SAFETY DATA SHEET
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date  02/03/2015  Version  2. 2

SECTION 1. Identification

Product identifier

Product number 108883
Product name Zinc sulfate heptahydrate for analysis EMSURE® ACS,ISO,Reag. Ph Eur
CAS-No. 7446-20-0

Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for analysis

Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification
Acute toxicity, Category 4, Oral, H302
Serious eye damage, Category 1, H318
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word
Danger

Hazard Statements
H302 Harmful if swallowed.
H318 Causes serious eye damage.
Precautionary Statements
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P330 Rinse mouth.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. Composition/information on ingredients
Formula ZnSO₄ * 7 H₂O O₄SZn * 7 H₂O (Hill)
Molar mass 287.54 g/mol

Hazardous ingredients
Chemical Name (Concentration)
CAS-No.
Zinc sulphate heptahydrate (>= 90 % - <= 100 % )
7446-20-0
Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures
Description of first-aid measures
Inhalation
After inhalation: fresh air.
Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing.
Eye contact
After eye contact: rinse out with plenty of water. Call a physician immediately.
Ingestion
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Irritation and corrosion, pain, Diarrhea, Vomiting, cardiovascular disorders, collapse Risk of serious damage to eyes.

Indication of any immediate medical attention and special treatment needed
No information available.
SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture
Not combustible.
Ambient fire may liberate hazardous vapors.
Fire may cause evolution of:
Sulfur oxides

Advice for firefighters

Special protective equipment for fire-fighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions
Do not empty into drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling
Observe label precautions.

Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
No metal containers.
Tightly closed. Dry.
Store at +5°C to +30°C (+41°F to +86°F).
SECTION 8. Exposure controls/personal protection

Exposure limit(s)
Contains no substances with occupational exposure limit values.

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures
Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

Eye/face protection
Tightly fitting safety goggles

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:
protective clothing

Respiratory protection
required when dusts are generated.
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state solid
Color off-white
Odor odorless
Odor Threshold Not applicable
pH ca. 4 - 6
at 50 g/l
68 °F (20 °C)
Melting point 100 °C
Boiling point/boiling range Not applicable
Flash point Not applicable
Evaporation rate: No information available.

Flammability (solid, gas): No information available.

Lower explosion limit: Not applicable

Upper explosion limit: Not applicable

Vapor pressure: No information available.

Relative vapor density: No information available.

Density: 1.97 g/cm³ at 68 °F (20 °C)

Relative density: No information available.

Water solubility: 965 g/l at 68 °F (20 °C)

Partition coefficient: n-octanol/water: No information available.

Autoignition temperature: No information available.

Decomposition temperature: > 102 - 536 °F (> 39 - 280 °C)

Elimination of water of crystallization

Viscosity, dynamic: No information available.

Explosive properties: Not classified as explosive.

Oxidizing properties: none

Ignition temperature: Not applicable

Bulk density: ca.800 - 1,000 kg/m³

### SECTION 10. Stability and reactivity

**Reactivity**

See below

**Chemical stability**

- releases water of crystallization when heated.

**Possibility of hazardous reactions**

- Violent reactions possible with:
  - Strong oxidizing agents

**Conditions to avoid**

- no information available
Incompatible materials
Metals

Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information
Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact, Ingestion

Acute oral toxicity
LD50 Rat: 1,260 mg/kg (RTECS)

Absorption
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity
Symptoms: Possible damages: mucosal irritations, Inhalation may lead to the formation of oedemas in the respiratory tract.

Skin irritation
Possible damages: slight irritation

Eye irritation
Causes serious eye damage.

Genotoxicity in vitro
Ames test
Result: negative
(Lit.)

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No ingredient of this product present at levels greater than or
equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
Systemic effects:
pain, Vomiting, Diarrhea
After uptake of large quantities:
drop in blood pressure, cardiovascular disorders, collapse
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish
LC50 Oncorhynchus mykiss (rainbow trout): 0.1 mg/l; 96 h (ECOTOX Database)

Toxicity to algae
IC50 Scenedesmus quadricauda (Green algae): 0.52 mg/l; 5 d (anhydrous substance) (IUCLID)

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Additional ecological information
Bactericidal effect.
Hazard for drinking water supplies.
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.
SECTION 14. Transport information

Land transport (DOT)
UN number UN 3077
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC SULFATE)
Class 9
Packing group III
Environmentally hazardous --

Air transport (IATA)
UN number UN 3077
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC SULFATE)
Class 9
Packing group III
Environmentally hazardous --
Special precautions for user no

Sea transport (IMDG)
UN number UN 3077
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC SULFATE)
Class 9
Packing group III
Environmentally hazardous --
Special precautions for user yes
EmS F-A  S-F
Segregation Group 0007 Heavy Metals and their salts (incl. their organometallic compounds)

SECTION 15. Regulatory information

United States of America

SARA 313
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>UN number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc sulphate heptahydrate</td>
<td>7446-20-0</td>
<td>100 %</td>
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SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
Clean Water Act
The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:
Ingredients
Zinc sulphate heptahydrate

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:
Ingredients
Zinc sulphate heptahydrate

DEA List I
Not listed

DEA List II
Not listed

US State Regulations

Massachusetts Right To Know
Ingredients
Zinc sulphate heptahydrate

Pennsylvania Right To Know
Ingredients
Zinc sulphate heptahydrate

New Jersey Right To Know
Ingredients
Zinc sulphate heptahydrate

California Prop 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status
TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

KOREA: On the inventory, or in compliance with the inventory

SECTION 16. Other information
Training advice
Provide adequate information, instruction and training for operators.

Labeling
Hazard pictograms

![Hazard pictograms](image-url)
Signal Word
Danger

Hazard Statements
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements
Prevention
P273 Avoid release to the environment.
P280 Wear eye protection.
Response
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313 Get medical advice/attention.

Full text of H-Statements referred to under sections 2 and 3.
H302 Harmful if swallowed.
H318 Causes serious eye damage.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 02/03/2015

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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