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Safety Data Sheet

1. Chemical product and company identification

Product name : Diammonium cerium(IV) nitrate

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 : 07165

2. Hazards identification

GHS classification

Physical hazards	Oxidizing solids	Category 2
Health hazards	Acute toxicity (oral)	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Skin sensitization	Category 1
Environmental hazards	Aquatic acute	Category 1
	Aquatic chronic	Category 1

Hazard pictograms

Signal word : Danger

Hazard statements : May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
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.
Do not breathe dust.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

		Wear protective gloves/protective clothing/eye protection/face protection.
Response	:	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Rinse mouth. Do not induce vomiting. IF ON SKIN: Wash with plenty of water. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage.
Storage	:	Store locked up.
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
Synonyms	:	Ammonium cerium(IV) nitrate、CAN、Cerium(IV) ammonium nitrate、Cerium(IV) diammonium nitrate

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Diammonium hexanitratocerate	≥ 95	CeH8N8O18	Listed	240-827-6	16774-21-3

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. If necessary, get medical treatment.
First-aid measures after skin contact	:	Wash the affected areas under running water, get medical treatment as soon as possible.
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	:	Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.

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.

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 oxdizer. Avoid contact with organic substances.

Storage

Storage conditions	:	Store in a refrigerator and tightly closed (0-6℃). Keep away from combustible matrials.
Material used in packaging/containers	:	Glass, fluorine resin.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established

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	:	Orange
Odor	:	Odorless
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	214 ° C
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	No data available
Relative density	:	No data available
Density	:	2.49 g/cm^3
Relative gas density	:	No data available
Solubility	:	Organic solvents: Soluble in sulfuric, nitric, perchloric, hydrochloric acid. Water: 1.41 g/mL (25℃)
Partition coefficient n-octanol/water (Log Pow)	:	No data available
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.
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.
Hazardous decomposition products	:	Nitrogen oxides, cerium oxide.

11. Toxicological information

Acute toxicity (oral)	:	Harmful if swallowed rat LD50=300 - 2000mg/kg
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Causes severe skin burns Necrosis was observed in skin irritation studies in rabbit, it was classified into category 1.
Serious eye damage/irritation	:	Causes serious eye damage Necrosis was observed in an eye irritation study in rabbit, it was classified into category 1.

Respiratory sensitization	:	Classification not possible
Skin sensitization	:	May cause an allergic skin reaction They were positive in a maximisation test with guinea pig, it was classified into category 1.
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Classification not possible
STOT-single exposure	:	Classification not possible May cause respiratory tract irritation.
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=0.53mg/L/96h
Aquatic chronic	:	Very toxic to aquatic life with long lasting effects

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)	:	II
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)	:	II

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

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, 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.