SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Ammonium cerium nitrate
CAS number	16774-21-3
Synonyms	Ceric ammonium nitrate; CAN

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solids	Category 2
Corrosive to metals	Category 1
Acute oral toxicity	Category 4
Skin Corrosion/Irritation	Category 1C
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Specific target organ toxicity (single exposure) Target Organs - Respiratory system.	Category 3

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word	Danger
Hazard statements	May intensify fire; oxidizer. May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation. May cause an allergic skin reaction.
Precautionary statements:	
Prevention:	Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breath dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/other combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container.
Response:	Immediately call a POISON CENTER or doctor/physician.
Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin:	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical adivce/attention.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Contiue rinsing.
Ingestion:	Rinse mouth. Do NOT induce vomiting.
Fire:	In case of fire: use CO2, dry chemical, or foam for extinction.
Spills:	Absorb spillage to prevent material damage.
Storage:	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant polypropylene container with a resistant inliner. Store in a dry place.
Disposal:	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ammonium cerium nitrate	Ceric ammonium nitrate; CAN	16774-21-3	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

In case of skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

If swallowed Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes eye burns. Causes burns by all exposure routes. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: May cause methemoglobinemia.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media CO2, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Oxidizer: contact with combustible/organic material may cause fire. May ignite combustible (wood paper, oil, clothing, etc). Hazardous combustion products: Nitrogen oxides, ammonia, heavy metal oxides, thermal decomposition can lead to release of irritating gases and vapors.

5.3 Special protective equipment and precautions for firefighters

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.

5.4 Further information

Flash Point No data available

Autoignition Temperature No information available.

Explosion limits

Upper	No data available.
Lower	No data available.
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	3	3	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evecuate personnel to safe areas.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials. Wash hands before breaks and immediately after handling the product.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

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

Incompatibilities
Acids, bases, cyanides, metals, reducing agents, finely powdered metals, strong reducing agents, combustible materials.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits
This product does not contain any hazardous materials with occupational exposure limits established by the region specifc regulatory bodies.

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
Ensure adequate ventilation, espicially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection
Tight sealing safety goggles. Face protection shield.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Powder Solid
Appearance	Orange
Odor	Pungent
Odor Threshold	No information available
pH	1 @ 20 °C 50 g/l aq.sol
Melting Point/Range	107 - 108 °C / 224.6 - 226.4 °F
Boiling Point/Range	No information available
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Density	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No information available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	No information available
Molecular Formula	H8CeN8O18
Molecular Weight	548.22
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Reactive Hazard

10.2 Chemical stability

Stable under normal conditions. Oxidizer: contact with combustible/organic materials may cause fire, heat sensitive.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Excess heat, incompatible products, combustible material.

10.5 Incompatible materials

Acids, bases, cyanides, metals, reducing agent, finely powdered metals, strong reducing agents, combustible material.

10.6 Hazardous decomposition products

Nitrogen oxides, ammonia, heavy metal oxides, thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium cerium nitrate	300-2000 mg/kg (rat)	>2000 mg/kg (rat)	-

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Irritating to eyes.

Respiratory or skin sensitization

Irritating to respiratory system.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Ammonium cerium nitrate	16774-21-3	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Respiratory system

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Do not allow material to contaminate ground water system.

12.2 Persistence and degradability

May persist based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

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

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

The toxicological properties have not been fully investigated.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-No	UN3085
Proper Shipping Name	OXIDIZING SOLID, CORROSIVE, N.O.S.
Hazard Class	5.1
Packing Group	II

IMDG

UN-No	UN3085
Proper Shipping Name	OXIDIZING SOLID, CORROSIVE, N.O.S.
Hazard Class	5.1
Packing Group	II

IATA

UN-No	UN3085
Proper Shipping Name	OXIDIZING SOLID, CORROSIVE, N.O.S.
Hazard Class	5.1
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information.

SARA 313 (TRI reporting)

Listed, (AMMONIUM CERIUM NITRATE) Weight: 95%, Threshold Values %: 1.0

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Listed (AMMONIUM CERIUM NITRATE)

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

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Revision 1: 07/03/2025

SECTION 17: Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.