## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier
- **Product name**: Phoxim
- **Product number**: FP148624
- **CAS number**: 14816-18-3
- **EC number**: 238-887-3

### 1.2. Relevant identified uses of the substance or mixture and uses advised against
- **Identified uses**: Laboratory reagent. Manufacture of substances. Research and development.

### 1.3. Details of the supplier of the safety data sheet
- **Supplier**: Carsynth Ltd
  - 8&9 Old Station Business Park
  - Compton
  - Berkshire
  - RG20 6NE
  - UK
  - +44 1635 578444
  - +44 1635 579444
  - info@carsynth.com

### 1.4. Emergency telephone number
- **Emergency telephone**: +44 7887 998634

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (EC 1272/2008)
- **Physical hazards**: Not Classified
- **Health hazards**: Acute Tox. 4 - H302 Acute Tox. 3 - H311 Acute Tox. 2 - H330 Skin Sens. 1 - H317 Repr. 2 - H361
- **Environmental hazards**: Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

### 2.2. Label elements
- **EC number**: 238-887-3

#### Pictogram
- ![Chemical symbol]
- ![Health symbol]
- ![Environmental symbol]

#### Signal word
- Danger
Phoxim

Hazard statements
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards
No data available.

SECTION 3: Composition/information on ingredients

3.1. Substances
Product name Phoxim
CAS number 14816-18-3
EC number 238-887-3
Chemical formula C₁₂H₁₅N₂O₃PS

SECTION 4: First aid measures

4.1. Description of first aid measures
General information Get medical advice/attention if you feel unwell.
Inhalation Remove person to fresh air and keep comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms are severe or persist.
Ingestion Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.
Skin contact Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.
Eye contact Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

4.2. Most important symptoms and effects, both acute and delayed
General information See Section 11 for additional information on health hazards.

4.3. Indication of any immediate medical attention and special treatment needed
Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Phoxim

Suitable extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

None known.

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances:

- Harmful gases or vapours.
- Oxides of carbon.
- Oxides of nitrogen.
- Oxides of phosphorus.
- Oxides of sulphur.

5.3. Advice for firefighters

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapours. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions

Environmental precautions

Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Absorb spillage with sand or other inert absorbent. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Provide adequate ventilation. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Wear protective clothing as described in Section 8 of this safety data sheet. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Keep container tightly closed. Store in a cool and well-ventilated place. Keep containers upright. Store at temperatures between 2°C and 8°C.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits
Phoxim

No exposure limits known for ingredient(s).

8.2. Exposure controls

Appropriate engineering controls
Provide adequate ventilation.

Eye/face protection
Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance
Liquid.

Colour
Colourless. to Yellow. to Brown. Yellow.

Odour
No data available.

Odour threshold
No data available.

pH
No data available.

Melting point
No data available.

Initial boiling point and range
No data available.

Flash point
No data available.

Evaporation rate
No data available.

flammability (solid, gas)
No data available.

Upper/lower flammability or explosive limits
No data available.

Vapour pressure
No data available.

Vapour density
No data available.

Relative density
No data available.

Solubility(ies)
Slightly soluble in water.

Partition coefficient
log Pow: 4.39

Auto-ignition temperature
No data available.
Phoxim

**Decomposition Temperature**  No data available.

**Viscosity**  No data available.

**Explosive properties**  No data available.

**Oxidising properties**  No data available.

9.2. Other information

**Molecular weight**  298.30

### SECTION 10: Stability and reactivity

10.1. Reactivity

**Reactivity**  No data available.

10.2. Chemical stability

**Stability**  Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions**  No data available.

10.4. Conditions to avoid

**Conditions to avoid**  No data available.

10.5. Incompatible materials

**Materials to avoid**  Strong oxidising agents.

10.6. Hazardous decomposition products


### SECTION 11: Toxicological information

11.1. Information on toxicological effects

**Acute toxicity - oral**

**Notes (oral LD₅₀)**  Acute Tox. 4 - H302 Harmful if swallowed.

**ATE oral (mg/kg)**  500.0

**Acute toxicity - dermal**

**Acute toxicity dermal (LD₅₀ mg/kg)**  1,000.0

**Species**  Rat

**Notes (dermal LD₅₀)**  Acute Tox. 3 - H311 Toxic in contact with skin.

**ATE dermal (mg/kg)**  1,000.0

**Acute toxicity - inhalation**

**Notes (inhalation LC₅₀)**  Acute Tox. 2 - H330 Fatal if inhaled.

**ATE Inhalation (vapours mg/l)**  0.5

**Skin corrosion/irritation**

**Animal data**  Based on available data the classification criteria are not met.

**Serious eye damage/irritation**
Phoxim

<table>
<thead>
<tr>
<th><strong>Serious eye damage/irritation</strong></th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiratory sensitisation</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Skin sensitisation</strong></td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals.</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>IARC carcinogenicity</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Reproductive toxicity - fertility</strong></td>
<td>Suspected of damaging fertility.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity - development</strong></td>
<td>Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity - single exposure</strong></td>
<td></td>
</tr>
<tr>
<td><strong>STOT - single exposure</strong></td>
<td>Not classified as a specific target organ toxicant after a single exposure.</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity - repeated exposure</strong></td>
<td></td>
</tr>
<tr>
<td><strong>STOT - repeated exposure</strong></td>
<td>Not classified as a specific target organ toxicant after repeated exposure.</td>
</tr>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>General information</strong></td>
<td>Avoid contact during pregnancy/while nursing. May damage fertility. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>A single exposure may cause the following adverse effects: Difficulty in breathing. Unconsciousness, possibly death.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>May cause sensitisation or allergic reactions in sensitive individuals. May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>May cause skin sensitisation or allergic reactions in sensitive individuals. A single exposure may cause the following adverse effects: Pain.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>No specific symptoms known.</td>
</tr>
<tr>
<td><strong>Route of exposure</strong></td>
<td>Ingestion Inhalation Skin and/or eye contact</td>
</tr>
<tr>
<td><strong>Target organs</strong></td>
<td>No specific target organs known.</td>
</tr>
<tr>
<td><strong>Medical considerations</strong></td>
<td>Skin disorders and allergies.</td>
</tr>
<tr>
<td><strong>RTECS #</strong></td>
<td>MD4740000</td>
</tr>
</tbody>
</table>
Phoxim

SECTION 12: Ecological Information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

12.1. Toxicity

Acute aquatic toxicity

LE(C50) 0.1 < L(E)C50 ≤ 1

M factor (Acute) 1

Acute toxicity - fish

LC50, 96 hour: 0.2 - 0.8 mg/l, Oncorhynchus mykiss (Rainbow trout)

Chronic aquatic toxicity

NOEC 0.01 < NOEC ≤ 0.1

Degradability

Non-rapidly degradable

M factor (Chronic) 1

12.2. Persistence and degradability

Persistence and degradability

The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

log Pow: 4.39

12.4. Mobility in soil

Mobility

No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 2810

UN No. (IMDG) 2810

UN No. (ICAO) 2810

UN No. (ADN) 2810

14.2. UN proper shipping name

Proper shipping name

TOXIC LIQUID, ORGANIC, N.O.S. (Phoxim)

(ADR/RID)
Phoxim

Proper shipping name (IMDG) TOXIC LIQUID, ORGANIC, N.O.S. (Phoxim)
Proper shipping name (ICAO) TOXIC LIQUID, ORGANIC, N.O.S. (Phoxim)
Proper shipping name (ADN) TOXIC LIQUID, ORGANIC, N.O.S. (Phoxim)

14.3. Transport hazard class(es)
ADR/RID class 6.1
ADR/RID classification code T1
ADR/RID label 6.1
IMDG class 6.1
ICAO class/division 6.1
ADN class 6.1

Transport labels

14.4. Packing group
ADR/RID packing group III
IMDG packing group III
ADN packing group III
ICAO packing group III

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user
EmS F-A, S-A
ADR transport category 2
Emergency Action Code 2X
Hazard Identification Number (ADR/RID) 60
Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
Phoxim

EU legislation

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Training advice
Only trained personnel should use this material.

Revision date
30/08/2019

Revision
1

SDS number
144929

Hazard statements in full
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.