

### SECTION 1: Identification

#### 1.1. Identification

|                |                             |
|----------------|-----------------------------|
| Product form   | : Substance                 |
| Substance name | : Zinc Acetate Dihydrate    |
| CAS-No.        | : 5970-45-6                 |
| Formula        | : $C_4H_6O_4Zn \cdot 2H_2O$ |
| BIG no         | : 13461                     |

#### 1.2. Recommended use and restrictions on use

|                              |   |
|------------------------------|---|
| Use of the substance/mixture | : Food industry: additive<br>Cross-linking agent<br>Preservative<br>Reagent<br>Pharmaceutical product |
|------------------------------|---|

#### 1.3. Supplier

##### Manufacturer

Jost Chemical Co.  
8150 Lackland Rd.  
Saint Louis, Missouri 63114  
T 314-428-4300 - F 314-428-4366  
[sds@jostchemical.com](mailto:sds@jostchemical.com) - [www.jostchemical.com](http://www.jostchemical.com)

#### 1.4. Emergency telephone number

|                  |   |
|------------------|---|
| Emergency number | : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident<br>Call CHEMTREC Day or Night<br>United States and Canada: 1-800-424-9300 / +1 703-527-3887<br>Global: +1 703-741-5970 |
|------------------|---|

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

|   |      |   |
|---|------|---|
| Acute toxicity (oral), Category 4                                 | H302 | Harmful if swallowed.                                 |
| Skin corrosion/irritation, Category 2                             | H315 | Causes skin irritation.                               |
| Serious eye damage/eye irritation, Category 2                     | H319 | Causes serious eye irritation.                        |
| Hazardous to the aquatic environment — Acute Hazard, Category 1   | H400 | Very toxic to aquatic life.                           |
| Hazardous to the aquatic environment — Chronic Hazard, Category 1 | H410 | Very toxic to aquatic life with long lasting effects. |

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labelling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: H302 - Harmful if swallowed.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H400 - Very toxic to aquatic life.  
H410 - Very toxic to aquatic life with long lasting effects.

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Precautionary statements (GHS US) : P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P273 - Avoid release to the environment.  
P280 - Wear protective clothing, eye protection.  
P301+P312 - If swallowed: Call a POISON CENTER if you feel unwell  
P302+P352 - If on skin: Wash with plenty of water/...  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 - Specific treatment (see supplemental first aid instruction on this label)  
P330 - Rinse mouth.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P391 - Collect spillage.  
P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

| Name   | Product identifier  | %   | GHS-US classification  |
|--|---------------------|-----|--|
| Zinc Acetate Dihydrate<br>(Main constituent) | (CAS-No.) 5970-45-6 | 100 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Remove clothing before washing. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Do not induce vomiting. Call Poison Information Centre ([www.big.be/antigif.html](http://www.big.be/antigif.html)). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential adverse human health effects and symptoms : Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

Symptoms/effects after inhalation : AFTER INHALATION OF DUST: Coughing. Slight irritation.

Symptoms/effects after skin contact : Tingling/irritation of the skin.

Symptoms/effects after eye contact : Irritation of the eye tissue.

Symptoms/effects after ingestion : Vomiting. Nausea.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Non combustible.

#### 5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit.

Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. Wash contaminated clothes.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

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

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray.

Methods for cleaning up : Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid raising dust. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Do not discharge the waste into the drain. Keep container tightly closed.

Hygiene measures : Observe normal hygiene standards.

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

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) bases. oxidizing agents. (strong) acids.

Storage area : Store at ambient temperature. Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: wood. glass.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

No additional information available

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### 8.3. Individual protection measures/Personal protective equipment

#### Materials for protective clothing:

GIVE GOOD RESISTANCE: rubber. synthetic material

#### Hand protection:

Gloves

#### Eye protection:

Face shield. In case of dust production: protective goggles

#### Skin and body protection:

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

#### Respiratory protection:

Dust formation: dust mask. On heating: full face mask

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |  |
|--|--|
| Physical state                             | : Solid  |
| Appearance                                 | : Crystalline solid. Powder. Grains.                             |
| Colour                                     | : White  |
| Odour                                      | : Mild odour Irritating/pungent odour Vinegar odour              |
| Odour threshold                            | : No data available  |
| pH   | : No data available  |
| Melting point                              | : 200 °C   |
| Freezing point                             | : No data available  |
| Boiling point                              | : Not applicable   |
| Flash point                                | : Not applicable   |
| Relative evaporation rate (butylacetate=1) | : No data available  |
| Flammability (solid, gas)                  | : No data available  |
| Vapour pressure                            | : No data available  |
| Relative vapour density at 20 °C           | : Not applicable   |
| Relative density                           | : 1.8  |
| Density                                    | : 1840 kg/m <sup>3</sup>   |
| Molecular mass                             | : 183.47 g/mol   |
| Solubility                                 | : Soluble in water.<br>Water: 30 g/100ml<br>Ethanol: 2.8 g/100ml |
| Log Pow                                    | : No data available  |
| Auto-ignition temperature                  | : No data available  |
| Decomposition temperature                  | : 200 °C   |
| Viscosity, kinematic                       | : No data available  |
| Viscosity, dynamic                         | : No data available  |
| Explosive limits                           | : No data available  |
| Explosive properties                       | : No data available  |
| Oxidising properties                       | : No data available  |

### 9.2. Other information

|                  |                  |
|------------------|------------------|
| VOC content      | : 0 %            |
| Other properties | : Acid reaction. |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Oral: Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

| Zinc Acetate Dihydrate (5970-45-6) |                       |
|------------------------------------|-----------------------|
| LD50 oral rat                      | 794 mg/kg (Rat, Oral) |
| ATE US (oral)                      | 500 mg/kg bodyweight  |

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Potential adverse human health effects and symptoms : Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.

Symptoms/effects after inhalation : AFTER INHALATION OF DUST: Coughing. Slight irritation.

Symptoms/effects after skin contact : Tingling/irritation of the skin.

Symptoms/effects after eye contact : Irritation of the eye tissue.

Symptoms/effects after ingestion : Vomiting. Nausea.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Dangerous for the environment.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Very toxic to crustacea. Very toxic to fishes. Mild water pollutant (surface water). Inhibition of activated sludge. Very toxic to algae. May cause eutrophication at very low concentration. pH shift.

| Zinc Acetate Dihydrate (5970-45-6) |  |
|------------------------------------|--|
| EC50 Daphnia 1                     | 0.068 mg/l (48 h, Daphnia magna, Zinc ion)       |
| TLM fish 1                         | 0.88 ppm (96 h, Pimephales promelas, Soft water) |

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove to an authorized dump (Class I). Precipitate/make insoluble.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3077 Environmentally hazardous substances, solid, n.o.s., 9, III  
UN-No.(DOT) : UN3077  
Proper Shipping Name (DOT) : Environmentally hazardous substances, solid, n.o.s.  
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140  
Packing group (DOT) : III - Minor Danger  
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Dangerous for the environment : Yes

Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 213

DOT Packaging Bulk (49 CFR 173.xxx) : 240

DOT Symbols : G - Identifies PSN requiring a technical name

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|  |   |
|--|---|
| DOT Special Provisions (49 CFR 172.102)                          | : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.<br>146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.<br>335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging.<br>A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg:<br>a. Metal: 11A, 11B, 11N, 21A, 21B and 21N<br>b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2<br>c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2<br>d. Fiberboard: 11G<br>e. Wooden: 11C, 11D and 11F (with inner liners)<br>f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner).<br>B54 - Open-top, sift-proof rail cars are also authorized.<br>IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).<br>IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.<br>N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle.<br>T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)<br>TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter. |
| DOT Packaging Exceptions (49 CFR 173.xxx)                        | : 155   |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : No limit  |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : No limit  |
| DOT Vessel Stowage Location                                      | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.   |
| Emergency Response Guide (ERG) Number                            | : 171   |
| Other information  | : No supplementary information available.   |

### Transportation of Dangerous Goods

Not applicable

### Transport by sea

|                                       |  |
|---------------------------------------|--|
| Transport document description (IMDG) | : UN 3077 Environmentally hazardous substance, solid, n.o.s., 9, III, MARINE POLLUTANT |
| UN-No. (IMDG)                         | : 3077   |
| Proper Shipping Name (IMDG)           | : Environmentally hazardous substance, solid, n.o.s.                                   |
| Class (IMDG)                          | : 9 - Miscellaneous dangerous substances and articles                                  |
| Packing group (IMDG)                  | : III - substances presenting low danger   |
| EmS-No. (1)                           | : F-A  |
| EmS-No. (2)                           | : S-F  |

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Marine pollutant

: Yes



### Air transport

Transport document description (IATA) : UN 3077 Environmentally hazardous substance, solid, n.o.s., 9, III

UN-No. (IATA) : 3077

Proper Shipping Name (IATA) : Environmentally hazardous substance, solid, n.o.s.

Class (IATA) : 9 - Miscellaneous Dangerous Goods

Packing group (IATA) : III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

No additional information available

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

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Full text of H-statements:

|      |   |
|------|---|
| H302 | Harmful if swallowed.                                 |
| H315 | Causes skin irritation.                               |
| H319 | Causes serious eye irritation.                        |
| H400 | Very toxic to aquatic life.                           |
| H410 | Very toxic to aquatic life with long lasting effects. |

NFPA health hazard

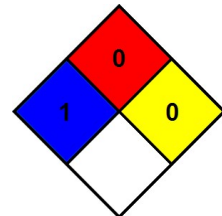
: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*