

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 02-Oct-2023  
 Revision Number 2.03

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Diammonium Cerium(IV) Nitrate
<b>Product Code</b>	038-01741,036-01742,030-01745

<b>Supplier</b>	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029
<b>Emergency telephone number</b>	+81-6-6203-3741 / +81-3-3270-8571
<b>Recommended uses</b>	For research use only
<b>Restrictions on use</b>	Seek expert judgment when using for purposes other than those recommended.

## Section 2: HAZARDS IDENTIFICATION

**GHS classification****Classification of the substance or mixture****Oxidizing solids**

Category 2

**Skin corrosion/irritation**

Category 2

**Serious eye damage/eye irritation**

Category 2A

**Specific target organ toxicity (single exposure)**

Category 3

Category 3 Respiratory irritation

**Pictograms****Signal word**

Danger

**Hazard statements**

- H272 - May intensify fire; oxidizer
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation

**Precautionary statements-(Prevention)**

- Wash face, hands and any exposed skin thoroughly after handling
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Keep/Store away from clothing/ combustible materials
- Take any precaution to avoid mixing with combustibles
- Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary statements-(Response)**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention
- 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
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell

**Precautionary statements-(Storage)**

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up

**Precautionary statements-(Disposal)**

- Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Substance

**Formula** Ce(NH<sub>4</sub>)<sub>2</sub>(NO<sub>3</sub>)<sub>6</sub>

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Diammonium Cerium(IV) Nitrate	95.0	548.22	(1)-626	*	16774-21-3

**Note on ISHL No.:** \* in the table means announced chemical substances.

**Impurities and/or Additives:** Not applicable

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. Immediate medical attention is required.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Flood with water, Sand

**Unsuitable extinguishing media**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Special extinguishing method**

No information available

**Special protective actions for fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

**Environmental precautions**

To be careful not discharged to the environment without being properly handled waste water contaminated.

**Methods and materials for contaminant and methods and materials for cleaning up**

Sweep up and gather scattered particles, and collect it in an empty airtight container.

**Recovery, neutralization**

No information available

**Secondary disaster prevention measures**

Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE

**Handling****Technical measures**

Flammable. Do not give shock. Avoid contact with reducing agents and combustible materials. Use with local exhaust ventilation.

**Precautions**

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

**Safety handling precautions**

Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity) Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

**Storage****Safe storage conditions****Storage conditions**

Store away from sunlight in well-ventilated place at room temperature (preferably cool).  
Keep container tightly closed.

**Safe packaging material**

Polyethylene

**Incompatible substances**

Organic substance, Combustible materials, Reducing agent

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls**

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

**Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Personal protective equipment****Respiratory protection**

Gas mask for acidic gas ( JIS T 8152 )

**Hand protection**

chemical protective gloves ( JIS T 8116 )

**Eye protection**

protective eyeglasses or chemical safety goggles

**Skin and body protection**

Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Form****Color**

yellowish red

**Appearance**

crystals - crystalline powder

**Odor**

no data available

<b>Melting point/freezing point</b>	107 - 108 °C
<b>Boiling point, initial boiling point and boiling range</b>	no data available
<b>Flammability</b>	no data available
<b>Evaporation rate:</b>	no data available
<b>Flammability (solid, gas):</b>	no data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper:</b>	no data available
<b>Lower:</b>	no data available
<b>Flash point</b>	no data available
<b>Auto-ignition temperature:</b>	no data available
<b>Decomposition temperature:</b>	no data available
<b>pH</b>	acidic (aq.)
<b>Viscosity (coefficient of viscosity)</b>	no data available
<b>Dynamic viscosity</b>	no data available
<b>Solubilities</b>	water : freely soluble . Ethanol : soluble .
<b>n-Octanol/water partition coefficient:(log Pow)</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Specific Gravity / Relative density</b>	1.045
<b>Vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

## Section 10: STABILITY AND REACTIVITY

### Stability

<b>Reactivity</b>	no data available
<b>Chemical stability</b>	Stable under recommended storage conditions. This material is deliquescent.
<b>Hazardous reactions</b>	None under normal processing
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight
<b>Incompatible materials</b>	Organic substance, Combustible materials, Reducing agent
<b>Hazardous decomposition products</b>	Metal oxides, Nitrogen oxides (NOx)

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity** no data available

**Skin irritation/corrosion** no data available  
**Serious eye damage/ irritation** no data available  
**Respiratory or skin sensitization** no data available  
**Reproductive cell mutagenicity** no data available  
**Carcinogenicity**

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Diammonium Cerium(IV) Nitrate 16774-21-3		Group 2A		

**Reproductive toxicity** no data available  
**STOT-single exposure** no data available  
**STOT-repeated exposure** no data available  
**Aspiration hazard** no data available

## Section 12: ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	No information available
<b>Other data</b>	no data available
<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility in soil</b>	No information available
<b>Hazard to the ozone layer</b>	No information available

### Section 13: DISPOSAL CONSIDERATIONS

#### Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### Section 14: TRANSPORT INFORMATION

#### ADR/RID

<b>UN number</b>	UN1477
<b>Proper shipping name:</b>	Nitrates, inorganic, n.o.s. (Diammonium Cerium(IV) Nitrate)
<b>UN classification</b>	5.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	II
<b>Marine pollutant</b>	Not applicable

#### IMDG

<b>UN number</b>	UN1477
<b>Proper shipping name:</b>	Nitrates, inorganic, n.o.s. (Diammonium Cerium(IV) Nitrate)
<b>UN classification</b>	5.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	II
<b>Marine pollutant (Sea)</b>	Not applicable
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available

#### IATA

<b>UN number</b>	UN1477
<b>Proper shipping name:</b>	Nitrates, inorganic, n.o.s. (Diammonium Cerium(IV) Nitrate)
<b>UN classification</b>	5.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	II
<b>Environmentally Hazardous Substance</b>	Not applicable

### Section 15: REGULATORY INFORMATION

#### Japanese regulations

<b>Fire Service Act</b>	Category I, nitrates, dangerous grade 1
<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Industrial Safety and Health Act</b>	Dangerous Substances - Oxidizing Substance (Enforcement Order Attached Table 1 Item 3)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Oxidizing Agents - Oxidizing Agents (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Oxidizing Agents - Oxidizing Agents (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
<b>Pollutant Release and Transfer</b>	Class 1

**Register Law  
(2023.4.1-)****Class 1 - No.  
Water Pollution Control Act**665  
Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating  
Wastewater Standards Art.1)**Export Trade Control Order**

Not applicable

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law (2023.4.1-)
Diammonium Cerium(IV) Nitrate 16774-21-3 ( 95.0 )	-	-	Applicable

**Section 16: OTHER INFORMATION****Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
 IATA dangerous Goods Regulations  
 RTECS:Registry of Toxic Effects of Chemical Substances  
 Japan Industrial Safety and Health Association GHS Model SDS  
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
 etc

**Disclaimer**

This SDS is according to JIS Z 7253: 2019. 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, 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.

GHS Classification is according to JIS Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**