



SAFETY DATA SHEET
99.0 - 102.0%
ZINC SULPHATE HEPTAHYDRATE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: Zinc Sulphate Heptahydrate
Product No.: ZINC
CAS-No.: 7446-20-0
EC No.: 231-793-3
REACH: 01-2119474684-27
Synonym: Zinc sulfate, White vitreol, Goslarite
Chemical Formula: $ZnSO_4 \cdot 7H_2O$

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: For agricultural applications;
For making lithopone;
Used in electrolytes for zinc plating;
Used as a mordant in dyeing;
Used as a preservative for skins and leather;
Active ingredient in products for use as moss remover for paths and roofs (not for lawns);
Used to supply zinc in animal feeds, fertilizers, toothpaste;
In medicine it is used together with oral rehydration therapy and an astringent.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk



SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: Xn; R22, Xi; R41, N; R50-R53

Classification – EC 1272/2008: Acute toxicity, Oral; Category 4 (H302)
Serious eye damage; Category 1 (H318)
Aquatic Chronic; Category 1 (H410)

2.2. LABEL ELEMENTS



SIGNAL WORDS

Danger

RISK PHRASES

| | |
|-----|--|
| R22 | Harmful if swallowed |
| R41 | Risk of serious damage to eye |
| R50 | Very toxic to aquatic organisms |
| R51 | Toxic to aquatic organisms |
| R52 | Harmful to aquatic organisms |
| R53 | May cause long-term adverse effects in the aquatic environment |

HAZARD PHRASES

| | |
|------|--|
| H302 | Harmful if swallowed |
| H318 | Causes serious eye damage |
| H410 | Very toxic to aquatic life with long-lasting effects |

**PROTECTION PHRASES**

| | |
|----------------|---|
| P273 | Avoid release to the environment |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing |
| P501 | Dispose of contents/container to comply with local, state and federal regulations |

SAFETY PHRASES

| | |
|-----|--|
| S22 | Do not breathe dust |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice |
| S39 | Wear eye/face protection |
| S46 | If swallowed, seek medical advice immediately and show this container or label |
| 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 sheet |

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

67/548/EEC/1999/45/EC

Composition information – main constituents

| Substance name | Mol. Formula | REACH | Typical conc. (%w/w) | EINECS No. | CAS-No. | Classification |
|----------------------------|--|--------------------------|----------------------|------------|-----------|------------------------------|
| Zinc Sulphate Heptahydrate | ZnSO ₄ 7H ₂ O | 01- 2119474684- 27 | 99.0-102.0% | 231-793-3 | 7446-20-0 | Xn; R22, Xi; R41, N; R50-R53 |

EC 1272/2008

Composition information – main constituents

| Substance name | Mol. Formula | REACH | Typical conc. (%w/w) | EINECS No. | CAS-No. | Classification |
|----------------------------|--|--------------------------|----------------------|------------|-----------|------------------|
| Zinc Sulphate Heptahydrate | ZnSO ₄ 7H ₂ O | 01- 2119474684- 27 | 99.0-102.0% | 231-793-3 | 7446-20-0 | H302, H318, H410 |



SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

First-aid measures general: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.

Ingestion: DO NOT INDUCE VOMITING. If person is conscious, give half a litre of water to drink immediately. Seek medical advice and show the container or label.

Skin contact: Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact: Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Get medical attention immediately. Continue to rinse.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. May causes sore throat and coughing.

Ingestion: There may be irritation of the throat. There may be soreness and redness of the mouth and throat. There may be difficulty swallowing, nausea, stomach pain and vomiting.

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If have doubt, get medical attention.



SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

The product is non-combustible. If heated, corrosive and toxic vapours/gases may be formed. Containers can burst violently when heated, due to excess pressure build-up.

5.3. ADVICE FOR FIRE-FIGHTERS

Fire fighters should wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Remove all sources of ignition. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area.

For personal protection see section 8.1.

6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.

For waste disposal, see section 13.

**SECTION 7: HANDLING AND STORAGE****7.1. PRECAUTIONS FOR SAFE HANDLING**

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid inhalation of dust.

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Take off contaminated clothing and wash it before reuse. Use appropriate skin cream to prevent drying of skin.

For precautions see section 2.2.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep in original containers tightly closed. Keep away from direct sunlight. Keep away from food, drink and feed.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES**

Occupational Exposure Limit Values (Zinc Sulphate Heptahydrate):

| CAS NO | Exposure limit | Value | Name of Agent |
|-----------|----------------|-------------------|-------------------|
| 7446-20-0 | TWA – 8 Hrs | No data available | No data available |
| 7446-20-0 | STEL – 15 Min | No data available | No data available |

Engineering controls:

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of the working day.



EYE PROTECTION



RESPIRATOR



FACE SHIELD



PROTECTION WEAR



HAND PROTECTION



WASH YOUR HAND

Protective equipment: Use protective goggles (European standard - EN 166), gloves (European standard - EN 374) and protective clothes to prevent skin, body and eyes exposure.

Respiratory equipment: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators device with particle filter. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Skin and body protection: Use protective gloves. The glove material must be sufficiently impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location. Pay attention to skin care. Textile or leather gloves are completely unsuitable.

Wear appropriate clothing to prevent skin contamination. Chemical resistant safety shoes. Protective clothing: DIN EN 13034 (liquid), EN ISO 13982-1 (solid).

Eye/Face protection: Wear approved safety goggles. Wear tight-fitting goggles or face shield.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------|-------------------|
| Appearance: | Powder |
| Colour: | White |
| Odour: | Odourless |
| Initial boiling point (°C): | No data available |
| Melting point (°C): | 100°C |



| | |
|-----------------------------|-------------------------------------|
| Freezing point: | No data available |
| Relative density: | 2.072 g/cm ³ |
| Specific gravity / density: | No data available |
| Vapour density: | Not available |
| Vapour pressure: | Not available |
| Flash point (°C): | Not available |
| Molecular mass: | 287.53 g/mol |
| Auto-ignition temperature: | Not applicable |
| Oxidizing properties: | Not available |
| Decomposition temperature: | Not available |
| Molecular formula: | ZnSO ₄ 7H ₂ O |

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

This material is stable under recommended transport or storage conditions.

10.2. CHEMICAL STABILITY

Zinc Sulphate Heptahydrate is stable under normal conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed in section 10.5.

10.4. CONDITIONS TO AVOID

Avoid moisture, heat and direct sunlight. Keep away from food, drink and feed.

10.5. INCOMPATIBLE MATERIALS

Strong oxidising agents, strong acids, alkalis, carbonates and hydroxides, borax, silver protein and tannins, strontium salts, calcium.

10.6. HAZARDOUS DECOMPOSITION

Decomposition takes place from temperatures above: 100°C. In combustion emits toxic fumes.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. INFORMATION ON TOXICOLOGICAL EFFECTS**

TOXIC DOSE **LD50 Oral – Rat – > 574 mg/kg**
LD50 Dermal – Rat – > 2000 mg/kg
LD50 Inhalation – not known

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. May causes sore throat and coughing.

Ingestion: There may be irritation of the throat. There may be soreness and redness of the mouth and throat. There may be difficulty swallowing, nausea, stomach pain and vomiting.

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Delayed/immediate effects: Immediate effects can be expected after short-term exposure.

SECTION 12: ECOLOGICAL INFORMATION**12.1. TOXICITY****Aquatic Toxicity:**

Toxicity to fish: LC50: 1.9 mg/l, 96h

Toxicity to daphnia magna: EC50: 0,259 mg/l, 48h

12.2. PERSISTENCE AND DEGRADABILITY

Not biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

May have some potential to bioaccumulate.

12.4. MOBILITY

Zinc Sulphate Heptahydrate is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.



12.5. RESULTS OF PBT AND vPvB ASSESSMENT

This product is not identified as a PBT/vPvB substance.

12.6. OTHER ADVERSE EFFECTS

Toxic to aquatic organisms. Toxic to soil organisms.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: This material and its container must be disposed of as hazardous waste. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Dispose of this container to hazardous or special waste collection point. Waste codes should be assigned by the user based on the application for which the product was used. Do not let this chemical enter the environment. Do not empty into drains.

Uncleaned packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

| | |
|----------------------------|--|
| UN number | 3077 |
| UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. |
| Transport hazard class(es) | 9 |
| Packing group | III |

ADR/RID

| | |
|----------------------------|--|
| UN number | 3077 |
| UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. |
| Transport hazard class(es) | 9 |
| Packing group | III |

IATA

| | |
|----------------------------|--|
| UN number | 3077 |
| UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. |
| Transport hazard class(es) | 9 |
| Packing group | III |

**SECTION 15: REGULATORY INFORMATION****15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2 CHEMICAL SAFETY ASSESSMENT

No chemical safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION**General information**

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.



DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.