Safety Data Sheet

Date of Issue: 09.07.2024 Date of Expiry: 09.07.2029

1: SUBSTANCE AND SUPPLIER DETAILS

Company Name : **ECP Limited**
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Product Name	**Aluminium Nitrate nonahydrate**
Product Code	11501, 11508
CAS No.	7784-27-2

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification
Oxidizing liquids or solids (Category 3)
Serious eye damage/eye irritation (Category 1)

2.2 GHS Label elements, including precautionary statements
Pictogram

Signal Word : Danger

Hazard Statements
H318 Causes serious eye damage.
H272 May intensify fire; oxidizer.

Precautionary Statements
Prevention
P280 Wear eye protection/ face protection.

Response
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

3: Composition/information on ingredients

3.1 Substances
Formula : AlN3O9 · 9H2O
Molecular weight : 375.13 g/mol
CAS-No. : 7784-27-2
EC-No. : 236-751-8

4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call-in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NOx)
Aluminum oxide
Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Tightly closed. Dry.

Storage class
Storage class (TRGS 510): 13: Non Combustible Solids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters
Occupational Exposure Limits Table

Component	CAS No.	Value	Control parameters	Basis
Aluminium nitrate nonahydrate	7784-27-2	WES-TWA	5 mg/m3	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state	:	crystalline
b) Color	:	Colourless
c) Odor	:	of nitric acid
d) Melting point/freezing point		
Melting point/range	:	73 °C - lit.
e) Initial boiling point and boiling range	:	135 °C - (decomposition)
f) Flammability (solid, gas)	:	The product is not flammable.
g) Upper/lower flammability or explosive limits	:	No data available
h) Flash point	:	does not flash
i) Autoignition temperature	:	No data available
j) Decomposition temperature	:	No data available
k) pH 2.5 - 3.5 at 50 g/l at 25 °C		
l) Viscosity		
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
m) Water solubility	:	41.9 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6- completely soluble42.9 g/l at 25 °C - Regulation (EC) No. 440/2008, Annex, A.6- completely soluble
n) Partition coefficient: n-octanol/water	:	Not applicable for inorganic substances
o) Vapor pressure	:	No data available
p) Density	:	1.72 g/cm3 at 20 °C
Relative density	:	No data available
q) Relative vapor density	:	No data available
r) Particle characteristics	:	No data available
s) Explosive properties	:	Not classified as explosive.
t) Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Risk of explosion with:
Reducing agents , Cyanides, Esters, Strong acids, Isocyanates, Powdered metals, Sulfur.

10.4 Conditions to avoid
Avoid moisture.

10.5 Incompatible materials
various metals, Mild steel

10.6 Hazardous decomposition products
In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - male and female - 3,263 mg/kg
(OECD Test Guideline 401)
Symptoms: Possible damages:, mucosal irritations, Cough

LD50 Dermal - Rabbit - male and female - > 5,000 mg/kg
(OECD Test Guideline 402)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Aluminium sulphate hydrate

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Aluminium nitrate

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage.
(OECD Test Guideline 405)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Aluminium nitrate

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: Does not cause skin sensitization.
(OECD Test Guideline 406)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: aluminium chloride Hexahydrate.
The value is given in analogy to the following substances: aluminium (III) chloride, anhydrous

Germ cell mutagenicity : No data available

Carcinogenicity : No data available

Reproductive toxicity : No data available

Specific target organ toxicity - single exposure : No data available

Specific target organ toxicity - repeated exposure : No data available

Aspiration hazard : No data available

11.2 Additional Information
RTECS: BD1050000
To the best of our knowledge, the chemical, physical, and toxicological properties have not

been thoroughly investigated.
After absorption of toxic quantities:
CNS disorders
Methemoglobinemia
Nausea
Vomiting
The following applies to aluminium compounds in general: After swallowing: only slightly absorbable via the gastrointestinal tract. Serious disorders in man (from about 4000 mg aluminium up): phosphate metabolism, calcium metabolism.
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.
Other dangerous properties cannot be excluded.
Handle in accordance with good industrial hygiene and safety practice.

12: Ecological information

12.1 Toxicity
Toxicity to fish semi-static test LC50 - Danio rerio (zebra fish) - > 0.105 mg/l - 96 h
(OECD Test Guideline 203)
Remarks: (above the solubility limit in the test medium)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
Will likely be mobile in the environment due to its water solubility.

12.5 Other adverse effects
Hazard for drinking water supplies.
Discharge into the environment must be avoided

13: Disposal considerations

13.1 Waste treatment methods
Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	**UN Number**	1438	1438	1438
14.2	**UN Proper Shipping name**	ALUMINIUM NITRATE NONAHYDRATE	ALUMINIUM NITRATE NONAHYDRATE	Aluminium nitrate nonahydrate

14.3	**Transport Hazard Class**	5.1	5.1	5.1
14.4	**Packaging group**	III	III	III
14.5	**Environmental Hazards**	No	No	No
14.6	**Special precautions for user**	-		

15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulatory information
HSNO Group Standard Approval: HSR002693 - Laboratory Chemicals and Reagent Kits (Oxidising [5.1.1]) Group Standard 2006
Tracking Required: not required
Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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