

Classified as hazardous according to criteria of EPA New Zealand

## Section 1 - Identification

**Product Name** Zinc nitrate

**Synonyms** Nitric Acid, Zinc Salt, Hexahydrate

|                                |   |
|--------------------------------|---|
| <b>Product Code</b>            | ACR21166, AJA1271, ALF011136, ALF012313, BSPZN601, FSBZ/1150, TCH55208                      |
| <b>Address</b>                 | Thermo Fisher Scientific New Zealand Ltd<br>244 Bush Road, Albany,<br>Auckland, New Zealand |
| <b>Emergency Tel.</b>          | <b>CHEMTREC®</b><br><b>09 980 6780 or +64 9 980 6780</b>                                    |
| <b>Telephone / Fax Numbers</b> | Tel: 09 980 6700<br>Fax: 09 980 6788  |
| <b>E-mail address</b>          | <a href="mailto:NZinfo@thermofisher.com">NZinfo@thermofisher.com</a>                        |

**Recommended Use** Laboratory chemicals.

## Section 2 - Hazard(s) Identification

### Classification under Work Safe New Zealand

5.1.1B - Oxidising substances that are liquids or solids: medium hazard  
 6.3A - Substances that are irritating to the skin  
 6.4A - Substances that are irritating to the eye  
 6.1E - Substances that are acutely toxic (Inhalation)  
 6.1C - Substances that are acutely toxic (Oral)  
 9.1A - Substances that are very ecotoxic in the aquatic environment  
 9.3B - Substances that are ecotoxic to terrestrial vertebrates

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**HSNO Approval Number** HSR005093

### GHS Classification

#### Physical hazards

Oxidizing solids Category 2

#### Health hazards

Acute Oral Toxicity Category 3  
 Skin Corrosion/Irritation Category 2  
 Serious Eye Damage/Eye Irritation Category 2  
 Specific target organ toxicity - (single exposure) Category 3

#### Environmental hazards

Acute aquatic toxicity Category 1

Chronic aquatic toxicity

Category 1

**Label Elements****Signal Word****Danger****Hazard Statements**

H272 - May intensify fire; oxidizer  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H335 - May cause respiratory irritation  
 H301 - Toxic if swallowed  
 H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects  
 H432 - Toxic to terrestrial vertebrates

**Precautionary Statements**

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 P220 - Keep/Store away from clothing/ combustible materials  
 P221 - Take any precaution to avoid mixing with combustibles  
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P271 - Use only outdoors or in a well-ventilated area  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell  
 P330 - Rinse mouth  
 P362 - Take off contaminated clothing and wash before reuse  
 P370 + P378 - In case of fire: Use CO<sub>2</sub>, dry chemical or foam for extinction  
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

## Section 3 - Composition and Information on Ingredients

| Component                           | CAS-No     | Weight % |
|-------------------------------------|------------|----------|
| Nitric acid, zinc salt, hexahydrate | 10196-18-6 | >95      |

## Section 4 - First Aid Measures

**Inhalation**

Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention. If not breathing,

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|  |  |
|--|--|
|  | give artificial respiration.   |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Call a physician or poison control center immediately.   |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.  |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.                                  |
| <b>Self-Protection of the First Aider</b>  | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| <b>First Aid Facilities</b>                | Eyewash, safety shower and washroom.   |
| <b>Most important symptoms and effects</b> | No information available.  |
| <b>Notes to Physician</b>                  | Treat symptomatically.   |

## Section 5 - Fire Fighting Measures

### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### **Extinguishing media which must not be used for safety reasons**

No information available.

### **Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>).

### **Decomposition Temperature**

> 140°C

### **Specific Hazards Arising from the Chemical**

May ignite combustibles (wood, paper, oil, clothing, etc.). Oxidizer: Contact with combustible/organic material may cause fire.

### **Special protective equipment and precautions for fire fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## Section 6 - Accidental Release Measures

### **Emergency procedures**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

### **Environmental Precautions**

Do not flush into surface water or sanitary sewer system.

### **Methods for Containment and Clean Up**

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Keep away from clothing and other combustible materials. Sweep up and shovel into suitable containers for disposal.

### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### **Precautions for Safe Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from clothing and other combustible materials. Avoid dust formation.

### **Conditions for Safe Storage, Including any Incompatibilities**

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

## Section 8 - Exposure Controls and Personal Protection

### Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

#### Hand Protection

Protective gloves

| Glove material                                 | Breakthrough time                 | Glove thickness | AUS/NZ Standard | Glove comments        |
|--|-----------------------------------|-----------------|-----------------|-----------------------|
| Natural rubber, Nitrile rubber, Neoprene, PVC. | See manufacturers recommendations | -               | AS/NZS 2161.1   | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

#### Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

#### Recommended Filter type: Recommended half mask:-

Particulates filter conforming to EN 143 (or AUS/NZ equivalent)  
Particle filtering: EN149:2001 (or AUS/NZ equivalent)  
When RPE is used a face piece Fit Test should be conducted

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## Section 9 - Physical and Chemical Properties

### Information on basic physical and chemical properties

#### Appearance Physical State

White  
Solid

#### Odor Odor Threshold pH

Odorless  
No data available  
5.1  
5% aq.sol

|  |                          |  |
|--|--------------------------|--|
| <b>Melting Point/Range</b>                     | 36 °C / 96.8 °F          |  |
| <b>Softening Point</b>                         | No data available        |  |
| <b>Boiling Point/Range</b>                     | No information available |  |
| <b>Flash Point</b>                             | No information available | <b>Method -</b> No information available |
| <b>Evaporation Rate</b>                        | Not applicable           | Solid                                    |
| <b>Flammability (solid,gas)</b>                | No information available |  |
| <b>Explosion Limits</b>                        | No data available        |  |
| <b>Vapor Pressure</b>                          | No data available        |  |
| <b>Vapor Density</b>                           | Not applicable           | Solid                                    |
| <b>Specific Gravity / Density</b>              | No data available        |  |
| <b>Bulk Density</b>                            | No data available        |  |
| <b>Water Solubility</b>                        | 1800 g/L (20°C)          |  |
| <b>Solubility in other solvents</b>            | No information available |  |
| <b>Partition Coefficient (n-octanol/water)</b> |                          |  |
| <b>Autoignition Temperature</b>                | Not applicable           |  |
| <b>Decomposition Temperature</b>               | > 140°C                  |  |
| <b>Viscosity</b>                               | Not applicable           | Solid                                    |
| <b>Explosive Properties</b>                    | No information available |  |
| <b>Oxidizing Properties</b>                    | Oxidizer                 |  |
| <b>Other information</b>                       |                          |  |
| <b>Molecular Formula</b>                       | N2 O6 Zn . 6 H2 O        |  |
| <b>Molecular Weight</b>                        | 297.46                   |  |

## Section 10 - Stability and Reactivity

|   |   |
|---|---|
| <b>Reactivity</b>                       | Yes   |
| <b>Stability</b>                        | Oxidizer: Contact with combustible/organic material may cause fire. Hygroscopic.                                |
| <b>Conditions to Avoid</b>              | Incompatible products, Excess heat, Combustible material, Avoid dust formation, Exposure to moist air or water. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong reducing agents, Combustible material.  |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NOx).  |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |

## Section 11 - Toxicological Information

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

|                   |                   |
|-------------------|-------------------|
| <b>Oral</b>       | Category 4        |
| <b>Dermal</b>     | No data available |
| <b>Inhalation</b> | No data available |

| Component                           | LD50 Oral                 | LD50 Dermal | LC50 Inhalation |
|-------------------------------------|---------------------------|-------------|-----------------|
| Nitric acid, zinc salt, hexahydrate | LD50 = 1190 mg/kg ( Rat ) |             |                 |

**(b) skin corrosion/irritation;** Category 2

**(c) serious eye damage/irritation;** Category 2

**(d) respiratory or skin sensitization;**  
**Respiratory** No data available

|   |  |
|---|--|
| <b>Skin</b>                                       | No data available  |
| <b>(e) germ cell mutagenicity;</b>                | No data available  |
| <b>(f) carcinogenicity;</b>                       | No data available  |
| <b>(g) reproductive toxicity;</b>                 | There are no known carcinogenic chemicals in this product      |
| <b>(h) STOT-single exposure;</b>                  | No data available<br>Category 3                                |
| <b>Results / Target organs</b>                    | Respiratory system   |
| <b>(i) STOT-repeated exposure;</b>                | No data available  |
| <b>Target Organs</b>                              | No information available.                                      |
| <b>(j) aspiration hazard;</b>                     | Not applicable<br>Solid  |
| <b>Other Adverse Effects</b>                      | The toxicological properties have not been fully investigated. |
| <b>Symptoms / effects, both acute and delayed</b> | No information available                                       |

## Section 12 - Ecological Information

|  |  |
|--|--|
| <b>Ecotoxicity effects</b>                   | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. |
| <b>Persistence and Degradability</b>         |  |
| <b>Persistence</b>                           | Soluble in water, Persistence is unlikely, based on information available.   |
| <b>Degradability</b>                         | Not relevant for inorganic substances.   |
| <b>Degradation in sewage treatment plant</b> | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.  |
| <b>Bioaccumulative Potential</b>             | Bioaccumulation is unlikely  |
| <b>Mobility</b>                              | The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils                    |
| <b>Endocrine Disruptor Information</b>       | This product does not contain any known or suspected endocrine disruptors  |
| <b>Persistent Organic Pollutant</b>          | This product does not contain any known or suspected substance   |
| <b>Ozone Depletion Potential</b>             | This product does not contain any known or suspected substance   |

## Section 13 - Disposal Considerations

|  |  |
|--|--|
| <b>Waste from Residues/Unused Products</b> | Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.       |
| <b>Contaminated Packaging</b>              | Dispose of this container to hazardous or special waste collection point.  |
| <b>Other Information</b>                   | Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment. |

## Section 14 - Transport Information

### IMDG/IMO

**UN-No** UN1514  
**Proper Shipping Name** Zinc nitrate  
**Technical Shipping Name** Zinc nitrate hexahydrate  
**Hazard Class** 5.1  
**Packing Group** II

**NZS 5433:2012**

**UN-No** UN1514  
**Proper Shipping Name** Zinc nitrate  
**Technical Shipping Name** Zinc nitrate hexahydrate  
**Hazard Class** 5.1  
**Packing Group** II  
**IATA**

**UN-No** UN1514  
**Proper Shipping Name** Zinc nitrate  
**Technical Shipping Name** Zinc nitrate hexahydrate  
**Hazard Class** 5.1  
**Packing Group** II

**Environmental hazards** Dangerous for the environment  
 Product is a marine pollutant according to the criteria set by IMDG/IMO

**Special Precautions** No special precautions required

**Additional information** None known

## Section 15 - Regulatory Information

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

| Component                           | HSNO Approval Number |
|-------------------------------------|----------------------|
| Nitric acid, zinc salt, hexahydrate | HSR005093            |

**International Inventories** X = listed

| Component                           | NZIoC | AICS | EINECS | ELINCS | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | KECL |
|-------------------------------------|-------|------|--------|--------|------|-----|------|-------|------|-------|------|
| Nitric acid, zinc salt, hexahydrate | X     | X    | -      | -      | -    | -   | -    | X     | X    | X     | -    |

**Prohibition or notification/licensing requirements** Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

## Section 16 - Other Information

**This safety data sheet complies with the requirements of WorkSafe New Zealand Regulations**

### Legend

**AICS** - Australian Inventory of Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**IECSC** - Chinese Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**MARPOL** - International Convention for the Prevention of Pollution from Ships

**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japanese Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**CAS** - Chemical Abstracts Service  
**ACGIH** - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**ADG** Australian Code for the Transport of Dangerous Goods by Road and Rail

**NZS 5433:2012** - Transport of Dangerous Goods on Land  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%  
**WEL** - Workplace Exposure Limit  
**DNEL** - Derived No Effect Level  
**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative  
VOC (volatile organic compound)

**OECD** - Organisation for Economic Co-operation and Development  
**LC50** - Lethal Concentration 50%  
**ATE** - Acute Toxicity Estimate  
**RPE** - Respiratory Protective Equipment  
**NOEC** - No Observed Effect Concentration  
**BCF** - Bioconcentration factor  
**PBT** - Persistent, Bioaccumulative, Toxic

#### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

First aid for chemical exposure, including the use of eye wash and safety showers.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

Chemical incident response training.

|                         |                 |
|-------------------------|-----------------|
| <b>Creation Date</b>    | 16-Nov-2009     |
| <b>Revision Date</b>    | 04-Jul-2020     |
| <b>Revision Summary</b> | Not applicable. |

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

## End of Safety Data Sheet