# Safety Data Sheet

Date of Issue: 07.11.2024 Date of Expiry: 07.11.2029

## 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 Cerium (IV) nitrate** |
| **Product Code** | 12101 |
| **CAS No.** | 16774-21-3 |

**Recommended use** : Laboratory Investigations

## 2: Hazard's identification

### 2.1 GHS Classification

Oxidizing liquids or solids (Category 2), H272
Acute toxicity, Oral (Category 4), H302
Skin corrosion (Category 2), H315
Serious eye damage (Category 2), H319
Specific target organ toxicity — Single exposure (Category 3 ) H335

### 2.2 GHS Label elements, including precautionary statements

**Pictogram**

**Signal word :** **Danger**

**Hazard statement(s)**

H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

**Precautionary statement(s)**

P220 Keep/Store away from clothing, combustible materials.
P261 Avoid breathing vapours, dust, fume, gas.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage**

P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

**Disposal**
P501 Dispose of contents/ container to an approved waste disposal plant.

## 3: Composition/information on ingredients

### 3.1 Substances

| | | |
|---|---|---|
| Synonyms | : | Ceric ammonium nitrate |
| Formula | : | (NH4)2Ce(NO3)6 |
| Molecular weight | : | 548.22 g/mol |
| CAS-No. | : | 16774-21-3 |
| EC-No. | : | 240-827-6 |

## 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

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

**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: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

### 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)
cerium oxides
Not combustible.
Has a fire-promoting effect due to release of oxygen.
Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 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**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities
**Storage conditions**
No metal containers.
Tightly closed. Do not store near combustible materials.
Store under inert gas. hygroscopic

**Storage class**
Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

### 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
We are not aware of any national exposure limit.

### 8.2 Exposure controls
**Appropriate engineering controls**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

| | | |
|---|---|---|
| Hand protection | : | Protective gloves |
| Eye protection | : | Chemical goggles or safety glasses |
| Skin and body protection | : | Wear suitable protective clothing |
| Respiratory protection | : | [In case of inadequate ventilation] wear respiratory protection. |

## 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Solid |
| Colour | : | Reddish orange. |
| Odour | : | slight characteristic odor. |
| Odour threshold | : | No data available |
| pH | : | No data available |
| Relative evaporation rate (butylacetate=1) | : | No data available |
| Melting point | : | No data available |
| Freezing point | : | No data available |
| Boiling point | : | No data available |
| Flash point | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Vapour pressure | : | No data available |
| Relative vapour density at 20 °C | : | No data available |
| Relative density | : | No data available |
| Solubility | : | Water: 141 g/100ml @ 250C |
| Log Pow | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosive properties | : | No data available |
| Oxidising properties | : | The substance or mixture is classified as oxidizing with the subcategory 2. |
| Explosive limits | : | No data available |

## 10: Stability and reactivity

### 10.1. Reactivity

May intensify fire; oxidiser.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Violent reactions possible with:
combustible substances, Reducing agents, Strong oxidizing agents, Strong acids, Bases
Powdered metals, Cyanides, Esters, Heavy metals.

### 10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

In the event of fire: see section 5

## 11: Toxicological information

### 11.1. Information on toxicological effects

| | | |
|---|---|---|
| Acute toxicity : Oral | : | Harmful if swallowed. |
| Skin corrosion/irritation | : | Causes skin irritation. |
| Serious eye damage/irritation | : | Causes serious eye irritation. |
| Respiratory or skin sensitisation | : | Not classified |
| Germ cell mutagenicity | : | Not classified |
| Carcinogenicity | : | Not classified |
| Reproductive toxicity | : | Not classified |
| STOT-single exposure | : | May cause respiratory irritation. |
| STOT-repeated exposure | : | Not classified |
| Aspiration hazard | : | Not classified |
| Potential adverse human health effects and symptoms : | | Harmful if swallowed. |

## 12: Ecological information

### 12.1 Toxicity

Toxicity to fish
semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.53 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates
semi-static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae
static test ErC50 - Pseudokirchneriella subcapitata (green algae) – 93 mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to bacteria
static test EC50 - activated sludge - > 1,000 mg/l - 3 h
(OECD Test Guideline 209)

### 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

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 Other adverse effects

No data available

## 13: Disposal considerations

### 13.1. Waste treatment methods

**Product/Packaging disposal recommendations:**

Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## 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** | 1477 | 1477 | 1477 |
| **14.2** | **UN Proper Shipping name** | NITRATES, INORGANIC, N.O.S. | NITRATES, INORGANIC, N.O.S. | Nitrates, inorganic, n.o.s. |
| **14.3** | **Transport Hazard Class** | 5.1 | 5.1 | 5.1 |
| **14.4** | **Packaging group** | II | II | II |
| **14.5** | **Environmental Hazards** | Yes | Yes | No |
| **14.6** | **Special precautions for user** | none | | |

**Other regulations**
Hazchem Code : 1W

## 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**National regulatory information**
HSNO Approval Code: HSR004340
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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