

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Zinc Nitrate

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

Use of the substance/mixture : Various agricultural applications

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

MarVista Resources  
 745 North Ave.  
 Corcoran, Ca. 93212 - USA  
 T 559-992-4535

#### 1.4. Emergency telephone number

Emergency number : 24 Hour Emergency Response Chemtrec: 1-800-424-9300

### SECTION 2: Hazard(s) identification

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

##### Classification (GHS-US)

Oxidizing liquids Category 2 H272  
 Acute toxicity (oral) Category 4 H302  
 Skin corrosion/irritation Category 2 H315  
 Serious eye damage/eye irritation Category 2A H319

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS03

GHS07

Signal word (GHS-US) : Danger

Contains : zinc nitrate, hexahydrate

Hazard statements (GHS-US) : H272 - May intensify fire; oxidizer  
 H302 - Harmful if swallowed  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
 P220 - Keep/Store away from combustible materials, combustibles  
 P221 - Take any precaution to avoid mixing with combustible materials, combustibles  
 P264 - Wash skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P280 - Wear protective gloves, eye protection  
 P301+P312 - If swallowed: Call a doctor, 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 the first aid section 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  
 P370+P378 - In case of fire: Use sand, dry extinguishing powder, alcohol resistant foam to extinguish  
 P501 - Dispose of contents/container to comply with local, state, and federal regulations

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### 2.3. Other hazards

No additional information available

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

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
zinc nitrate, hexahydrate	(CAS No) 10196-18-6	76.79	Ox. Sol. 2, H272 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth.

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

Symptoms/injuries	: Causes skin and eye irritation.
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Irritation.
Symptoms/injuries after eye contact	: Irritation to eyes.
Symptoms/injuries after ingestion	: May cause gastrointestinal discomfort.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

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

Fire hazard : May intensify fire; oxidizer.  
Reactivity : May intensify fire; oxidizer.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. NO open flames, NO sparks, and NO smoking. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

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

- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

- Storage conditions : Store in a well-ventilated place. Keep cool.
- Incompatible materials : Combustible materials.
- Storage area : Store in a cool, dry place. Keep container in a well-ventilated place.
- Special rules on packaging : correctly labelled. meet the legal requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### zinc nitrate, hexahydrate (10196-18-6)

Not applicable

### 8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Hand protection : Protective gloves.
- Eye protection : Safety glasses.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
- Environmental exposure controls : Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

- Physical state : Liquid
- Color : Mixture contains one or more component(s) which have the following colour(s):  
Colourless to white White to light yellow
- Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.  
Mixture contains one or more component(s) which have the following odour(s):  
Almost odourless Odourless
- Odor threshold : No data available
- pH : 2.5 - 4.5
- Melting point : Not applicable
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Flammability (solid, gas) : No data available
- Explosion limits : No data available
- Explosive properties : No data available
- Oxidizing properties : No data available
- Vapor pressure : No data available

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Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 1.58 - 1.6 g/ml
Solubility	: Substance sinks in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

May intensify fire; oxidizer.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, No sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Combustible materials.

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

Zinc Nitrate	
ATE US (oral)	1549.681 mg/kg body weight
zinc nitrate, hexahydrate (10196-18-6)	
LD50 oral rat	1190 mg/kg (Rat)
ATE US (oral)	1190.000 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation. pH: 2.5 - 4.5
Serious eye damage/irritation	: Causes serious eye irritation. pH: 2.5 - 4.5
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Irritation.
Symptoms/injuries after eye contact	: Irritation to eyes.

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Symptoms/injuries after ingestion : May cause gastrointestinal discomfort.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

zinc nitrate, hexahydrate (10196-18-6)	
LC50 fish 1	2.61 mg/l (LC50; 96 h)
EC50 Daphnia 1	0.068 mg/l (EC50; 48 h)
Threshold limit algae 1	< 0.12 mg/l (EC50)

#### 12.2. Persistence and degradability

zinc nitrate, hexahydrate (10196-18-6)	
Persistence and degradability	Biodegradability: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations : Prevent liquid from entering sewers, watercourses, underground or low areas.  
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1514 Zinc nitrate, 5.1, II

UN-No.(DOT) : UN1514

Proper Shipping Name (DOT) : Zinc nitrate

Class (DOT) : 5.1 - Class 5.1 - Oxidizer 49 CFR 173.128

Hazard labels (DOT) : 5.1 - Oxidizer



Packing group (DOT) : II - Medium Danger

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212

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

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DOT Special Provisions (49 CFR 172.102)	: 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) IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2) 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)	: 152
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 25 kg
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel
Other information	: No supplementary information available.

### TDG

No additional information available

### Transport by sea

UN-No. (IMDG)	: 1514
Proper Shipping Name (IMDG)	: ZINC NITRATE
Class (IMDG)	: 5.1 - Oxidizer
Packing group (IMDG)	: II - substances presenting medium danger

### Air transport

UN-No.(IATA)	: 1514
Proper Shipping Name (IATA)	: ZINC NITRATE
Class (IATA)	: 5.1 - Oxidizing Substances
Packing group (IATA)	: II - Medium Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### zinc nitrate, hexahydrate (10196-18-6)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

### 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

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### SECTION 16: Other information

Full text of H-phrases:

H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

NFPA health hazard

: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

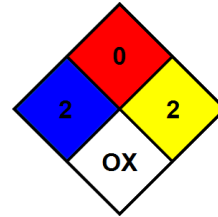
: 0 - Materials that will not burn.

NFPA reactivity

: 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.

NFPA specific hazard

: OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.



SDS US (GHS HazCom 2012)

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