

Safety Data Sheet

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

Product identifier:

Product name: Calcium nitrate tetrahydrate

Product code(SDS NO): 37405jis_J_E1-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-Cho, Koshigaya, Saitama 343-0844, Japan

Division: Quality Assurance Department

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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

Specific target organ toxicity – single exposure: Category 1(blood)

Specific target organ toxicity – repeated exposure: Category 1(blood)

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

May intensify fire; oxidizer

Causes damage to organs after single exposure

Causes damage to organs through prolonged or repeated exposure

PRECAUTIONARY STATEMENT

Prevention

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles and/or other incompatible materials.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear protective gloves and face protection.

Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.

Get medical advice/attention if you feel unwell.

Storage

Store locked up.

Disposal

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

Physical and Chemical hazards

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

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name: Calcium nitrate tetrahydrate

Content(%): 98.0 <

Chemical formula: $\text{CaN}_2\text{O}_6 \cdot 4\text{H}_2\text{O}$

Chemicals No, Japan: 1-188

CAS No.: 13477-34-4 [10124-37-5(anh)]

MW: 236.15

ECNO: 233-332-1(anh)

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN (or hair)

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

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

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 or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water in large amounts.

Not combustible but enhances combustion of other substances.

Unsuitable extinguishing media

Do not use dry chemicals or foams.

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.

Cool container with water spray.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated

positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Environmental precautions

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

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Avoid breathing dust, fume, gas, mist or vapor.

Safety Measures/Incompatibility

Take any precaution to avoid mixing with combustibles/incompatible materials.

Wear protective gloves, protective clothing or face protection.

Wear protective gloves and face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

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

Keep cool. Protect from sunlight.

Store locked up.

8. Exposure controls/personal protection

Control parameters

No control value data available in MHLW

Adopted value

No Adopted value data available in JSOH

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.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

Safety and Health measures

Wash ... thoroughly after handling.

Do not eat, drink or smoke when using this product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Crystals or crystalline powder

Color: White

Odor data N.A.

pH: 4.0~6.0 (50g/L, 25°C)

Phase change temperature

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point: 44°C

Decomposition temperature: >100°C (loss of crystal water)

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Specific gravity/Density: 1.82g/cm³(20°C)

Solubility

Solubility in water: 1470g/L (0°C)

n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

Deliquescence

Possibility of hazardous reactions

The substance is a strong oxidant. It reacts with combustible and reducing materials.

Conditions to avoid

Contact with incompatible materials.

Heat. Moisture.

Incompatible materials

Strong reducing agents, Combustible substances

Hazardous decomposition products

Nitrogen oxides

11. Toxicological Information

Information on toxicological effects

No Acute toxicity data available

No Irritant properties data available

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

No Carcinogenic effects data available

No reproductive toxicity data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT-single exposure

[cat.1]

[Japan published data]

(Calcium nitrate) blood/blood system (ECETOC TR 27, 1988)

STOT-repeated exposure

[cat.1]

[Japan published data]

(Calcium nitrate) blood/blood system (ECETOC TR 27, 1988)

No Aspiration hazard data available

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Calcium nitrate) Fish (bluegill) LC50=2400mg/L/96hr (AQUIRE, 2010)

Water solubility

(Calcium nitrate) 121.2 g/100 ml (ICSC, 2003)

No Persistence and degradability data available

No Bioaccumulative potential data available

13. Disposal considerations

Waste treatment methods

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

14. Transport Information

UN No, UN CLASS

UN number: 1454

UN proper shipping name: CALCIUM NITRATE

Transport hazard class(es): 5.1

Packing group: III

ERG GUIDE NO.: 140

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US major regulations

TSCA

Calcium nitrate(anh)

Other regulatory information

We are not able to check up the regulatory information in 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.

16. Other information

GHS classification and labelling

Ox. Sol. 3: H272 May intensify fire; oxidizer

STOT SE 1: H370 Causes damage to organs after single exposure

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN

Classification, labelling and packaging of substances and mixtures (table 3-1 ECNO 6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2017 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

NITE Chemical Risk Information Platform (NITE-CHIRP) <http://www.safe.nite.go.jp/japan/db.html>

GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013, METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determine the safety and suitability of each such product or combination for their own purposes.

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 2016).