

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 28-Feb-2024
 Revision Number 2.06

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Trichloroethylene(no stabilizer)
Product Code	209-18565

Supplier FUJIFILM Wako Pure Chemical Corporation
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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 - Inhalation (Vapors)

Skin corrosion/irritation

Serious eye damage/eye irritation

Skin sensitization

Germ cell mutagenicity

Carcinogenicity

Reproductive Toxicity

Specific target organ toxicity (single exposure)

Category 1 central nervous system

Category 3 Respiratory irritation, Narcotic effects

Specific target organ toxicity (repeated exposure)

Category 1 central nervous system, liver

Acute aquatic toxicity

Category 4

Category 2

Category 2A

Category 1

Category 2

Category 1A

Category 2

Category 1, Category 3

Category 1

Category 2

Pictograms



Signal word

Danger

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H341 - Suspected of causing genetic defects

H350 - May cause cancer

H361 - Suspected of damaging fertility or the unborn child

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H317 - May cause an allergic skin reaction

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: central nervous system, liver

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
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- 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
- Take off contaminated clothing and wash before reuse
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation or rash occurs: Get medical advice/attention
- 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

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 ClCH:CCl₂

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Trichloroethylene	99.5	131.39	(2)-105	*	79-01-6

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

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. Avoid contact with strong bases. 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

Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity) 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.

Safe packaging material

Glass

Incompatible substances

Oxidizers, 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
Trichloroethylene 79-01-6	TWA: 25 ppm OEL TWA: 135 mg/m ³ OEL ISHL/ACL: 10 ppm	ISHL/ACL: 10 ppm	STEL: 25 ppm TWA: 10 ppm

Personal protective equipment

Respiratory protection	Protective mask
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

-73 °C

Boiling point, initial boiling point and boiling range

87 °C

Flammability

no data available

Evaporation rate:

no data available

Flammability (solid, gas):

no data available

Upper/lower flammability or explosive limits**Upper:**

10.5 vol%

Lower:

8 vol%

Flash point

no data available

Auto-ignition temperature:

410 °C

Decomposition temperature:

no data available

pH

no data available

Viscosity (coefficient of viscosity)

no data available

Dynamic viscosity

no data available

Solubilities

Ethanol , Diethyl ether : Very soluble. water : slightly soluble .

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

2.42

Vapour pressure

7.8 kPa (20°C)

Specific Gravity / Relative density

1.461 – 1.469 g/mL (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, Heat, flames and sparks, static electricity, spark

Incompatible materials

Oxidizers, Strong bases

Hazardous decomposition productsCarbon monoxide (CO), Carbon dioxide (CO₂), Halides**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloroethylene	4920 mg/kg (Rat) 4290 mg/kg (Rat)	> 20 g/kg (Rabbit) 29000 mg/kg (Rabbit)	26 mg/L (Rat) 4 h

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

Serious eye damage/ irritation

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

Respiratory or skin sensitization

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

Reproductive cell mutagenicity

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

Carcinogenicity

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

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Trichloroethylene 79-01-6	Known Reasonably Anticipated	Group 1	A2	Group 1

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Trichloroethylene	EC50:Pseudokirchneriella subcapitata 175 mg/L 96 h EC50:Desmodesmus subspicatus 450 mg/L 96 h	LC50 : Pimephales promelas 31.4 - 71.8 mg/L 96 h LC50 : Lepomis macrochirus 39 - 54 mg/L 96 h	EC50:Daphnia magna 2.2 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
Trichloroethylene	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Persistence and degradability

Degree of decomposition: 2.4 % by BOD (METI Existing chemical safety inspections)

Bioaccumulative potential

Bioaccumulative potential

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 UN1710
 Proper shipping name: Trichloroethylene
 UN classification 6.1
 Subsidiary hazard class
 Packing group III
 Marine pollutant Not applicable

IMDG

UN number UN1710
 Proper shipping name: Trichloroethylene
 UN classification 6.1
 Subsidiary hazard class
 Packing group III
 Marine pollutant (Sea) Not applicable
 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA

UN number UN1710
 Proper shipping name: Trichloroethylene
 UN classification 6.1
 Subsidiary hazard class
 Packing group III
 Environmentally Hazardous Substance Not applicable

Section 15: REGULATORY INFORMATION

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) Notifiable Substances (Law Art.57-2) Group 2 Specified Chemical Substance Substances with Health Hazards Prevention Guideline(Carcinogenicity Substance) Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1) Industrial Safety and Health Act (2024-) 【2024.4.1~】 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	Class II Specified Chemical Substances (Law Art.2, Para.3, Enforcement Order Art.1-2)
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-)	Specified Class 1 No.
Specified Class 1-No.	281
Water Pollution Control Act	Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)
Export Trade Control Order	Not applicable
Air Pollution Control Law	Priority Chemical Substances, Designated Chemical Substances
Soil Contamination Control Law	Designated Hazardous 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-)
Trichloroethylene 79-01-6 (99.5)	-	Applicable	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 Disclaimer

The following contents were revised. Regulatory information.

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