

# Material Safety Data Sheet

## Cerium(III) nitrate hexahydrate, 99.5%

ACC# 93317

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Cerium(III) nitrate hexahydrate, 99.5%

**Catalog Numbers:** AC218690000, AC218691000, AC218695000

**Synonyms:** Cerium nitrate hexahydrate; Cerium trinitrate hexahydrate; Cerous nitrate hexahydrate.

**Company Identification:**

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
10294-41-4	Cerium(III) nitrate hexahydrate	99.5	unlisted

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless solid.

**Danger!** Strong oxidizer. Contact with other material may cause a fire. Causes severe eye irritation. May cause skin and respiratory tract irritation. Hygroscopic (absorbs moisture from the air).

**Target Organs:** Blood, eyes.

#### Potential Health Effects

**Eye:** Causes severe eye irritation.

**Skin:** Causes skin irritation.

**Ingestion:** Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. Ingestion of nitrate containing compounds can lead to methemoglobinemia.

**Inhalation:** Causes respiratory tract irritation.

**Chronic:** May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 0; Special Hazard: OX

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.,) away from spilled material.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid contact with clothing and other combustible materials. Avoid breathing dust. Inform laundry personnel of contaminant's hazards.

**Storage:** Do not store near combustible materials. Store in a cool, dry place. Keep container closed when not in use.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cerium(III) nitrate hexahydrate	none listed	none listed	none listed
Cerium nitrate anhydrous	none listed	none listed	none listed

**OSHA Vacated PELs:** Cerium(III) nitrate hexahydrate: No OSHA Vacated PELs are listed for this chemical. Cerium nitrate anhydrous: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** 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.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** colorless

**Odor:** None reported.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** 15.0

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 200 deg C

**Freezing/Melting Point:** 150 deg C

**Decomposition Temperature:** > 200 deg C

**Solubility:** Soluble.

**Specific Gravity/Density:** 1.67 @ 20°C

**Molecular Formula:** CeN3O9.6H2O

**Molecular Weight:** 434.22

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Exposure to moist air or water.

**Incompatibilities with Other Materials:** Combustible materials, organic materials, strong reducing agents.

**Hazardous Decomposition Products:** Nitrogen oxides, irritating and toxic fumes and gases.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

### RTECS#:

**CAS#** 10294-41-4: FK6300000

**CAS#** 10108-73-3: FK6280000

### LD50/LC50:

CAS# 10294-41-4:

Draize test, rabbit, eye: 100 mg Severe;

Draize test, rabbit, skin: 500 mg/24H Mild;

Oral, rat: LD50 = 4200 mg/kg;

CAS# 10108-73-3:

Oral, rat: LD50 = 3154 mg/kg;

### Carcinogenicity:

CAS# 10294-41-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 10108-73-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.  
**Teratogenicity:** No information available.  
**Reproductive Effects:** No information available.  
**Mutagenicity:** No information available.  
**Neurotoxicity:** No information available.  
**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	NITRATES, INORGANIC, N.O.S.	NITRATES, INORGANIC NOS (CERIUM NITRATE)
<b>Hazard Class:</b>	5.1	5.1
<b>UN Number:</b>	UN1477	UN1477
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 10294-41-4 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 10108-73-3 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 10294-41-4: immediate, fire.

CAS # 10108-73-3: immediate, fire.

#### Section 313

This material contains Cerium(III) nitrate hexahydrate (listed as Water Dissociable Nitrate Compounds), 99.5%, (CAS# 10294-41-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Cerium nitrate anhydrous (listed as Water Dissociable Nitrate Compounds), -, (CAS# 10108-73-3) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 10294-41-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 10108-73-3 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

XI O

**Risk Phrases:**

R 36 Irritating to eyes.

R 8 Contact with combustible material may cause fire.

**Safety Phrases:**

S 17 Keep away from combustible material.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 39 Wear eye/face protection.

**WGK (Water Danger/Protection)**

CAS# 10294-41-4: No information available.

CAS# 10108-73-3: No information available.

**Canada - DSL/NDSL**

CAS# 10108-73-3 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of C, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 10294-41-4 is not listed on the Canadian Ingredient Disclosure List.

CAS# 10108-73-3 is not listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 5/07/1998

**Revision #3 Date:** 5/06/2004

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher 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 Fisher has been advised of the possibility of such damages.*