SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 11-Oct-2024
Revision Number 2.06

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Chloroform
Product Code	033-08631,039-08633

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

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 1, Category 3
Category 1 respiratory system, cardiovascular system, liver, kidneys	
Category 3 Narcotic effects	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 central nervous system, respiratory system, liver, kidneys	
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 1

Pictograms

Signal word Danger

Hazard statements

H315 - Causes skin irritation
H318 - Causes serious eye damage
H302 - Harmful if swallowed
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H336 - May cause drowsiness or dizziness
H402 - Harmful to aquatic life

H410 - Very toxic to aquatic life with long lasting effects
H370 - Causes damage to the following organs: respiratory system, cardiovascular system, liver, kidneys
H372 - Causes damage to the following organs through prolonged or repeated exposure: central nervous system, respiratory system, liver, kidneys

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
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- 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
- Immediately call a POISON CENTER or doctor/physician
- 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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- Collect spillage

Precautionary statements-(Storage)
- Store locked up
- Store in a well-ventilated place. Keep container tightly closed

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 CHCl3

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Chloroform	99.7	119.38	(2)-37	*	67-66-3
Ethanol	0.5 - 0.9	46.07	(2)-202	*	64-17-5

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

Impurities and/or Additives： Stabilizer: Methanol 0.5 - 0.9 %

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 contaminent and methods and materials for cleaning up

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

Recoverly, 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, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed. Packed with an inert gas. Store locked up.
Safe packaging material	Glass
Incompatible substances	Strong oxidizing agents, Strong bases

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
Chloroform 67-66-3	TWA: 3 ppm OEL TWA: 14.7 mg/m³ OEL Skin ISHL/ACL: 3 ppm	ISHL/ACL: 3 ppm	TWA: 10 ppm
Ethanol 64-17-5	N/A	N/A	STEL: 1000 ppm

Personal protective equipment

Respiratory protection gas mask for organic gas (JIS T 8152)

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	colorless
Turbidity	clear
Appearance	liquid
Odor	characteristic odor
Melting point/freezing point	-64 °C
Boiling point, initial boiling point and boiling range	61 °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 : Very soluble. water : slightly soluble .
n-Octanol/water partition coefficient:(log Pow)	1.97
Vapour pressure	no data available
Specific Gravity / Relative density	1.474 - 1.491 g/mL
Vapour density	4.01 (Air=1)
Particle characteristics	no data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity no data available

Chemical stability May be altered by light.

Hazardous reactions

Coexisting with water for a long time, it hydrolyzes to produce hydrochloric acid. Reacts violently with acids. Reacts violently with bases, may cause fire or explosion.

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidizing agents, Strong bases

Hazardous decomposition products

Carbon monooxide (CO), Carbon dioxide (CO2), Phosgene, Chlorine, Hydrogen chloride (HCl) gas, Halides

Section 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Chloroform	908 mg/kg (Rat)	> 3980 mg/kg (Rabbit)	11.3 g/m³ (Rat) 4 h
Ethanol	6200 mg/kg (Rat)	20000 mg/kg (Rabbit)	63000 ppmV (Rat)

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

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
Chloroform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

Carcinogenicity

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

Chemical Name	NTP	IARC	ACGIH	JSOH
Chloroform 67-66-3	Reasonably Anticipated	Group 2B	A3	Group 2B
Ethanol 64-17-5	Known	N/A	A3	-

Reproductive toxicity

Chemical Name	Reproductive toxicity source information

Chloroform	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
Chloroform	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
Chloroform	Based on the NITE GHS classification results.
Ethanol	Based on the NITE GHS classification results.

Aspiration hazard

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

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Chloroform	*EC50 : Chlamydomonas angulosa 13.3 mg/L 72 h*	*LC50 : Lepomis macrochirus 18 mg/L 96 h* *LC50 : Oncorhynchus mykiss 18 mg/L 96 h* *LC50 : Poecilia reticulata 300 mg/L 96 h* *LC50 : Pimephales promelas 71 mg/L 96 h*	*EC50 : Daphnia magna 29 mg/L 48 h*
Ethanol	*EC50 : Chlorella alga 1000 mg/L 96 h*	*LC50 : Oncorhychus mykiss 11200 ppm 96 h*	*EC50 : Daphnia magna 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
Chloroform	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.

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Hazard to the ozone layer 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 UN1888

Proper shipping name:	Chloroform
UN classfication	6.1
Subsidiary hazard class	
Packing group	III
Marine pollutant	Yes

IMDG

UN number	UN1888
Proper shipping name:	Chloroform
UN classfication	6.1
Subsidiary hazard class	
Packing group	III
Marine pollutant (Sea)	Yes
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA

UN number	UN1888
Proper shipping name:	Chloroform
UN classfication	6.1
Subsidiary hazard class	
Packing group	III
Environmentally Hazardous Substance	Yes

Section 15: REGULATORY INFORMATION

Japanese regulations

Fire Service Act	Firefighting Inhibitor
Poisonous and Deleterious Substances Control Law	Deleterious Substances 3rd. Grade
Industrial Safety and Health Act	Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57) Notifiable Substances (Law Art.57-2) Substances with Health Hazards Prevention Guideline(Carcinogenicity Substance) Group 2 Specified Chemical Substance Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1) Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc	Priority Assessment Chemical Substances (Law Article 2, Para.5)
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 Nortification for Air Transportation of Explosives etc., Attached Table 1)
Marine Pollution Prevention Law	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y
Pollutant Release and Transfer Register Law (2023.4.1-)	Class 1
Class 1 - No.	127
Water Pollution Control Act	Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order	Not applicable
Air Pollution Control Law	Priority Chemical Substances

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-)

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-)
Chloroform 67-66-3 (99.7)	Applicable	Applicable	Applicable
Ethanol 64-17-5 (0.5 - 0.9)	-	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
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Record of SDS revisions

The following contents were revised. Composition/information on ingredients. Stability and reactivity. Toxicological 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