

SAFETY DATA SHEET

Creation Date 24-Nov-2010

Revision Date 26-Feb-2018

Revision Number 1

1. Identification

Product Name Cerium(IV) ammonium nitrate

Cat No. : A12882

CAS-No 16774-21-3
Synonyms Ceric ammonium nitrate; CAN

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Label Elements

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 breathe 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 advice/attention

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue 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

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|------------|----------|
| Cerate(2-), hexakis(nitrato-O)-, diammonium, (OC-6-11)- | 16774-21-3 | >95 |

4. First-aid measures

| | |
|--|---|
| General Advice | Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. |
| 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. |
| 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. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| Ingestion | 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. |
| Most important symptoms and effects | 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 |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | CO ₂ , dry chemical, dry sand, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Oxidizing Properties | Oxidizer |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

Nitrogen oxides (NO_x) Ammonia Heavy metal oxides Thermal decomposition can lead to release of irritating gases and vapors

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.

NFPA

| | | | |
|---------------|---------------------|--------------------|-------------------------|
| Health | Flammability | Instability | Physical hazards |
| 3 | 3 | 3 | OX |

6. Accidental release measures

| | |
|---|--|
| Personal Precautions | Use personal protective equipment. Evacuate personnel to safe areas. |
| 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. |
| Methods for Containment and Clean Up | Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. |

7. Handling and storage

| | |
|-----------------|---|
| 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. Do not ingest. Keep away from clothing and other combustible materials. Wash hands before breaks and immediately after handling the product. |
| Storage | Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. |

8. Exposure controls / personal protection

| | |
|--------------------------------------|---|
| Exposure Guidelines | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
| Engineering Measures | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Personal Protective Equipment | |
| Eye/face Protection | Tightly fitting safety goggles. Face-shield. |
| Skin and body protection | Long sleeved clothing. |
| 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. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. 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 |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | No information available |

| | |
|---|--------------------------|
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | H8 Ce N8 O18 |
| Molecular Weight | 548.22 |

10. Stability and reactivity

| | |
|---|--|
| Reactive Hazard | Yes |
| Stability | Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire. heat sensitive. |
| Conditions to Avoid | Excess heat. Incompatible products. Combustible material. |
| Incompatible Materials | Acids, Bases, Cyanides, Metals, Reducing agents, Powdered metals, Strong reducing agents, Combustible material |
| Hazardous Decomposition Products | Nitrogen oxides (NOx), Ammonia, Heavy metal oxides, Thermal decomposition can lead to release of irritating gases and vapors |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|----------------------|---------------------|-----------------|
| Cerate(2-), hexakis(nitrato-O)-, diammonium, (OC-6-11)- | 300-2000 mg/kg (Rat) | >2000 mg/kg (Rat) | Not listed |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|------------------------|--|
| Irritation | Irritating to eyes, respiratory system and skin |
| Sensitization | No information available |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|------------|------------|------------|------------|------------|------------|
| Cerate(2-), hexakis(nitrato-O)-, diammonium, (OC-6-11)- | 16774-21-3 | Not listed |

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

| | |
|------------------------------|---------------------------|
| Mutagenic Effects | No information available |
| Reproductive Effects | No information available. |
| Developmental Effects | No information available. |

| | |
|---|--|
| Teratogenicity | No information available. |
| STOT - single exposure | Respiratory system |
| STOT - repeated exposure | None known |
| Aspiration hazard | No information available |
| Symptoms / effects, both acute and delayed | 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 |
| Endocrine Disruptor Information | No information available |
| Other Adverse Effects | The toxicological properties have not been fully investigated. |

12. Ecological information

Ecotoxicity

Do not allow material to contaminate ground water system.

| | |
|--------------------------------------|---|
| Persistence and Degradability | May persist based on information available. |
| Bioaccumulation/ Accumulation | No information available. |
| Mobility | Will likely be mobile in the environment due to its water solubility. |

13. Disposal considerations

| | |
|-------------------------------|---|
| 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. |
|-------------------------------|---|

14. Transport information

DOT

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

TDG

| | |
|-----------------------------|------------------------------------|
| 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 |
| Subsidiary Hazard Class | 8 |
| Packing Group | II |

IMDG/IMO

| | |
|--------------------------------|-----------------------------------|
| UN-No | UN3085 |
| Proper Shipping Name | Oxidizing solid, corrosive, n.o.s |
| Hazard Class | 5.1 |
| Subsidiary Hazard Class | 8 |
| Packing Group | II |

15. Regulatory information

International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Cerate(2-), hexakis(nitrato-O)-, diammonium, (OC-6-11)- | X | X | - | 240-827-6 | - | | X | X | X | X | X |

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|------------|----------|-------------------------------|
| Cerate(2-), hexakis(nitrato-O)-, diammonium, (OC-6-11)- | 16774-21-3 | >95 | 1.0 |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---------------|------------|--------------|----------|--------------|
| Cerate(2-), hexakis(nitrato-O)-, diammonium, (OC-6-11)- | - | X | - | X | - |

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Health, Safety and Environmental Department
Email: tech@alfa.com
www.alfa.com

Creation Date 24-Nov-2010
Revision Date 26-Feb-2018
Print Date 26-Feb-2018
Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 16774-21-3.

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of SDS