant

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: no data available

Potential health effects

Inhalation Harmful if inhaled. May cause respiratory tract irritation.

Ingestion Harmful if swallowed.

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

Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Lead salts have been reported to cross the placenta and to induce embryo- and feto- mortality. They also have teratogenic effect in some animal species. No teratogenic effects have been reported with exposure to organometallic lead compounds. Adverse effects of lead on human reproduction, embryonic and foetal development, and postnatal (e.g., mental) development have been reported. Excessive exposure can affect blood, nervous, and digestive systems. The synthesis of haemoglobin is inhibited and results in anaemia. If left untreated, neuromuscular dysfunction, possible paralysis, and encephalopathy can result. Additional symptoms of overexposure include: joint and muscle pain, weakness of the extensor muscles (frequently the hand and wrist), headache, dizziness, abdominal pain, diarrhoea, constipation, nausea, vomiting, blue line on the gums, insomnia, and metallic taste. High body levels produce increased cerebrospinal pressure, brain damage, and stupor leading to coma and often death., Anorexia., Vomiting, Convulsions, Nausea, Headache, Weakness, anaemia, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information: RTECS: OG1750000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 0.298 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates.

EC50 - *Daphnia magna* (Water flea) - 0.132 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: Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN-Number

ADR/RID: 2291 IMDG: 2291 IATA: 2291

14.2 UN proper shipping name

ADR/RID: LEAD COMPOUND, SOLUBLE, N.O.S.

IMDG: LEAD COMPOUND, SOLUBLE, N.O.S.

IATA: LEAD COMPOUND, SOLUBLE, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

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

14.6 Special precautions for users: EMS-No: F-A, S-A

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 Acute Acute aquatic toxicity

Aquatic Chronic Chronic aquatic toxicity

H302 Harmful if swallowed. H332 Harmful if inhaled. H360Df May damage the unborn child. Suspected of damaging fertility. H373 May cause damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.

Repr. Reproductive toxicity

STOT RE Specific target organ toxicity - repeated exposure

N Dangerous for the environment

T Toxic

R20/22 Harmful by inhalation and if swallowed. R33 Danger of cumulative effects. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R61 May cause harm to the unborn child. R62 Possible risk of impaired fertility.

Repr.Cat.1 Toxic to Reproduction Category 1

Repr.Cat.3 Toxic to Reproduction Category 3