

# SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 17-May-2023  
 Revision Number 3.07

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Bromoform
<b>Product Code</b>	027-07371

**Manufacturer** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome  
 Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741  
 Fax: +81-6-6203-5964

**Supplier** FUJIFILM Wako Pure Chemical Corporation  
 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan  
 Phone: +81-6-6203-3741  
 Fax: +81-6-6203-2029

**Emergency telephone number** +81-6-6203-3741 / +81-3-3270-8571

**Recommended uses** For research use only

**Restrictions on use** Seek expert judgment when using for purposes other than those recommended.

## Section 2: HAZARDS IDENTIFICATION

**GHS classification**

**Classification of the substance or mixture**

<b>Acute toxicity - Oral</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2B
<b>Germ cell mutagenicity</b>	Category 2
<b>Carcinogenicity</b>	Category 2
<b>Reproductive Toxicity</b>	Category 2
<b>Specific target organ toxicity (single exposure)</b>	Category 1, Category 3
<b>Category 1</b> central nervous system	
<b>Category 3</b> Respiratory irritation, Narcotic effects	
<b>Specific target organ toxicity (repeated exposure)</b>	Category 1, Category 2
<b>Category 1</b> liver	
<b>Category 2</b> central nervous system	
<b>Acute aquatic toxicity</b>	Category 2
<b>Chronic aquatic toxicity</b>	Category 3

**Pictograms**



**Signal word** Danger

**Hazard statements**

- H315 - Causes skin irritation
- H320 - Causes eye irritation
- H302 - Harmful if swallowed
- H341 - Suspected of causing genetic defects
- H351 - Suspected of causing cancer

H361 - Suspected of damaging fertility or the unborn child  
 H335 - May cause respiratory irritation  
 H336 - May cause drowsiness or dizziness  
 H412 - Harmful to aquatic life with long lasting effects  
 H401 - Toxic to aquatic life  
 H370 - Causes damage to the following organs: central nervous system  
 H372 - Causes damage to the following organs through prolonged or repeated exposure: liver  
 H373 - May cause damage to the following organs through prolonged or repeated exposure: central nervous system

**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
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment

**Precautionary statements-(Response)**

- IF exposed: Call a POISON CENTER or doctor/physician
- 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 ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth

**Precautionary statements-(Storage)**

- Store in a well-ventilated place. Keep container tightly closed
- 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** CHBr3

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Bromoform	98.5	252.73	(2)-40	*	75-25-2
Ethanol	0.7 - 1.3	46.07	(2)-202	*	64-17-5

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

**Impurities and/or Additives:** Stabilizer: Ethanol 0.7-1.3%

**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**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

**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 contaminant and methods and materials for cleaning up**

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

**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**

Keep container protect from light tightly closed. Store in a cool (2-10 °C) 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

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Bromoform 75-25-2	TWA: 1 ppm OEL TWA: 10.3 mg/m <sup>3</sup> OEL	N/A	TWA: 0.5 ppm
Ethanol 64-17-5	N/A	N/A	STEL: 1000 ppm

### Personal protective equipment

#### Respiratory protection

Protective mask

#### Hand protection

chemical protective gloves ( JIS T 8116 )

#### Eye protection

protective eyeglasses or chemical safety goggles

#### Skin and body protection

Long-sleeved work clothes

### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Form

#### Color

Colorless - pale yellow

#### Turbidity

clear

#### Appearance

liquid

### Odor

characteristic odor

### Melting point/freezing point

6.9 °C

### Boiling point, initial boiling point and boiling range

150 °C

### 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:

no data available

### Decomposition temperature:

no data available

### pH

no data available

### Viscosity (coefficient of viscosity)

no data available

### Dynamic viscosity

no data available

### Solubilities

Ethanol , acetone : Very soluble. water : practically insoluble, or insoluble .

### n-Octanol/water partition coefficient:(log Pow)

2.40

### Vapour pressure

no data available

### Specific Gravity / Relative density

2.8 g/m L (20°C)

### Vapour density

4.5

### Particle characteristics

no data available

## Section 10: STABILITY AND REACTIVITY

### Stability

#### Reactivity

no data available

#### Chemical stability

May be altered by light.

### 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>), Halides**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Bromoform	933 mg/kg ( Rat )	N/A	N/A
Ethanol	6200 mg/kg ( Rat )	20000 mg/kg ( Rabbit )	63000 ppmV ( Rat ) 4 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
Bromoform	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethanol	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
Bromoform	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethanol	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
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

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

**Respiratory or skin sensitization**

Chemical Name	Respiratory or Skin sensitization source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Bromoform 75-25-2		Group 3	A3	
Ethanol 64-17-5	Known	Group 1	A3	-

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

**STOT-single exposure**

Chemical Name	STOT -single exposure- source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Bromoform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Bromoform	LC50 : <i>Cyprinodon variegatus</i> 7100 µg/L 96 h	N/A	LC50 : <i>Americamysis bahia</i> 24.4 mg/L 96 h
Ethanol	EC50 : <i>Chlorella alga</i> 1000 mg/L 96 h	LC50 : <i>Oncorhynchus mykiss</i> 11200 ppm 96 h	EC50 : <i>Daphnia magna</i> 5463 mg/L 48 h

**Other data**

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Bromoform	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Ethanol	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**

<b>UN number</b>	UN2515
<b>Proper shipping name:</b>	Bromoform
<b>UN classification</b>	6.1
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Marine pollutant</b>	Yes

**IMDG**

<b>UN number</b>	UN2515
<b>Proper shipping name:</b>	Bromoform
<b>UN classification</b>	6.1
<b>Subsidiary hazard class</b>	P
<b>Packing group</b>	III
<b>Marine pollutant (Sea)</b>	Yes
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available

**IATA**

**UN number** UN2515  
**Proper shipping name:** Bromoform  
**UN classification** 6.1  
**Subsidiary hazard class**  
**Packing group** III  
**Environmentally Hazardous Substance** Yes

## Section 15: REGULATORY INFORMATION

### International Inventories

**EINECS/ELINCS** Listed  
**TSCA** Listed

### Japanese regulations

**Fire Service Act** Not applicable  
**Poisonous and Deleterious Substances Control Law** Not applicable  
**Industrial Safety and Health Act** Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)  
 Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.61,401  
**Regulations for the carriage and storage of dangerous goods in ship** Toxic Substances - Poison (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)  
**Civil Aeronautics Law** Toxic and Infectious Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)  
**Marine Pollution Prevention Law** Marine pollutants (P and PP substances)  
**Pollutant Release and Transfer Register Law (2023.4.1-)** Class 1  
**Class 1 - No.** 528  
**Export Trade Control Order** Not applicable  
**Air Pollution Control Law** Hazardous Air Pollutants

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2) (~2024.3.31)	Pollutant Release and Transfer Register Law (2023.4.1-)
Bromoform 75-25-2 ( 98.5 )	-	Applicable	Applicable
Ethanol 64-17-5 ( 0.7 - 1.3 )	-	Applicable	-

## Section 16: OTHER INFORMATION

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

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
 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, Kyouritsu Publishing Co., Ltd.  
 etc

### **Record of SDS revisions**

The following contents were revised. Product and company Identification. Exposure controls/personal protection. Ecological information. Regulatory information.

### **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**