



## Safety Data Sheet

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

Product identifier:

Product name: Caffeine,anhydrous

SDS No. : 1333E-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

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Acute toxicity (Inhalation): Category 4

Reproductive toxicity: Category 1A

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 3

Hazardous to the aquatic environment, long-term (chronic): Category 3

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

Label elements



Signal word: Danger

HAZARD STATEMENT

H301 Toxic if swallowed

H332 Harmful if inhaled

H360 May damage fertility or the unborn child

H412 Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P264 Wash contaminated parts thoroughly after handling.

P280 Use personal protective equipment as required.

P270 Do not eat, drink or smoke when using this product.

Response



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P308 + P313 IF exposed or concerned: Get medical advice/attention.

P312 Call a POISON CENTER/doctor/physician if you feel unwell.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P330 IF SWALLOWED: Rinse mouth.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

**Storage**

P405 Store locked up.

**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
Caffeine,anhydrous	98(min)	58-08-2	9-419	C <sub>8</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub>

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

**General measures**

IF exposed or concerned: Get medical advice/attention.

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

**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 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.

Immediately call a POISON CENTER/doctor/physician.

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.

Unsuitable extinguishing media



Unsuitable extinguishing media data is not available.

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.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Recommend to use protective equipment in conformity with the standards.

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

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.

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

Storage

Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

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

Glass

Polyethylene

etc.

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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

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: Crystals or powder

Color: White

Odor: Odorless

Melting point/Freezing point: 235°C

Boiling point or initial boiling point: (Caffeine, anhydrous)(sublimation point) 178°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: 2.17 g/100 ml

Solubility in solvent data is not available.

n-Octanol/water partition coefficient: log Pow=0.07

Vapor pressure data is not available.

Density and/or relative density: 1.23g/cm<sup>3</sup>

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

Decomposes on burning. This produces toxic fumes including nitrogen oxides. (ICSC 0405)

Conditions to avoid

Contact with fire source.

Incompatible materials

Not available.

Hazardous decomposition products

Carbon oxides, Nitrogen oxides

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 3, Toxic if swallowed

[Data for components of the product]

[GHS Cat. Japan, base data]

rat LD50=50–261mg/kg (SIDS, 2008)

Acute toxicity (Inhalation)

[Product]

Category 4, Harmful if inhaled

[Data for components of the product]

[GHS Cat. Japan, base data]

mist: rat LC50=4.94mg/L (SIDS, 2008)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity



[Data for components of the product]

[IARC]

Group 3 : Not classifiable as to its carcinogenicity to humans

Reproductive toxicity

[Product]

Category 1A, May damage fertility or the unborn child

[Data for components of the product]

[GHS Cat. Japan, base data]

cat. 1A; SIDS, 2008

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

Aquatic toxicity

[Product]

Category 3, Harmful to aquatic life

Category 3, Harmful to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

Fish (*Leuciscus idus melanotus*) LC50=87mg/L/96hr (SIDS, 2002)

Water solubility

2.17 g/100 ml (ICSC, 1998)

Persistence and degradability

[Data for components of the product]

Not rapidly degradable (SRC: BIOWIN V4.10)

Bioaccumulative potential

[Data for components of the product]

log Pow=-0.07 (ICSC, 1998)

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

Avoid release to the environment.

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 : 1544  
UN Proper Shipping Name :  
ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.  
Class or division (Transport hazard class) : 6.1  
Packing group : III  
ERG GUIDE No.: 151  
Special provisions No.: 43; 223; 274  
IMDG Code (International Maritime Dangerous Goods Regulations)  
UN Number or ID Number : 1544  
UN Proper Shipping Name :  
ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.  
Class or division (Transport hazard class) : 6.1  
Packing group : III  
Special provisions No.: 43; 223; 274  
IATA (Dangerous Goods Regulations)  
UN Number or ID Number : 1544  
UN Proper Shipping Name :  
ALKALOIDS, SOLID, N.O.S. or ALKALOID SALTS, SOLID, N.O.S.  
Class or division (Transport hazard class) : 6.1  
Hazard labels : Toxic  
Packing group : III  
Special provisions No.: A3; A5; A6; A801  
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, 2020 Edition (Incorporating Amendment 40-20)  
IATA Dangerous Goods Regulations (64th Edition) 2023  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2023 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
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,



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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 2021).