

# SDS

In compliance with HCS/HazCom 2012



Alpha HPA

## SAFETY DATA SHEET

Product: ALUMINIUM NITRATE NONAHYDRATE CRYSTAL

Revision: 00

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### 1 - IDENTIFICATION

Product identifier	ALUMINIUM NITRATE NONAHYDRATE CRYSTAL.
Recommended use of the chemical and restrictions on use	General use chemical.
Company	Alpha HPA Ltd.
Address	Level 2, 66 Hunter St. Sydney, NSW 2000, Australia.
Telephone number	+61 293003310.
Emergency telephone number	Chemtrec: 1-800-424-9300. International: 1-703-527-3887.

### 2 - HAZARDS IDENTIFICATION

Classification of the chemical	Oxidizing solids – Category 3. Skin corrosion/irritation – Category 2. Serious eye damage/eye irritation – Category 1.
Signal word	DANGER.
Hazard statement(s)	H272 May intensify fire; oxidizer. H315 Causes skin irritation. H318 Causes serious eye damage.

Symbol(s)	
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### PREVENTION

Precautionary statement(s)	P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. P220 Keep away from clothing and other combustible materials. P264 Wash hands thoroughly after handling. P280 Wear protective gloves, protective clothing, eye protection
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and face protection.

### RESPONSE

P302 + P352 IF ON SKIN: Wash with plenty of water.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P370 + P378 In case of fire: Use water carbon dioxide (CO<sub>2</sub>) or halon® may provide limited control, for extinguisher.

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

### DISPOSAL

P501 Dispose of contents and container according to current regulations.

Classification system adopted

Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A.

Adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 8 ed.

Other hazards which do not result in classification

The product has no other hazards.

## 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### SUBSTANCE

Systematic chemical or trivial name Aluminium nitrate nonahydrate (Nitric acid, aluminium salt, nonahydrate) (> 98%).

Common or generic name Aluminium nitrate.

CAS Number 7784-27-2.

Impurities and stabilizing additives contributing to the hazard There are no impurities that contribute to the danger.

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### 4 - FIRST-AID MEASURES

Inhalation	Remove the victim to a ventilated place and keep him at rest in a position that does not make breathing difficult. If you feel unwell, contact a POISON CENTER or a doctor. Take this SDS. Wash exposed skin with sufficient water to remove the material.
Skin contact	Remove and isolate contaminated clothing and shoes. In case of skin irritation: Consult a doctor. Take this SDS.
Eye contact	Rinse thoroughly with water for 20 minutes. If using contact lenses, remove them if it is easy. Continue rinsing. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Rinse victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place the patient on the left side (if possible upwards) to keep the airway open and prevent aspiration. Keep the patient silent and maintain normal body temperature. Consult a POISON CENTER or doctor. Take this SDS.
Most important symptoms and effects, acute and delayed	Contact with the product causes irritation to the skin with redness, dryness, pain and causes serious eye damage with corneal burns, pain, redness, and tearing.
Indication of any immediate medical attention and special treatment needed	Avoid contact with the product when helping the victim. Exposure treatment should be directed towards the control of the patient's symptoms and clinical condition. In case of contact with the skin, do not rub the affected area. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

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### 5 - FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Compatible with water carbon dioxide (CO <sub>2</sub> ) or halon® may provide limited control. Not recommended: Do not use dry chemicals or foams. These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels), may ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard.
Specific hazards arising from the chemical product	
Specific extinguishing methods	If the material is on fire or involved in a fire: Flood with water. Cool all affected containers with plenty of water. Apply water from the longest distance possible, a minimum radius of 800 meters. Approach the fire against the wind to avoid dangerous vapors and toxic decomposition products. Use large amounts of water in containers involved in the fire. If necessary, use water spray to cool fire-exposed containers. Use self-contained breathing apparatus (SCBA) with positive pressure and complete protective clothing.

### 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions	Prevent sparks or flames. Do not smoke. Do not touch damaged containers or spilled material without wearing suitable clothing. Avoid exposure to the product. Stay away from low areas, with the wind behind you.
Protective equipment	Use protective equipment as described in Section 8. Use PPE complete with PVC antacid suit including overalls, hood, gloves and boots, raincoats and goggles or face protector against splashes. In case of large leaks, where the exposure is large, it is recommended to use a respiratory protection mask with a filter against dust. Keep combustible materials (wood,
Emergency procedures	

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Environmental precautions	<p>paper, oil) away from spilled product. Evacuate the area within a radius of at least 25 meters. Keep unauthorized persons away from the area. Stop the leak if it can be done without risk.</p> <p>Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).</p>
Methods and materials for containment	<p>Use natural or spill containment barriers. If water is not possible, use sand or another non-combustible absorbent. Absorb the remaining product with dry sand, earth, vermiculite, or any other inert material. Never use sawdust, burlap, etc. Collect the spilled product and place in proper containers. Place the adsorbed material in appropriate containers and remove them to a safe place. For final destination, proceed according to Section 13 of this SDS.</p>
Methods and materials for cleaning up	<p>Collect spilled product and place in suitable containers. Place the adsorbed material in appropriate containers and remove them to a safe place. For final destination, proceed according to Section 13 of this SDS.</p>

### 7- HANDLING AND STORAGE

Precautions for safe handling	<p>Schedule a first aid action before starting the activity with the product. The use of the product is restricted to professionals. Caution - Avoid exposure - obtain special instructions before use. Handle in a ventilated area or with a general local ventilation / exhaust system. Avoid dust formation. Avoid exposure to the product. Avoid contact with incompatible materials. Use personal protective equipment as described in section 8. Wash hands and face thoroughly after handling and before eating, drinking, smoking, or using the bathroom. Contaminated clothing must be changed and washed before reuse.</p>
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Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks, open flames and hot surfaces. - Do not smoke. Keep the container tightly closed. Ground the container and the product receiver during transfers. Use only non-sparking tools. Avoid the accumulation of electrostatic charges. Use explosion-proof electrical, ventilation and lighting equipment. Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials. Store away from sources of heat and/or ignition. Keep container standing upright. Keep containers closed when not in use - check regularly for spills.

The product may be incompatible with reducing agents, powdered metals, organic materials and combustible materials.

### 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Chemical name	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Aluminum metal and insoluble compounds	1 mg/m <sup>3</sup> (R) (as Al insoluble compounds)	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (resp)	N.E.

I – Inhalable particulate matter.

R – Respirable fraction.

N.E. Not established.

A4: Not Classifiable as a Human Carcinogen.

Biological limit

Not established.

Appropriate engineering controls

Promote direct mechanical ventilation and exhaust system to the outside environment. These measures help reduce exposure to product. Maintain atmospheric concentrations, of the constituents of the product, below the occupational

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	exposure limits indicated.
Individual protection measures, such as personal protective equipment	In case of dust formation, use respiratory protection equipment against dust - P2. Based on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection in view of the conditions of use of the product.
Respiratory protection	
Hand protection	Nitrile rubber safety gloves, suitable protective clothing, and closed shoes.
Eye protection	Safety glasses with side protection.
Skin and body protection	Proper protective clothing and closed shoes are recommended.
Special precautions	The product is finely divided and at certain concentrations in the air, it can become explosive.

### 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (physical state, color, etc.)	Crystalline solid, white.
Odour	Odorless.
Odour threshold	Not available.
pH	2.5 – 3.5 (5% solution).
Melting point/freezing point	73°C.
Boiling point, initial boiling, and boiling range	Not available.
Flashpoint	Not available.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not available.

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Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Soluble in water.
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

### 10 - STABILITY AND REACTIVITY

Reactivity and Chemical stability	Product is stable under normal conditions of temperature and pressure.
Possibility of hazardous reactions	Avoid dust formation. Avoid heat and contact with incompatible materials. The product is finely divided and at certain concentrations in the air, it can become explosive.
Conditions to avoid	High temperatures, heat, friction and contact with incompatible materials.
Incompatible material	The product may be incompatible with reducing agents, powdered metals, organic materials, and combustible materials
Hazardous decomposition products	Decomposition of product may generate toxic gases such as CO, CO <sub>2</sub> , oxides of aluminium and nitrogen.



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### 11 - TOXICOLOGICAL INFORMATION

	<p>The product is not expected to be toxic to the oral, dermal and inhalation routes.</p>
	<p>Information regarding:</p>
Acute toxicity	<p><u>Aluminium nitrate nonahydrate:</u> LD<sub>50</sub> (oral, rats): &gt; 2,000 mg/kg. LD<sub>50</sub> (dermal, rats): &gt; 2,000 mg/kg. LC<sub>50</sub> (inhalation, rats, 4h): &gt; 5 mg/L.</p>
Skin irritation/corrosion	<p>Contact with the product causes irritation to the skin with redness, dryness, pain.</p>
Eye damage/irritation	<p>Contact with the product causes serious eye damage with corneal burns, pain, redness, and tearing.</p>
Respiratory or skin sensitization	<p>It is not expected that the product causes respiratory or skin sensitization. Test: Skin sensitisation (Landsteiner method, guinea pig): not sensitising.</p>
Reproductive cell mutagenicity	<p>It is not expected that the product presents reproductive cell mutagenicity.</p>
Carcinogenicity	<p>The product is not expected to cause cancer.</p>
Reproductive toxicity	<p>It is not expected that the product presents reproductive toxicity.</p>
Specific target organ toxicity – single exposure	<p>It is not expected that the product presents specific target organ toxicity by single exposure.</p>
Specific target organ toxicity – repeated exposure	<p>It is not expected that the product presents specific target organ toxicity by repeated exposure.</p>
Aspiration hazard	<p>It is not expected that the product presents aspiration hazard.</p>

### 12 - ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product

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Ecotoxicity	The product is not expected to exhibit ecotoxicity. LC <sub>50</sub> (Fish, 96h): > 100 mg/L.
Persistence and degradability	The product is an inorganic substance for which the chemical assessment is based on the elemental concentration, biotic degradation in the environment is an irrelevant process. It is expected that the product has low bioaccumulative potential in aquatic organisms because it is an inorganic and insoluble compound.
Bioaccumulative potential	
Mobility in soil:	Not available.
Other adverse effects	There are not known adverse environmental effects of the product.

### 13 - DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep product residues in their original containers and properly closed. Disposal should be in accordance with the regulations for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for appropriate disposal as established for the product.
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### 14 - TRANSPORT INFORMATION

International regulations	UN – “United Nations”
Land:	Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
UN number:	1438
UN proper shipping name:	ALUMINIUM NITRATE

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Transport hazard class(es): 5.1  
Subsidiary risk: NA  
Packing group: III

Sea: IMO – International Maritime Organization  
International Maritime Dangerous Goods Code (IMDG Code)

UN number: 1438  
UN proper shipping name: ALUMINIUM NITRATE  
Transport hazard class(es): 5.1  
Subsidiary risk: NA  
Packing group: III  
Environmental hazards: Product is not considered a marine pollutant..  
EmS: F-A, S-Q

Air: IATA – International Air Transport Association  
Dangerous Goods Regulation (DGR)

UN number: 1438  
UN proper shipping name: ALUMINIUM NITRATE  
Transport hazard class(es): 5.1  
Subsidiary risk: NA  
Packing group: III

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code: Consult regulations:  
- International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006.  
- International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines

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Special precautions: relevant to the code. IMO, London, 2007.  
There is no need of special precautions.

### 15 - REGULATORY INFORMATION

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

International Labor Organization C170 Chemicals Convention, from June 25th, 1990: Occupational Safety and Health – Toxic Substances and Agents.

Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A, B, C, D, E, F.

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS). 8. rev. ed.

U.S. Federal Regulations: United States inventory (TSCA): The Aluminium nitrate nonahydrate is not listed.

SARA 302/304: Composition Information on ingredients: No products were found.

California Proposition 65: This product does not contain any Proposition 65 chemicals.

### 16 - OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in May 2021.

**Abbreviations:**

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**ACGIH** – American Conference of Governmental Industrial Hygienists

**BCF** – Bioconcentration factor

**CAS** – Chemical Abstracts Service

**LC<sub>50</sub>** – Lethal Concentration 50%

**LD<sub>50</sub>** – Lethal Dose 50%

**ERPG** - Emergency Response Planning Guidelines

**NIOSH** – National Institute of Occupational Safety and Health

**OSHA** – Occupational Safety & Health Administration

**PEL** – Permissible Exposure Limit

**REL** – Recommended Exposure Limit

**STEL** – Short Term Exposure Limit

**TLV** – Threshold Limit Value

**TWA** – Time Weighted Average

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <<http://www.cdc.gov/niosh/>>. Access in: May. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <<http://nj.gov/health/eoh/rtkweb/odispubr.shtml>>. Access in: May. 2021.

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