

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 04-Apr-2022  
 Revision Number 2.03

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Zinc Phosphate Tetrahydrate
<b>Product Code</b>	266-00705,262-00702

<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**

Acute aquatic toxicity

Category 1

Chronic aquatic toxicity

Category 1

**Pictograms****Signal word**

Warning

**Hazard statements**

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

**Precautionary statements-(Prevention)**

- Avoid release to the environment

**Precautionary statements-(Response)**

- Collect spillage

**Precautionary statements-(Storage)**

- Not applicable

**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**                              Zn<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>·4H<sub>2</sub>O

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	95.0	458.17	(1)-1181	公表	7543-51-3

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

**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

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

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 acidic substances 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

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

### 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

Polyethylene, Polypropylene

#### Incompatible substances

Acidic substances

## 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

#### Hand protection

Protection 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

### Form

#### Color

white

#### Appearance

crystalline powder - powder

### Odor

no data available

### Melting point/freezing point

no data available

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

1075 °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

pale hydrochloric acid : soluble .

### 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

<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
<b>Incompatible materials</b>	Acidic substances
<b>Hazardous decomposition products</b>	Phosphorus oxide, Metal oxides

## Section 11: TOXICOLOGICAL INFORMATION

Described as Zinc phosphate (anhydride)

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	>5000 mg/kg (Rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	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
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	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
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

### Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

### Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

### Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

### Carcinogenicity

Chemical Name	Carcinogenicity source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

### Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

### STOT-single exposure

Chemical Name	STOT -single exposure- source information

Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.
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**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

Described as Zinc phosphate (anhydride)

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	N/A	LC <sub>50</sub> : <i>Oncorhynchus mykiss</i> 0.09 mg/L 96 h	N/A

**Other data**

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O)	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>	UN3077
<b>Proper shipping name:</b>	Environmentally hazardous substance, solid, n.o.s. (Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O))
<b>UN classification</b>	9
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Marine pollutant</b>	Yes

**IMDG**

<b>UN number</b>	UN3077
<b>Proper shipping name:</b>	Environmentally hazardous substance, solid, n.o.s. (Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O))
<b>UN classification</b>	9
<b>Subsidiary hazard class</b>	
<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**

<b>UN number</b>	UN3077
<b>Proper shipping name:</b>	Environmentally hazardous substance, solid, n.o.s. (Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O))
<b>UN classification</b>	9
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	III
<b>Environmentally Hazardous Substance</b>	Yes

## Section 15: REGULATORY INFORMATION

### International Inventories

<b>EINECS/ELINCS</b>	-
<b>TSCA</b>	-

### Japanese regulations

<b>Fire Service Act</b>	Firefighting Inhibitor
<b>Poisonous and Deleterious Substances Control Law</b>	Deleterious Substances 3rd. Grade
<b>Industrial Safety and Health Act</b>	Not applicable
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Noxious Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Misellaneous Dangerous Substances and Articles (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1)
<b>Pollutant Release and Transfer Register Law (~2023.3.31)</b>	Class 1
<b>Class 1 - No.</b>	1
<b>Pollutant Release and Transfer Register Law (2023/4/1~)</b>	Class 1
<b>Class 1 - No.</b>	1
<b>Water Pollution Control Act</b>	Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
<b>Export Trade Control Order</b>	Not applicable
<b>Air Pollution Control Law</b>	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 (~2023.3.31)
Zinc phosphate hydrate (Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · 4H <sub>2</sub> O) 7543-51-3 ( 95.0 )	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 Oraganic 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**