



LTS Research Laboratories, Inc.
Safety Data Sheet
Ammonium cerium (IV) nitrate

1. Product and Company Identification

Trade Name:	Ammonium cerium (IV) nitrate
Chemical Formula:	$\text{CeN}_8\text{O}_{18}\text{H}_8$
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	37 Ramland Road
City:	Orangeburg
State:	New York
Zip Code:	10962
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)



2. Hazards Identification

Signal Word:

Danger



Hazard Statements:

H272: May intensify fire; oxidizer.
H290: May be corrosive to metals.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation
H350: May cause cancer.
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat.
P220: Keep/Store away from clothing/ combustible materials.
P221: Take any precaution to avoid mixing with combustibles.
P234: Keep only in original container.
P260: Do not breathe dust or mist.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P312+P330: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340+P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
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 or doctor/ physician.
P308+P313: IF exposed or concerned: Get medical advice/ attention.
P333+P313: If skin irritation or rash occurs: Get medical advice/ attention.
P363: Wash contaminated clothing before reuse.
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P390: Absorb spillage to prevent material damage.
P391: Collect spillage.
P405: Store locked up.
P406: Store in corrosive resistant stainless-steel container with a resistant inner liner.
P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	2

3. Composition

Chemical Family:	Ceramic
Additional Names:	Diammonium hexanitratocerate
Ammonium cerium (IV) nitrate (CeN ₈ O ₁₈ H ₈):	
Percentage:	100 wt%
CAS #:	16774-21-3
EC #:	240-827-6

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep patient warm. Seek immediate medical attention.
Ingestion:	Seek immediate medical attention.
Skin:	Immediately wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

5. Firefighting Measures

Flammability:	Non-flammable, except as powder
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Keep unprotected persons away. Isolate spill area and provide ventilation. Acts as an oxidizing agent on organic materials such as wood, paper and fats. Keep away from combustible materials. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Substance/product can reduce the ignition temperature of flammable substances. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Store under dry inert gas. This product is hygroscopic. Store away from flammable substances, reducing agents, strong bases, metal powders. Do not store with organic materials, acids. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves with minimum thickness of 0.11 mm
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Orange
Form:	Powder, Granules, Pellets, Custom parts
Odor:	Pungent
Water Solubility:	1,410 g/l – Soluble
Boiling Point:	N/A
Melting Point:	214°C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	2.49 g/cc
Molecular weight:	548.22 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Reducing agents, acids, flammable substances, bases, organic materials, metal powders
Incompatible Conditions:	Water/moisture
Hazardous Decomposition Products:	Metal oxide fume, nitrogen oxides, cerium oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	Causes severe skin burns
Ingestion:	Harmful if swallowed
Inhalation:	May cause respiratory irritation
Chronic:	N/A
Signs & Symptoms:	Burning sensation, cough, wheezing, laryngitis, shortness of breath. Spasm, inflammation and edema of the larynx. Spasm, inflammation and edema of the bronchi. Pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	300 mg/kg for rat by mouth
Carcinogen:	IARC: 2A - Group 2A: Probably carcinogenic to humans (Diammonium hexanitratocerate) NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	Toxicity to fish: semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.14 mg/l - 96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 - Daphnia magna (Water flea) - > 26 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae Growth inhibition EC50 - Pseudokirchneriella subcapitata - 93 mg/l - 72 h (OECD Test Guideline 201)
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Very toxic to aquatic life with long lasting effects. Do not allow material to be released to the environment without proper governmental permits. Toxic to aquatic life with long lasting effects Avoid transfer into the environment.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Hazardous for transportation



Hazard Class: 5.1 Oxidizing substances
Packing Group: II
UN Number: UN3085
Proper Shipping Name: Oxidizing solid, corrosive, n.o.s. (Ammonium cerium (IV) nitrate)

15. Regulatory Information

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: No

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised: 04/30/2019