

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision Date** 12-Jan-2021  
 Version 3.03

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	Phosphorus Trichloride
<b>Product code</b>	168-02392,162-02395,160-02391

<b>Manufacturer</b>	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
<b>Supplier</b>	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
<b>Emergency telephone number</b>	+81-6-6203-3741 / +81-3-3270-8571
<b>Recommended uses and restrictions on use</b>	For research use only

## Section 2: HAZARDS IDENTIFICATION

## GHS classification

Classification of the substance or mixture

<b>Acute toxicity - Oral</b>	Category 2
<b>Acute toxicity - Inhalation (Vapors)</b>	Category 2
<b>Skin corrosion/irritation</b>	Category 1
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Specific target organ toxicity (single exposure)</b>	Category 1
<b>Category 1</b> respiratory system	
<b>Specific target organ toxicity (repeated exposure)</b>	Category 1
<b>Category 1</b> respiratory system	
<b>Short-term (acute) hazardous to the aquatic environment</b>	Category 3

## Pictograms



## Signal word

Danger

## Hazard statements

- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H300 - Fatal if swallowed
- H330 - Fatal if inhaled
- H402 - Harmful to aquatic life
- H370 - Causes damage to the following organs: respiratory system
- H372 - Causes damage to the following organs through prolonged or repeated exposure: respiratory system

## Precautionary statements-(Prevention)

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product

- Do not breathe dust/fume/gas/mist/vapors/spray
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid release to the environment

**Precautionary statements-(Response)**

- 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 (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- 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.
- Do NOT induce vomiting.

**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** PCI3

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Phosphorus Trichloride	99.0	137.33	(1)-249	公表	7719-12-2

**Impurities and/or Additives :** Not applicable

### 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**

Carbon dioxide (CO<sub>2</sub>), Dry chemical, Sand

**Unsuitable extinguishing media**

Do not use straight streams

**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 alkaline substances. To cut with care and wear protective gloves and protective goggles to ampoule time of the opening (Cutting method to check the label). 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 well-ventilated place at room temperature (preferably cool).  
Keep container tightly closed. Store locked up.

##### Safe packaging material

Ampoule

##### Incompatible substances

Oxidizers, Alkali, Water

## 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
Phosphorus Trichloride 7719-12-2	TWA: 0.2 ppm OEL TWA: 1.1 mg/m <sup>3</sup> OEL	N/A	STEL: 0.5 ppm TWA: 0.2 ppm

### Personal protective equipment

#### Respiratory protection

Gas mask for acidic gas

#### Hand protection

Impermeable protective gloves

#### 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

<b>Form</b>	
<b>Color</b>	Colorless - nearly colorless
<b>Turbidity</b>	clear
<b>Appearance</b>	liquid
<b>Odor</b>	characteristic odor
<b>Melting point/freezing point</b>	112 - 114 °C
<b>Boiling point, initial boiling point and boiling range</b>	75 °C
<b>Flammability</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper :</b>	No data available
<b>Lower :</b>	No data available
<b>Flash point</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>pH</b>	No data available
<b>Viscosity (coefficient of viscosity)</b>	No data available
<b>Dynamic viscosity</b>	No data available
<b>Solubilities</b>	Diethyl ether , benzene , carbon disulfide , carbon tetrachloride , dichloromethane : free soluble . water , Ethanol : decomposes.
<b>n-Octanol/water partition coefficient:(log Pow)</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Specific Gravity / Relative density</b>	1.6
<b>Vapour density</b>	No data available
<b>Particle characteristics</b>	No data available

## Section 10: STABILITY AND REACTIVITY

### Stability

<b>Reactivity</b>	No data available
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Hazardous reactions</b>	None under normal processing
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight, Moisture
<b>Incompatible materials</b>	Oxidizers, Alkali, Water
<b>Hazardous decomposition products</b>	Phosphorus oxide, Halides

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Phosphorus Trichloride	18 mg/kg(Rat)	N/A	104 ppm ( Rat ) 4 h

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

### Skin irritation/corrosion



**Proper shipping name:** Phosphorus trichloride  
**UN classification** 6.1  
**Subsidiary hazard class** 8  
**Packing group** I  
**Marine pollutant** Not applicable

**IMDG**

**UN number** UN1809  
**Proper shipping name:** Phosphorus trichloride  
**UN classification** 6.1  
**Subsidiary hazard class** 8  
**Packing group** I  
**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** UN1809  
**Proper shipping name:** Phosphorus trichloride  
**UN classification** 6.1  
**Subsidiary hazard class** 8  
**Packing group** I  
**Environmentally Hazardous Substance** Not applicable

## Section 15: REGULATORY INFORMATION

**International Inventories**

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

**Japanese regulations**

**Fire Service Act** Firefighting Inhibitor  
**Poisonous and Deleterious Substances Control Law** Poisonous Substances 1st. Grade  
**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.187  
**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** Forbidden (Ordinance Art.194)  
**Pollutant Release and Transfer Register Law** Not applicable  
**Export Trade Control Order** Appendix 1  
**Act on the Prohibition of Chemical Weapon and the Regulation of Specific Chemicals**  
**Air Pollution Control Law** Specified 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
Phosphorus Trichloride 7719-12-2 ( 99.0 )	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

**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 Z7252(2019). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**