



<a href="#">Zinc Nitrate Hexahydrate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zinc Nitrate Solution</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	Zn(NO <sub>3</sub> ) <sub>2</sub> •6H <sub>2</sub> O
<b>Pubchem CID</b>	15865313
<b>MDL Number</b>	MFCD00149889
<b>EC No.</b>	600-255-3
<b>IUPAC Name</b>	zinc; dinitrate; hexahydrate
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[N+](=O)([O-])[O-].[N+](=O)([O-])[O-].O.O.O.O.O.O.[Zn+2]
<b>Inchl Identifier</b>	InChI=1S/2NO3.6H2O.Zn/c2*2-1(3)4;;;;;;;;;h;;6*1H2;/q2*-1;;;;;;;;;+2
<b>Inchl Key</b>	JGPSMWXKRPZZRG-UHFFFAOYSA-N
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H272-H302-H315-H319-H335
<b>Hazard Codes</b>	O, Xi
<b>Precautionary Statements</b>	P210-P220-P221-P261-P264-P270-P271-P280-P301+P312+P330-P302+P352-P304+P340+P312-P305+P338-P332+P313-P362-P370+P378-P403+P233-P405-P501
<b>Risk Codes</b>	8-22-36/37/38
<b>Safety Statements</b>	17-26
<b>RTECS Number</b>	ZH4775000
<b>Transport Information</b>	UN 1514 5.1 PG II
<b>WGK Germany</b>	3
<b>GHS Pictograms</b>	<a href="#">GHS03 Oxidizer</a>  <a href="#">GHS07 Exclamation Point</a> 

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## SAFETY DATA SHEET

Date Accessed: 04/25/2024

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### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #10196-18-6

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R22: Harmful if swallowed.

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

O; Oxidizing

R8: Contact with combustible material may cause fire.

Information concerning particular hazards for human and environment:

N/A

Hazards not otherwise classified

No data available

Label elements

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS03 GHS07

Signal word: Danger

Hazard statements

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220 Keep/Store away from clothing/combustible materials.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.  
WHMIS classification  
C - Oxidizing materials  
D2B - Toxic material causing other toxic effects  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
2  
0  
2  
Health (acute effects) = 2  
Flammability = 0  
Physical Hazard = 2  
Other hazards  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A

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

Substances  
CAS No. / Substance Name:  
10196-18-6 Zinc nitrate hexahydrate  
Identification number(s):  
EC number: 231-943-8

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### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures  
If inhaled:  
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse thoroughly.  
Seek immediate medical advice.  
In case of eye contact:  
Rinse opened eye for several minutes under running water. Consult a physician.  
If swallowed:  
Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed

No data available  
Indication of any immediate medical attention and special treatment needed  
No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents  
Carbon dioxide, extinguishing powder or water spray.  
Fight larger fires with water spray or alcohol resistant foam.  
For safety reasons unsuitable extinguishing agents  
Halocarbon extinguisher  
Special hazards arising from the substance or mixture  
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.  
If this product is involved in a fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
Zinc oxide  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures  
Use personal protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions:  
Do not allow material to be released to the environment without official permits.  
Do not allow product to enter drains, sewage systems, or other water courses.  
Do not allow material to penetrate the ground or soil.  
Methods and materials for containment and cleanup:  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards:  
Acts as an oxidizing agent on organic materials such as wood, paper and fats  
Keep away from combustible material.  
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.

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## **SECTION 7. HANDLING AND STORAGE**

### Handling

Precautions for safe handling

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from flammable substances.

Store away from reducing agents.

Do not store with organic materials.

Store away from metal powders.

Store away from water/moisture.

Further information about storage conditions:

Store under dry inert gas.

This product is hygroscopic.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Protect from humidity and water.

Specific end use(s)

No data available

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

None.  
Additional information: No data  
Exposure controls  
Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment:  
Use suitable respirator when high concentrations are present.  
Recommended filter device for short term use:  
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.  
Penetration time of glove material (in minutes)  
No data available  
Eye protection: Safety glasses  
Body protection: Protective work clothing.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties  
Appearance:  
Form: Crystalline or powder  
Color: White  
Odor: Odorless  
Odor threshold: No data available.  
pH: N/A  
Melting point/Melting range: ca 36 °C (ca 97 °F)  
Boiling point/Boiling range: No data available  
Sublimation temperature / start: No data available  
Flammability (solid, gas)  
Contact with combustible material may cause fire.  
Ignition temperature: No data available  
Decomposition temperature: No data available  
Autoignition: No data available.  
Danger of explosion: No data available.

Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: N/A  
Density at 20 °C (68 °F): 2.07 g/cm<sup>3</sup> (17.274 lbs/gal)  
Relative density: No data available.  
Vapor density: N/A  
Evaporation rate: N/A  
Solubility in / Miscibility with Water at 20 °C (68 °F):  
1800 g/l  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
May intensify fire; oxidizer.  
Chemical stability  
Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions  
Reacts with reducing agents  
Reacts with flammable substances  
Conditions to avoid  
No data available  
Incompatible materials:  
Reducing agents  
Flammable substances  
Water/moisture  
Organic materials  
Metal powders  
Hazardous decomposition products:  
Nitrogen oxides  
Zinc oxide

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity: Harmful if swallowed.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.  
LD/LC50 values that are relevant for classification:

Oral LD50 1190 mg/kg (rat)  
Skin irritation or corrosion: Causes skin irritation.  
Eye irritation or corrosion: Causes serious eye damage.  
Sensitization: No sensitizing effects known.  
Germ cell mutagenicity: No effects known.  
Carcinogenicity:  
EPA-I: Data are inadequate for an assessment of human carcinogenic potential.  
EPA-CBD: Carcinogenic potential cannot be determined.  
EPA-II: Inadequate information to assess carcinogenic potential.  
Reproductive toxicity: No effects known.  
Specific target organ system toxicity - repeated exposure: No effects known.  
Specific target organ system toxicity - single exposure: May cause respiratory irritation.  
Aspiration hazard: No effects known.  
Subacute to chronic toxicity: No effects known.  
Additional toxicological information:  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity  
Aquatic toxicity:  
No data available  
Persistence and degradability  
No data available  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Additional ecological information:  
Do not allow material to be released to the environment without official permits.  
Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Avoid transfer into the environment.  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A  
Other adverse effects  
No data available

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## **SECTION 13. DISPOSAL**



## CONSIDERATIONS

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## SECTION 14. EXPOSURE CONTROLS/PERSONAL PROTECTION

UN-Number

DOT, IMDG, IATA

UN1514

UN proper shipping name

DOT

Zinc nitrate

IMDG, IATA

ZINC NITRATE

Transport hazard class(es)

DOT

Class

5.1 Oxidising substances.

Label

5.1

Class

5.1 (O2) Oxidizing substances

Label

5.1

IMDG, IATA

Class

5.1 Oxidising substances.

Label

5.1

Packing group

DOT, IMDG, IATA

II

Environmental hazards:

N/A

Special precautions for user

Warning: Oxidizing substances

EMS Number:

F-A,S-Q

Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code

N/A

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

UN "Model Regulation":

## **SECTION 15. REGULATORY INFORMATION**

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)  
10196-18-6 Zinc nitrate hexahydrate

California Proposition 65

Prop 65 - Chemicals known to cause cancer  
Substance is not listed.

Prop 65 - Developmental toxicity  
Substance is not listed.

Prop 65 - Developmental toxicity, female  
Substance is not listed.

Prop 65 - Developmental toxicity, male  
Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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