



## Safety Data Sheet

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

Product identifier:

Product name: Calcium

SDS No. : 1336E-2

Relevant identified uses of the substance or mixture and uses advised against

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

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### Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Pyrophoric solids: Category 1

Substances and mixtures which, in contact with water, emit flammable gases: Category 2

HEALTH HAZARDS

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

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

Label elements



Signal word: Danger

HAZARD STATEMENT

H250 Catches fire spontaneously if exposed to air

H261 In contact with water releases flammable gas

H314 Causes severe skin burns and eye damage

PRECAUTIONARY STATEMENT

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P222 Do not allow contact with air.

P223 Do not allow contact with water.

P231 + P232 Handle and store contents under inert gas/appropriate liquid or gas. Protect from moisture.

P233 Keep container tightly closed.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash contaminated parts thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

P370 + P378 In case of fire: Use appropriate media to extinguish.  
P310 Immediately call a POISON CENTER/doctor/physician.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P302 + P335 + P334 IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages.  
P302 + P335 + P334 IF ON SKIN: Brush off loose particles from skin. Immerse in cool water.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P363 Wash contaminated clothing before reuse.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**Storage**

P405 Store locked up.  
P402 + P404 Store in a dry place. Store in a closed container.

**Disposal**

P501 Dispose of contents/container in accordance with local/national regulation.

**Specific adverse human health effects**

See "11. Toxicological Information".

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**Section 3. Composition/information on ingredients**

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	Chemicals No, Japan	Chemical formula
Calcium	99(min)	7440-70-2	—	Ca

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

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**Section 4. First-aid measures**

Descriptions of first-aid measures

**IF INHALED**

Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN**

Take off immediately all contaminated clothing. Rinse skin with water or shower.  
IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages.  
IF ON SKIN: Brush off loose particles from skin. Immerse in cool water.  
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.



Do NOT induce vomiting.

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

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## Section 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

In case of fire, use dry powder, dry sand to extinguish.

\*Fire Service Act Group 3 Hazardous Materials (water resistive materials)

#### Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System

Sprinkler System

Steam Extinguishing System or Water Spray Extinguishing System

Foam Extinguishing System

Carbon Dioxide/ Halon Extinguishing System

Dry Chemical Extinguishing System- Using Phosphates, etc.

Fire Extinguisher Discharging Jet Water/Spraying Water

Fire Extinguisher Discharging Jet Loaded Liquid/Spraying Loaded Liquid

Fire Extinguisher Discharging Foam

Fire Extinguisher Discharging Carbon Dioxide/Halogenide

Fire Extinguisher Discharging Dry Extinguishing agents- Using Phosphates, etc.

Water Bucket or Water Tank

\*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Water Resistive Materials

### Specific hazards arising from the substance or mixture

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

Runoff from fire control or dilution water may cause pollution.

See "10.Stability and Reactivity".

### 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.

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## Section 6. Accidental release measures

### Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

### Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

### 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.

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## Section 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Do not allow contact with water.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

#### Safety Measures

Do not allow contact with air.

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

Handle and store contents under inert gas/appropriate liquid or gas. Protect from moisture.

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

#### Any incompatibilities

See "10.Stability and Reactivity".

#### Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Wash contaminated clothing before reuse.

### Storage

#### Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

Store in a dry place. Store in a closed container.

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

#### Container and packaging materials for safe handling

Use closed unbreakable containers.

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## Section 8. Exposure controls/personal protection

### Control parameters

#### Adopted value

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

Recommend to use protective equipment in conformity with the standards.



Use appropriate protective equipment in accordance with local/national regulation.

**Respiratory protection**

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

**Hand protection**

Wear impervious protective glove.

**Eye protection**

Wear eye/face protection. Wear safety goggles in cases gas is generated.

**Skin and body protection**

Wear protective clothing.

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## Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Powder or granular

Color: Silver-white to grey

Odor: Odourless

Melting point/Freezing point: 837 – 841°C

Boiling point or initial boiling point: (Calcium)1484°C

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 data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Reaction

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure: Negligible

Density and/or relative density: 1.54 g/cm<sup>3</sup> (20°C)

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

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## Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Ignites in air when finely divided.

The substance is a strong reducing agent. Reacts with moisture, water, alcohols, halogens and many other substances. This produces flammable/explosive gas (hydrogen). (ICSC 1192)

Conditions to avoid

Contact with incompatible materials.



Contact with fire source.  
Incompatible materials  
Water, Alcohols, Halogens  
Hazardous decomposition products  
Hydrogen

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity data is not available.

Irritant properties

Skin corrosion/irritation

[Product]

Category 1, Causes severe skin burns and eye damage

[Data for components of the product]

[GHS Cat. Japan, base data]

corrosive (NFPA 13th, 2006)

Serious eye damage/irritation

[Product]

Category 1, Causes serious eye damage

[Data for components of the product]

[GHS Cat. Japan, base data]

corrosive (NFPA 13th, 2006)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.

-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

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## Section 12. Ecological Information

Toxicity

Toxicity data is not available.

Water solubility

reaction (ICSC, 2012)

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.



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**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 as industrial waste. Accordance with local/national regulation.

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**Section 14. Transport Information**

UN Number or ID Number : 1855

UN Proper Shipping Name :

CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC

Class or division (Transport hazard class) : 4.2

Packing group : I

ERG GUIDE No.: 135

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1855

UN Proper Shipping Name :

CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC

Class or division (Transport hazard class) : 4.2

Packing group : I

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1855

UN Proper Shipping Name :

CALCIUM, PYROPHORIC or CALCIUM ALLOYS, PYROPHORIC

Class or division (Transport hazard class) : 4.2

Packing group : I

Environmental hazards

Marine pollutants (yes/no) : no

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**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

Applicable

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**Section 16. Other information**

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, 2022 Edition (Incorporating Amendment 41-22)

IATA Dangerous Goods Regulations (65th Edition) 2024

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2024 TLVs and BEIs. (ACGIH)



## Supplier's data/information

## General Disclaimer

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

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).