

## Safety Data Sheet

### 1. Chemical product and company identification

Product name : Cerium(III) nitrate hexahydrate

#### Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.  
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP  
Name of section : Business Administration Department, Reagent Division  
Telephone number : +81-3-6214-1090  
Facsimile number : +81-3-3241-1047  
Mail address : BC32@kanto.co.jp  
Reference No : 07179

### 2. Hazards identification

#### GHS classification

Physical hazards	Oxidizing solids	Category 3
Health hazards	Serious eye damage/eye irritation	Category 1
Environmental hazards	Aquatic acute	Category 1
	Aquatic chronic	Category 1

Hazard  
pictograms



Signal word : Danger

Hazard statements : May intensify fire; oxidizer  
Causes serious eye damage  
Very toxic to aquatic life  
Very toxic to aquatic life with long lasting effects

#### Precautionary statements

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep away from clothing and other combustible materials.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.

Response : 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.  
Collect spillage.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.



### 3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Cerium(III) nitrate hexahydrate	≥ 98.5	Ce(NO <sub>3</sub> ) <sub>3</sub> · 6H <sub>2</sub> O	Not listed	-	10294-41-4

### 4. First aid measures

#### First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. Get medical treatment.

First-aid measures after ingestion : Give the victim water or salt water and induce vomiting. If necessary, get medical attention.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

### 5. Fire fighting measures

Suitable extinguishing media : This product is noncombustible.

Unsuitable extinguishing media : None

Fire hazard : Contact with combustible material may cause fire.

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Personal protection (Emergency response) : Firefighters should wear protective equipment.

### 6. Accidental release measures

#### Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

#### Environmental precautions

Environmental precautions : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

#### Methods and Equipment for Containment and Cleaning up

For containment : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

Prevention Measures for Secondary Accidents : Do not allow contact with organic substances or combustible substances.



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## 7. Handling and storage

### Handling

- Technical measures : If necessary, wear proper protective equipment to avoid contact with skin or inhalation of dust.
- Precautions for safe handling : Avoid formation of dust and aerosols.  
The substance is an oxidizer. Avoid contact with organic substances.

### Storage

- Storage conditions : As the chemical is hygroscopic, keep the bottle tightly closed and store in a refrigerator (0-6°C).  
Keep away from combustible materials.
- Material used in packaging/containers : Glass, polyethylene, polypropylene.

## 8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established
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- Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

### Protective equipment

- Respiratory protection : If necessary, wear dust mask
- Hand protection : Impervious protective gloves
- Eye protection : Safety goggles
- Skin and body protection : Protective clothing, protective boots

## 9. Physical and chemical properties

- Physical state : Solid
- Color : Colorless or white - pale yellow
- Odor : Odorless
- pH : No data available
- Melting point : 57 ° C
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Auto-ignition temperature : > 400 ° C
- Decomposition temperature : 200 ° C
- Flammability (solid, gas) : Non flammable.
- Vapor pressure : No data available
- Relative density : No data available
- Density : 2.4 g/cm<sup>3</sup> (20°C)
- Relative gas density : No data available
- Solubility : Water: Readily soluble.  
Organic solvents: Easily soluble in ethanol.
- Partition coefficient n-octanol/water (Log Pow) : No data available



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Explosive limits (vol %) : No data available  
Viscosity, kinematic: : No data available  
Particle characteristics : No data available

## 10. Stability and reactivity

Reactivity : Has oxidative properties.  
Chemical stability : Stable under normal conditions. Hygroscopic.  
Possibility of hazardous reactions : May ignite or explode when in contact with flammable or reducing substances.  
Conditions to avoid : Light, heat, moisture.  
Incompatible materials : Combustible materials, reducing substances, Acids.  
Hazardous decomposition products : Nitrogen oxides.

## 11. Toxicological information

Acute toxicity (oral) : No classification  
Acute toxicity (dermal) : No classification  
rat LD50>2000mg/kg (anhydrite)  
Acute toxicity (inhalation) : No classification (gas)  
No classification (vapor)  
Classification not possible (dust, mist)  
Skin corrosion/irritation : No classification  
In a skin irritation test in rabbits, slight erythema and edema were observed 24 hours after administration, but they were alleviated by 72 hours. Therefore, it was classified "No classification".  
Serious eye damage/irritation : Causes serious eye damage  
In the eye irritancy test using the rabbit, the authors gave a severe irreversible stimulation from the middle to severe, when the cerium nitrate (purity unknown) of 0.1g was instilled. Therefore, it was classified as category 1.  
Respiratory sensitization : Classification not possible  
Skin sensitization : No classification  
No irritation was observed in studies in mouse. Therefore, it was classified "No classification".  
Germ cell mutagenicity : No classification  
As for in vitro, it was not mutagenic in the bacterial reverse mutation assay or the chromosomal aberration assay. Therefore, it was classified "No classification".  
Carcinogenicity : Classification not possible  
Reproductive toxicity : Classification not possible  
STOT-single exposure : Classification not possible  
STOT-repeated exposure : Classification not possible  
Aspiration hazard : Classification not possible

## 12. Ecological information

### Ecotoxicity

Aquatic acute : Very toxic to aquatic life  
Oncorhynchus mykiss LC50=0.3mg/L/96h (anhydrite)  
Aquatic chronic : Very toxic to aquatic life with long lasting effects



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**Persistence and degradability**

No additional information available

**Bioaccumulative potential**Low bioconcentration  
BCF : 16**Mobility in soil**

No additional information available

**Hazardous to the ozone layer**

Ozone : Classification not possible

**13. Disposal considerations**

Ecology - waste materials : Dilute with copious water and adjust the pH to neutral, then flush in drains. Insoluble substances are buried in a landfill site approved for the disposal of chemical and hazardous wastes. Or entrust approved waste disposal companies with the disposal.

Contaminated container and packaging : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

**14. Transport information****International Regulations****Transport by sea(IMDG)**

UN-No. (IMDG) : 1477

Proper Shipping Name (IMDG) : NITRATES, INORGANIC, N. O. S.

Packing group (IMDG) : III

Transport hazard class(es) (IMDG) : 5.1

**Air transport(IATA)**

UN-No. (IATA) : 1477

Proper Shipping Name (IATA) : Nitrates, inorganic, n.o.s.

Packing group (IATA) : III

Transport hazard class(es) (IATA) : 5.1

Marine pollutant : Applicable

MFAG-No : 140

**15. Regulatory information**

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

**16. Other information**

Data sources : ECHA (European Chemicals Agency).  
NITE Chemical Risk Information Platform (NITE-CHRIP), National  
Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings,



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conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253.

