

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 05.09.2012

Print Date 24.12.2016

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

#### 1.1 Product identifiers

Product name : Zinc nitrate hydrate

Product Number : 230006  
Brand : Aldrich  
CAS-No. : 13778-30-8

#### 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 : Sigma-Aldrich Chemie GmbH  
Riedstrasse 2  
D-89555 STEINHEIM  
  
Telephone : +49 89-6513-1444  
Fax : +49 7329-97-2319  
E-mail address : eurtechserv@sial.com

#### 1.4 Emergency telephone number

Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)  
+49 (0)696 43508409 (CHEMTREC weltweit)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

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)

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Contact with combustible material may cause fire. Harmful if swallowed. Irritating to eyes, respiratory system and skin.

#### 2.2 Label elements

##### Labelling according Regulation (EC) No 1272/2008 [CLP]

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  
P305 + P351 + P338

Avoid breathing dust.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

none

**According to European Directive 67/548/EEC as amended.**

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 - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Formula :  $\text{N}_2\text{O}_6\text{Zn} \cdot x\text{H}_2\text{O}$

Molecular Weight : 189,40 g/mol

Component		Concentration
<b>Zinc nitrate hydrate</b>		
CAS-No.	13778-30-8	-
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. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

Fever, Cough, Nausea, Vomiting, Weakness

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

## 5. FIREFIGHTING 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**

Zinc/zinc oxides

## **5.3 Advice for firefighters**

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 vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). 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 heat and sources of ignition.

### **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**

**Components with workplace control parameters**

### **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: colourless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: 36 °C - lit.
f) Initial boiling point and boiling range	no data available
g) Flash point	not applicable
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/mL at 25 °C
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	The substance or mixture is classified as oxidizing with the category 2.

### 9.2 Other safety information

no data available

---

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

**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**

Other decomposition products - no data available

---

**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: 2A - Group 2A: Probably carcinogenic to humans (Zinc nitrate hydrate)

**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 serious 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**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**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 user**

no data available

---

**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**

**Further information**

Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.