Date of issue for the 1st edition : 13/Feb/2015
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Safety Data Sheet

Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Cerium(III) nitrate hexahydrate

Reference number(SDS):37465jis_E-2

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.
Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan
Division: Quality Assurance Department
Telephone number: +81-48-986-6161
FAX: +81-48-989-2787
e-mail address: shiyaku-t@junsei.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Oxidizing solids: Category 3

HEALTH HAZARDS

Serious eye damage/eye irritation: Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

H272-May intensify fire; oxidizer

H318-Causes serious eye damage

PRECAUTIONARY STATEMENT

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep away from clothing and other combustible materials.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

In case of fire: Use appropriate media to extinguish.

Immediately call a POISON CENTER/doctor/physician.

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

Disposal

Dispose of contents/container in accordance with local/national regulation.

Specific Physical and Chemical hazards

Oxidizing material. Organic or combustible material may catch fire in contact with it.

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Cerium (III) nitrate hexahydrate

Content (%):99.9 <

Chemical formula:CeN3O9・6H2O

Chemicals No, Japan:1-626

CAS No.:10294-41-4 [10108-73-3(anh)]

MW:434.22

ECNO:233-297-2

Note : The figures shown above are not the specifications of the product.

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Immediately call a POISON CENTER/doctor/physician.

Keep victim warm and quiet.

Call emergency medical service.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

Remove and isolate contaminated clothing and shoes.

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 SWALLOWED

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

Indication of any immediate medical attention and special treatment needed

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Not combustible but enhances combustion of other substances.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Evacuate area.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFTY: Ventilate closed spaces before entering.

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Runoff may create fire or explosion hazard.

Methods and materials for containment and cleaning up

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Keep out of low areas.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Avoid breathing dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep away from clothing and other combustible materials.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

May ignite combustibles (wood, paper, oil, clothing, etc.).

Contaminated clothing may be a fire risk when dry.

Any incompatibilities

Reducing agents, Combustible substances should not be mixed with the chemicals.

Storage

Conditions for safe storage

Store in a well-ventilated place.
Keep container tightly closed.
Keep cool. Protect from sunlight.
Store in accordance with local/national regulation.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

Section 8. Exposure controls/personal protection

Control parameters

Control value and concentration standard value are not available in ISHA.

Adopted value

Adopted value in JSOH is not available.
Adopted value in ACGIH is not available.

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.
Recommended respiratory protection：Dust mask(e.g. JIS T8151)

Hand protection

Wear protective gloves. Recommended material(s): nitrile
Inspect before use and replace worn or damaged gloves.
Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.
Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

Eye protection

Wear chemical safety goggle.
Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.
Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals or crystalline powder
Color: Colorless～White
Odor data is not available.
Odor threshold data is not available.
Melting point/Freezing point data is not available.
Boiling point or initial boiling point data is not available.
Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Flash point data is not available.
Auto-ignition temperature data is not available.
Decomposition temperature: >=ca.140℃
Self-Accelerating Decomposition Temperature/SADT data is not available.
pH data is not available.
Dynamic viscosity data is not available.
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Soluble
Solubility in solvent data is not available.
n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Vapor density data is not available.
Density and/or relative density data is not available.
Relative vapor density (Air=1) data is not available.
Relative density of the Vapor/air - mixture at 20℃ (Air = 1) data is not available.
Particle characteristics data is not available.
Other information
Critical temperature data is not available.
Evaporation rate data is not available.
VOC data is not available.
Other information is not available.

Section 10. Stability and Reactivity

Reactivity
Reactivity data is not available.
Chemical stability
Stable under normal storage/handling conditions.
Hygroscopic
Possibility of hazardous reactions
Possibility of hazardous reactions data is not available.
Conditions to avoid
Contact with incompatible materials.
Heating.
Incompatible materials
Reducing agents. Combustible substances
Hazardous decomposition products
Nitrogen oxides, Cerium oxides.

Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
mouse LD50=4200 mg/kg(Initial risk assessment report conducted by MOE in Japan vol.10, 2012)
Acute toxicity (Dermal)
[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Acute toxicity (Inhalation)

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Irritant properties

Skin corrosion/irritation

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
rabbit (OECD TG404) :mild irritant (REACH Registration dossier)

Serious eye damage/irritation

[Product]
Category 1, Causes serious eye damage

[Data for components of the product]
rabbit (OECD TG405) :severely and moderately irritating, but the effects were irreversible.
(REACH Registration dossier)

Sensitization

Respiratory sensitization

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Skin sensitization

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Germ cell mutagenicity

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Carcinogenicity

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Reproductive toxicity

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

STOT-repeated exposure

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Aspiration hazard
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
No data available.

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
Toxicity data is not available.
Persistence and degradability
Persistence and degradability data is not available.
Bioaccumulative potential
Bioaccumulative potential data is not available.
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging
Waste treatment methods
Dispose of contents/container in accordance with local/national regulation.

Section 14. Transport Information

UN No., UN CLASS
UN Number or ID Number : 1477
UN Proper Shipping Name : NITRATES, INORGANIC, N.O.S
Class or division (Transport hazard class) : 5.1
Packing group : III
ERG GUIDE No.: 140
IMDG Code (International Maritime Dangerous Goods Regulations)
UN Number or ID Number : 1477
UN Proper Shipping Name : NITRATES, INORGANIC, N.O.S
Class or division (Transport hazard class) : 5.1
Packing group : III
IATA (Dangerous Goods Regulations)
UN Number or ID Number : 1477
UN Proper Shipping Name : NITRATES, INORGANIC, N.O.S
Class or division (Transport hazard class) : 5.1
Hazard labels : Oxidizer
Packing group : III
Environmental hazards
Marine pollutants (yes/no) : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable to Transport in bulk according to Annex II of MARPOL and the IBC Code

Section 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
U.S. Toxic Substances Control Act (TSCA) Inventory
Chemicals listed in TSCA Inventory
10294-41-4 [10108-73-3(anh)]
All components are listed or exempted.
Superfund Amendments and Reauthorizations Act (SARA), Title III
SARA 313 (TRI)
Cerium (III) nitrate hexahydrate
Other regulatory information
We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.
Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.
Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).
Chemical safety assessment
Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

Section 16. Other information

GHS classification and labelling
H272-Oxidising Solids, Category 3: H272 May intensify fire; oxidiser
H318-Serious eye damage/eye irritation, Category 1: H318 Causes serious eye damage
References and sources for data
Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2020 Edition (Incorporating Amendment 40-20)
IATA Dangerous Goods Regulations (64th Edition) 2023
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2023 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2022 Recommendation on TLVs (JSOH)
Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial Safety and Health Department, Labour Standards Bureau, MHLW in Japan
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.26 (https://www.asahi-ghs.com/)
NITE Chemical Risk Information Platform "NITE-CHRIP"
(https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)
Abbreviations and acronyms
SDS (Safety Data Sheet)
LD50 (Lethal Dose, 50%)
LC50 (Lethal Concentration, 50%)
IARC (International Agency for Research on Cancer)

ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
JSOH (Japan Society for Occupational Health)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2022).