Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

Creation Date 24-Nov-2010 **Revision Date** 08-Aug-2014 **Revision Number** 1

1. Identification

Product Name **Ammonium cerium(IV) nitrate**

Cat No. : **C248, C248-500**

Synonyms Ceric ammonium nitrate; CAN

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

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 2
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Specific target organ toxicity (single exposure) Target Organs - Respiratory system.	Category 3
Specific target organ toxicity - (repeated exposure) Target Organs - Blood.	Category 2

Label Elements

Signal Word
Danger

Hazard Statements
May be corrosive to metals
May intensify fire; oxidizer

Harmful if swallowed
Causes skin irritation
Causes serious eye damage
May cause respiratory irritation
May cause an allergic skin reaction

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
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
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Eyes
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
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
May form combustible dust concentrations in air

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 resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a 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/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	Not applicable
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 (NOx) 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
2	1	1	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.

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
Relative Density	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
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	Not listed	Not listed	Not listed	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 Blood

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

May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Persistence and Degradability based on information available. May persist

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** III

IMDG/IMO

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

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 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

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

State Right-to-Know

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

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

C Oxidizing materials
D1B Toxic materials
E Corrosive material
D2B Toxic materials

16. Other information

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

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.

End of SDS