

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Date of issue: 09.10.2013

Revision date: 26.07.2016

Version: 2.2

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

### 1.1 Product identifiers

Product name: Zinc acetate dihydrate (DZA)  
EC-No. (not depleted): 209-170-2  
CAS-No. (not depleted): 5970-45-6  
REACH Registration no.: Not required

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

Identified uses: Corrosive prevention

### 1.3 Details of the supplier of the safety data sheet

Supplier: NUKEM Isotopes GmbH,  
Industriestrasse 13,  
63755 Alzenau, Germany  
Telephone: +49 (0)6023 91 1726  
Telefax: +49 (0)6023 91 1614  
Email: Christian.Schuch@nukemisotopes.de

### 1.4 Emergency telephone number

24 hr. Emergency Telephone: **+1-703-253-4254** (English / Contract No.: 01009)

## 2. HAZARDS INDICATION

### 2.1 Classification of the substance or mixture

Classification according to regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302.

Eye irritation (Category 2), H319.

Acute aquatic toxicity (Category 1), H400.

Chronic aquatic toxicity (Category 1), H410.

*For the full text of the H-Statements mentioned in this section, see section 2.2*

Classification according to directive 67/548/EEG or directive 1999/45/EG

Xn: Harmful                      N: Dangerous for the environment

R-Phrases:

R22: Harmful if swallowed

R36: Irritating to eyes.

R50/53: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

### 2.2 Label elements

Labeling according to regulation (EG) Nr. 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard Pictograms:



GHS08



GHS09

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## Signal word:

Warning

## Hazard statements:

H302 Harmful if swallowed.  
H319 Causes serious eye irritation.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

## Precautionary statements:

P262 Do not get in eyes, on skin, or on clothing.  
P273 Avoid release to the environment.  
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 an approved waste disposal plant.

## **2.3 Other hazards**

All chemicals are potentially dangerous. They should only be handled by specially trained personnel.

## Results of PBT- und vPvB-assessment:

PBT: Not applicable.

vPvB: Not applicable.

## **3. COMPOSITION / INFORMATION ON INGREDIENTS**

### **3.1 Chemical characterization**

#### Substance:

CAS No. (description): 5970-45-6 (Zinc acetate dihydrate, depleted in zinc-64)  
EC-No. (not depleted): 209-170-2  
Formula:  $C_4H_6O_4Zn \cdot 2H_2O$   
Molar mass [g/mol]: ca. 220

## **4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### General information:

First Aider: Pay attention to self-protection! Consult a physician and show this safety data sheet to the doctor in attendance.

#### Oral exposure

If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Call a physician immediately.

#### Inhalation exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### Dermal exposure

Remove contaminated clothing and shoes. Wash off with soap and plenty of water. Call a physician.

#### Eye exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

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

No further information available.

## 5. FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

Suitable extinguishing agents:

Use water spray, carbon dioxide, dry chemical powder or carbon dioxide. Use fire extinguishing methods suitable to surrounding conditions.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, zinc oxides.

### 5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus for firefighting if necessary.

Specific Hazard(s):

No information available.

## 6. ACCIDENTAL RELEASE MEASURES

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### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation and avoid breathing dust. Ensure adequate ventilation. For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

## 7. HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Avoid formation of dust and aerosols and avoid contact with skin and eyes. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters

Technical instructions on air quality control (TA LUFT / GESTIS)

To be treated as overall dust. The emissions of dust in the exhaust gas are not allowed to exceed the following values:

Mass flow: 0,20 kg/h

Mass concentration: 20 mg/m<sup>3</sup>

### 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 the workday.

Individual protection measures, such as personal protective equipment:

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:

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye 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).

Hand 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### 8.3 Environmental exposure control

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9. PHYSICAL/CHEMICAL PROPERTIES

General Information

Appearance:	Form: Powder
	Color: White
Odor:	Odorless.
Odor threshold:	No information available.
pH-value (50 g/l) at 25 °C:	6 – 8
Melting point/Melting range:	237 °C
Boiling point/Boiling range:	920 °C
Flash point:	No information available.
Flammability (solid, gaseous):	No information available.
Ignition temperature:	No information available.

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Decomposition temperature:	> 100 °C (release of crystalline water)
Self-igniting:	No information available.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	Lower: No information available. Upper: No information available.
Oxidizing properties:	No information available.
Vapor pressure:	No information available.
Relative Density:	1.84 g/cm <sup>3</sup>
Vapor density:	No information available.
Evaporation rate:	No information available.
Solubility in / Miscibility with water at 20 °C:	430 g/l
Partition coefficient (n-octanol/water):	No information available.
Viscosity, dynamic:	No information available.

## 10. STABILITY AND REACTIVITY

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### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

Stable if used and stored according to specifications.

### 10.3 Possibility of hazardous reactions

No information available.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Oxidizing agents.

### 10.6 Hazardous decomposition products

Carbon monoxide, carbon dioxide, toxic fumes of zinc oxide.

## 11. TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

#### Acute toxicity:

LD/LC50 values relevant for classification

- Oral LD50 (rat): 794 mg/kg

#### Primary irritant effect:

Skin corrosion/irritation

- Skin - rabbit
- Result: Mild skin irritation - 24 h

Serious eye damage/eye irritation

- Eyes - rabbit
- Result: Moderate eye irritation - 24 h

Respiratory or skin sensitization

- no data available

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## Germ cell mutagenicity

- Human
- lymphocyte
- Cytogenetic analysis

## Carcinogenicity

- IARC: No component of this product presents 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

- no data available

## Specific target organ toxicity - repeated exposure

- no data available

## Aspiration hazard

- no data available

## Additional Information

- RTECS: ZG8750000

## **11.2 Additional toxicological information**

The product should be handled with the care usual when dealing with chemicals.

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## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish LC50 - *Onchorhynchus mykiss* (rainbow trout) - 0,55 mg/l - 96,0 h.

### **12.2 Persistence and degradability**

No information available.

### **12.3 Bioaccumulative potential**

No information available.

### **12.4 Mobility in soil**

No information available.

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted .

### **12.6 Other adverse effects**

Very toxic to aquatic life with long lasting effects.

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## **13. DISPOSAL CONSIDERATIONS**

### **13.1 Waste Treatment methods**

#### Product:

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Uncleaned packaging:

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### 14.1 UN-Number

ADR/RID, IMDG, IATA: 3077

### 14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc acetate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc acetate)

IATA: Environmentally hazardous substance, solid, n.o.s. (Zinc acetate)

### 14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA: 9



### 14.4 Packing group

ADR/RID, IMDG, IATA: III

### 14.5 Environmental hazards:

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: yes

### 14.6 Special precautions for user Warning: Corrosive substances.

No information available.

### 14.7 Transport/Additional information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3, IATA Special Provision A197) for single packaging and combination packaging containing inner packaging with dangerous goods > 5L for liquids or > 5kg for solids.

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No information available.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## 16. OTHER INFORMATION

### Disclaimer

Product is supplied for research and laboratory use only. Not for drug, household or other uses.

### Warranty

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. See invoice or packing slip for additional terms and conditions of sale.