Date of issue: 2019/08/06
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Safety Data Sheet

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

Product identifier:
Product name: Caffeine,anhydrous
SDS No. : 1333E-3
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

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 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.
Response

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".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS RN	ENCS	Chemical formula
Caffeine,anhydrous	≧98	58-08-2	9-419	C8H10N4O2

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

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 INHALED: 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.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

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.

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

Liquid: Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.
Solid: Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

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.

(Precautions)

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.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and contaminated parts 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
Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters
Administrative Control Levels and Concentration standard value
Not established
Occupational Exposure Limit
The Japan Society for Occupational Health
(Other inorganic and organic dust (third class dust))
JSOH Respirable dust 2mg/m3, Total dust 8mg/m3

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.

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℃
Boiling point or initial boiling point: (Caffeine,anhydrous)(sublimation point) 178℃
Boiling range data is not available.

Flammability 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.
Partition coefficient n-octanol/water: log Pow=0.07
Vapor pressure data is not available.
Density and/or relative density: 1.23g/cm3
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.
Other information
Other information is not available.

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

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]
[NITE-CHRIP]
rat LD50: 192 mg/kg (source: NITE)
Acute toxicity (Dermal)
[Data for components of the product]
[NITE-CHRIP]
rat LD50: > 2000 mg/kg (source: NITE)
Acute toxicity (Inhalation)
[Product]
Category 4, Harmful if inhaled

[Data for components of the product]
[NITE-CHRIP]
dust: female rat LC50: about 4.1 mg/L (4-hour) (source: NITE)

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]
[NITE-CHRIP]
Category 1A (source: NITE)

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

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)
[NITE-CHRIP]
Fish (Golden orfe) 96-hour LC50: 87 mg/L (source: NITE)

Water solubility
2.17 g/100 mL (source: ICSC, 1998)

Persistence and degradability
[Data for components of the product]
Not rapidly degradable (BIOWIN) (source: NITE)

Bioaccumulative potential
[Data for components of the product]
log Pow: -0.07 (source: ICSC, 1998)

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

Avoid release to the environment.

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

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

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

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

Environmental hazards

Marine pollutants (yes/no) : no

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.

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 23rd edit., 2023 UN IMDG Code, 2024 Edition (Incorporating Amendment 42-24)

IATA Dangerous Goods Regulations (66th Edition) 2025

2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2025 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
Recommendation of occupational exposure limits (2023-2024) (JSOH)
Supplier's data/information

General Disclaimer

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Unauthorized translation or modification is prohibited.
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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2024).