

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Issue Date** 29-Jul-2025  
 Revision Number 1

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Caffeine Reference Material [CRM]
<b>Product Code</b>	039-26291

**Supplier** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741

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**Emergency telephone number**

**Recommended uses**

**Restrictions on use**

For research use only

Seek expert judgment when using for purposes other than those recommended.

## Section 2: HAZARDS IDENTIFICATION

## GHS classification

## Classification of the substance or mixture

Acute toxicity - Oral

Category 3

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

Reproductive Toxicity

Category 1A

Acute aquatic toxicity

Category 3

Chronic aquatic toxicity

Category 3

## Pictograms



Signal word

Danger

## Hazard statements

H301 - Toxic if swallowed

H332 - Harmful if inhaled

H360 - May damage fertility or the unborn child

H402 - Harmful to aquatic life

H412 - Harmful to aquatic life with long lasting effects

## Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment

## Precautionary statements-(Response)

- IF exposed or concerned: Get medical advice/attention
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Rinse mouth

**Precautionary statements-(Storage)**

- Store locked up

**Precautionary statements-(Disposal)**

- Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Substance

**Formula** C8H10N4O2

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Caffeine	98.0	194.19	(9)-419	*	58-08-2

**Note on ISHL No.:** \* in the table means announced chemical substances.

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

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

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Water spray (fog), Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Special extinguishing method**

No information available

**Special protective actions for fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin,

or inhaling the gas. Work from windward, and retract the people downwind.

#### **Environmental precautions**

To be careful not discharged to the environment without being properly handled waste water contaminated.

#### **Methods and materials for contaminent and methods and materials for cleaning up**

Sweep up and gather scattered particles, and collect it in an empty airtight container.

#### **Recovery, neutralization**

No information available

#### **Secondary disaster prevention measures**

Clean contaminated objects and areas thoroughly observing environmental regulations.

## **Section 7: HANDLING AND STORAGE**

### **Handling**

#### **Technical measures**

Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.

#### **Precautions**

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

#### **Safety handling precautions**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

### **Storage**

#### **Safe storage conditions**

**Storage conditions** Store away from sunlight in a cool (2-10 °C) well-ventilated dry place. Packed with an inert gas.

**Safe packaging material** Glass

**Incompatible substances** Strong oxidizing agents

## **Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Engineering controls**

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

#### **Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

#### **Personal protective equipment**

**Respiratory protection** Dust mask ( JIS T 8151 )

**Hand protection** chemical protective gloves ( JIS T 8116 )

**Eye protection** protective eyeglasses or chemical safety goggles (JIS T 8147)

**Skin and body protection** Long-sleeved work clothes

#### **General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

If this product is classified as "Chemical Substances Hazardous to Skin, etc.", use appropriate protective equipment to them.

## **Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

#### **Form**

**Color**

**Appearance**

white

crystalline powder - powder

#### **Odor**

Odorless

#### **Melting point/freezing point**

235 - 238 °C

Boiling point, initial boiling point and boiling range	no data available
Flammability	no data available
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper:	no data available
Lower:	no data available
Flash point	no data available
Auto-ignition temperature:	540 °C
Decomposition temperature:	no data available
pH	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	water , acetone : soluble . Ethanol : practically insoluble .
n-Octanol/water partition coefficient:(log Pow)	no data available
Vapour pressure	no data available
Specific Gravity / Relative density	no data available
Vapour density	no data available
Particle characteristics	no data available

## Section 10: STABILITY AND REACTIVITY

### Stability

Reactivity	no data available
Chemical stability	Stable under recommended storage conditions.
Hazardous reactions	
None under normal processing	
Conditions to avoid	Extremes of temperature and direct sunlight
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> )

## Section 11: TOXICOLOGICAL INFORMATION

\*NITE: National Institute of Technology and Evaluation (JAPAN)  
[https://www.chem-info.nite.go.jp/en/chem/chrp/chrp\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrp/chrp_search/srhInput)

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Caffeine	192 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	4.94 mg/L ( Rat ) 4 h
Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
Caffeine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Caffeine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

### Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Caffeine	Based on the NITE GHS classification results.

### Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Caffeine	Based on the NITE GHS classification results.

### Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Caffeine	

Caffeine	Based on the NITE GHS classification results.			
<b>Reproductive cell mutagenicity</b>				
Chemical Name	<b>germ cell mutagenicity source information</b>			
Caffeine	Based on the NITE GHS classification results.			
<b>Carcinogenicity</b>				
Chemical Name	<b>Carcinogenicity source information</b>			
Caffeine	Based on the NITE GHS classification results.			
<b>Chemical Name</b>	<b>NTP</b>	<b>IARC</b>	<b>ACGIH</b>	<b>JSOH</b>
Caffeine 58-08-2	N/A	Group 3	N/A	-
<b>Reproductive toxicity</b>				
Chemical Name	<b>Reproductive toxicity source information</b>			
Caffeine	Based on the NITE GHS classification results.			
<b>STOT-single exposure</b>				
Chemical Name	<b>STOT -single exposure- source information</b>			
Caffeine	Based on the NITE GHS classification results.			
<b>STOT-repeated exposure</b>				
Chemical Name	<b>STOT -repeated exposure- source information</b>			
Caffeine	Based on the NITE GHS classification results.			
<b>Aspiration hazard</b>				
Chemical Name	<b>Aspiration Hazard source information</b>			
Caffeine	Based on the NITE GHS classification results.			

## Section 12: ECOLOGICAL INFORMATION

\*NITE: National Institute of Technology and Evaluation (JAPAN)  
[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)

### Ecotoxicity

<b>Chemical Name</b>	<b>Algae/aquatic plants</b>	<b>Fish</b>	<b>Crustacea</b>
Caffeine	N/A	LC50 : <i>Leuciscus idus</i> 87 mg/L 96 h	N/A

### Other data

<b>Chemical Name</b>	<b>Short-term (acute) hazardous to the aquatic environment source information</b>	<b>Long-term (chronic) hazardous to the aquatic environment source information</b>
Caffeine	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	No information available
<b>Mobility in soil</b>	No information available
<b>Hazard to the ozone layer</b>	No information available

## Section 13: DISPOSAL CONSIDERATIONS

### Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## Section 14: TRANSPORT INFORMATION

### ADR/RID

**UN number**  
**Proper shipping name:**

UN1544  
Alkaloids, solid, n.o.s. (Caffeine)

<b>UN classification</b>	6.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Marine pollutant</b>	Not applicable
<b>IMDG</b>	
<b>UN number</b>	UN1544
<b>Proper shipping name:</b>	Alkaloids, solid, n.o.s. (Caffeine)
<b>UN classification</b>	6.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Marine pollutant (Sea)</b>	Not applicable
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available
<b>IATA</b>	
<b>UN number</b>	UN1544
<b>Proper shipping name:</b>	Alkaloids, solid, n.o.s. (Caffeine)
<b>UN classification</b>	6.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Environmentally Hazardous Substance</b>	Not applicable

## Section 15: REGULATORY INFORMATION

### Japanese regulations

<b>Fire Service Act</b>	Not applicable
<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Industrial Safety and Health Act</b>	Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57) Notifiable Substances (Law Art.57-2)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Toxic Substances - Poison (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Toxic and Infectious Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
<b>Pollutant Release and Transfer Register Law (2023.4.1-)</b>	Not applicable

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law (2023.4.1-)
Caffeine 58-08-2 ( 98.0 )	-	Applicable	-

## Section 16: OTHER INFORMATION

### **Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)  
[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)  
 IATA dangerous Goods Regulations  
 RTECS:Registry of Toxic Effects of Chemical Substances  
 Japan Industrial Safety and Health Association GHS Model SDS  
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyoritsu Publishing Co., Ltd.  
 etc

**Disclaimer**

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**