# Safety Data Sheet

Date of Issue: 27.11.2024 Date of Expiry: 27.11.2029

## 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Company Name** : **ECP Limited**
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Emergency phone number : 0800 243 622 (24 hours)

| | |
|---|---|
| **Product Name** | **Ammonium Nitrate** |
| **Product Code** | 13301 |
| **CAS No.** | 6484-52-2 |

**Recommended use** : Laboratory Investigations

## 2: Hazard's identification

### 2.1 GHS Classification
Oxidizing solids (Category 3), H272
Serious eye damage/eye irritation (Category 2), H319

### 2.2 GHS Label elements, including precautionary statements
**Pictogram**

**Signal Word :** **Warning**

**Hazard Statements**
H272 May intensify fire; oxidizer.
H319 Causes serious eye irritation.

**Precautionary Statements**
**Prevention**
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 skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response**
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

## 3: Composition/information on ingredients

### 3.1 Substances
Formula : H4N2O3

| | | |
|---|---|---|
| Molecular weight | : | 80.04 g/mol |
| CAS-No. | : | 6484-52-2 |
| EC-No. | : | 229-347-8 |

## 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. 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)
Not combustible.
Has a fire-promoting effect due to release of oxygen.
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**
Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.

**Hygiene measures**
Change contaminated clothing. Wash hands after working with substance.
For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**
**Storage conditions**
Tightly closed. Away from combustible materials and sources of ignition and heat. TRGS 511 must be observed.
Hygroscopic. Store under inert gas.

**Storage class**
Storage class (TRGS 510): 5.1C: Ammonium nitrate and ammonium nitrate containing preparations

**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**
**Ingredients with workplace control parameters**
Contains no substances with occupational exposure limit values.

**8.2 Exposure controls**
**Appropriate engineering controls**
Change contaminated clothing. Wash hands after working with substance.

**Personal protective equipment**
**Eye/face protection**
Face shield and safety glasses.

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use.

**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.

## 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) Physical state | : | solid |
| b) Color white | | |
| c) Odor | : | No data available |
| d) Melting point/freezing point | | |
| Melting point/range | : | 169 °C - lit. |
| e) Initial boiling point and boiling range | : | 210 °C - lit. |
| f) Flammability (solid, gas) | : | The product is not flammable. |
| g) Upper/lower flammability or explosive limits: | | No data available |
| h) Flash point | : | Not applicable |
| i) Autoignition temperature | : | No data available |
| j) Decomposition temperature | : | > 180 °C |
| k) pH | : | 4.5 - 6.0 at 80.40 g/l at 25 °C |
| l) Viscosity | | |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| m) Water solubility | : | completely soluble |
| n) Partition coefficient: n-octanol/water | : | Not applicable for inorganic substances |
| o) Vapor pressure | : | Not applicable |
| p) Density | : | 1.725 g/cm3 at 25 °C |
| Relative density | : | No data available |
| q) Relative vapor density | : | No data available |
| r) Particle characteristics | : | No data available |
| s) Explosive properties | : | No data available |
| t) Oxidizing properties | : | The substance or mixture is classified as oxidizing with the category 3. |

### 9.2 Other safety information

| | | |
|---|---|---|
| Relative vapor density | : | 2.8 |

## 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:
Alkali metals, aluminium chloride, Ammonia, ammonium compounds, Barium nitrate, combustible substances, carbides, charcoal, chlorates, Chlorites, 2,4 Dinitrotoluene, Esters Urea, iron(III) compounds, Potassium, potassium permanganate, Hydrocarbons, copper compounds, Nitro compounds, oils, perchlorates, Powdered metals, powdered aluminium, Reducing agents, Rust, sodium, sodium hypochlorite, sulfur, Wood/Sawdust, sugars, Organic Substances, hypochlorous acid, organic nitro compounds, Aluminum, antimony, Bismuth, Lead, cadmium, chromium, Iron, Copper, magnesium, Manganese, Nickel, Zinc, Tin, Mild steel, in powder form, Water with Heat. metallic oxides with charcoal, Acetic anhydride with Nitric acid.

Risk of ignition or formation of inflammable gases or vapours with:
potassium dichromate, nitrites, Metals, phosphorus, acetic acid with heat.

Exothermic reaction with :
metallic chlorides, salts of oxyhalogenic acids, Sulfides, organic nitro compounds, Oxidizing agents, alkalines, nonmetals, Acids

**10.4 Conditions to avoid**
no information available

**10.5 Incompatible materials**
Reducing agents, Powdered metals, Strong acids, Strong oxidizing agents

**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 - 2,950 mg/kg
(OECD Test Guideline 401)
Symptoms: Nausea, Vomiting, Diarrhea, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

LC50 Inhalation - Rat - 4 h - > 88.8 mg/l - dust/mist
Remarks: (IUCLID)
Symptoms: Symptoms may be delayed., mucosal irritations

LD50 Dermal - Rat - male and female - > 5,000 mg/kg
(OECD Test Guideline 402)

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Irritating to eyes. - 24 h
(OECD Test Guideline 405)

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)
Remarks: The value is given in analogy to the following substances: Nitric acid ammonium calcium salt (1:?:?)

**Germ cell mutagenicity**
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476
Result: negative
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

**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**
Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 256 - 284 mg/kg
Remarks: The value is given in analogy to the following substances: ammonium sulphate

RTECS: BR9050000
Gastrointestinal disturbance, Blood disorders
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of large quantities:
Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms, key symptom: cyanosis (blue colouration of the blood).
The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## 12: Ecological information

**12.1 Toxicity**
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 490 mg/l - 48 h
Remarks: (ECHA)
The value is given in analogy to the following substances: potassium nitrate

Toxicity to algae
static test ErC50 - diatoms - > 1,700 mg/l - 10 Days
Remarks: (ECHA)
The value is given in analogy to the following substances: potassium nitrate

Toxicity to bacteria
EC50 - activated sludge - > 1,000 mg/l - 3 h
(OECD Test Guideline 209)
Remarks: The value is given in analogy to the following substances: sodium nitrate

**12.2 Persistence and degradability**
The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**
No data available

**12.4 Mobility in soil**
No data available

**12.5 Results of PBT and vPvB assessment**
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**
No data available

**12.7 Other adverse effects**
Biological effects:
Hazard for drinking water supplies.
Fertilising effect possible.
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** | 1942 | 1942 | 1942 |
| **14.2** | **UN Proper Shipping name** | AMMONIUM NITRATE | AMMONIUM NITRATE | Ammonium nitrate |
| **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** | none | | |

**Other regulations**
Hazchem Code : 1Y

## 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**National regulatory information**
HSNO Approval Code: HSR001310
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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