

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifiers**Product name: **Zinc nitrate hexahydrate**CAS-No.: **10196-18-6**Product Number: **A72448****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;** Oxidizing solids (Category 2), Acute toxicity, Oral (Category 4), Skin irritation (Category 2), Eye irritation (Category 2), Specific target organ toxicity - single exposure (Category 3)

**According to European Directive 67/548/EEC as amended:** Contact with combustible material may cause fire. Harmful if swallowed. Irritating to eyes, respiratory system and skin.

**2.2 Label elements**

Pictogram



Signal word

Danger

**Hazard statement(s):** H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.

**Precautionary statement(s):** P220 Keep/Store away from clothing/ combustible materials. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Hazard symbol(s):**

**R-phrases(s):** R 8 Contact with combustible material may cause fire. R22 Harmful if swallowed. R36/37/38 Irritating to eyes, respiratory system and skin.

**S-phrases(s):** S17 Keep away from combustible material. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**2.3 Other hazards** – no data available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

##### Zinc nitrate hexahydrate

Formula:  $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$

Molecular Weight: 297.49

CAS-No.: 10196-18-6

EC-No.: 231-943-8

### 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:** 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:** 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 dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**6.2 Environmental precautions:** Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up:** Pick up and arrange disposal without creating dust. 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. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from combustible material.

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

**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.

**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 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:                                   | <b>Form:</b> Crystalline | <b>Colour:</b> Colourless              |
| b) Odour:                                        | no data available        |                                        |
| c) Odour Threshold:                              | no data available        |                                        |
| d) pH:                                           | no data available        |                                        |
| e) Melting/freezing point:                       | 36 °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: 2.065 g/cm<sup>3</sup>  
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:** Hygroscopic

**10.5 Incompatible materials:** Powdered metals, Cyanides, Sodium hypophosphite, Stannous chloride, Thiocyanates, Strong reducing agents

**10.6 Hazardous decomposition products:** formed under fire conditions. - Zinc/zinc oxides

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity:** LD50 Oral - rat - 1,190 mg/kg

**Skin corrosion/irritation:** Skin - rabbit - Severe skin irritation - 24 h

**Serious eye damage/eye irritation:** Eyes - rabbit - Moderate eye irritation - 24 h

**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:** Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure:** no data available

**Aspiration hazard:** no data available

### Potential health effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion** Harmful if swallowed.

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

**Eyes** Causes eye irritation.

**Signs and Symptoms of Exposure:** Fever, Cough, Nausea, Vomiting, Weakness

**Additional Information:** RTECS: ZH4775000

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity:** no data available

**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:** no data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product:** Observe all federal, state, and local environmental regulations. 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: 1514 IMDG: 1514 IATA: 1514

### 14.2 UN proper shipping name

ADR/RID: ZINC NITRATE

IMDG: ZINC NITRATE

IATA: ZINC NITRATE

### 14.3 Transport hazard class(es)

ADR/RID: 5.1 IMDG: 5.1 IATA: 5.1

### 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:** EMS-No: F-H, S-Q

## 15. REGULATORY INFORMATION

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

**16. OTHER INFORMATION:** Acute Tox. Acute toxicity, Eye Irrit. Eye irritation, H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. Ox. Sol. Oxidizing solids, Skin Irrit. Skin irritation, O Oxidising, Xn Harmful, R 8 Contact with combustible material may cause fire. R22 Harmful if swallowed. R36/37/38 Irritating to eyes, respiratory system and skin.