

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
 Revision Date 12-May-2020  
 Version 1.02

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	0.1mol/L Zinc Solution
<b>Product code</b>	261-02215

<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 purposes

## Section 2: HAZARDS IDENTIFICATION

## GHS classification

Classification of the substance or mixture

<b>Acute toxicity - Inhalation (Vapors)</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2A
<b>Specific target organ toxicity (single exposure)</b>	Category 2
Category 2 respiratory system	
<b>Specific target organ toxicity (repeated exposure)</b>	Category 2
Category 2 respiratory system, teeth	
<b>Short-term (acute) hazardous to the aquatic environment</b>	Category 3
<b>Long-term (chronic) hazardous to the aquatic environment</b>	Category 3

## Pictograms



Signal word

Warning

## Hazard statements

- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H332 - Harmful if inhaled
- H402 - Harmful to aquatic life
- H412 - Harmful to aquatic life with long lasting effects
- H371 - May cause damage to the following organs: respiratory system
- H373 - May cause damage to the following organs through prolonged or repeated exposure: respiratory system, teeth

## Precautionary statements-(Prevention)

- Use only outdoors or in a well-ventilated area
- Wash face, hands and any exposed skin thoroughly after handling

- Wear protective gloves/protective clothing/eye protection/face protection
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Avoid release to the environment

**Precautionary statements-(Response)**

- IF exposed or if you feel unwell: 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.

**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** Mixture

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Water	<98	18.02	N/A	N/A	7732-18-5
Nitric Acid	2	63.01	(1)-394	公表	7697-37-2
Zinc	0.65	65.409	N/A	N/A	7440-66-6

**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**

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 organic substance Avoid contact with alkaline 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.

**Safe packaging material**

Glass

**Incompatible substances**

Organic substance, Combustible materials, 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
Nitric Acid 7697-37-2	2ppm, 5.2mg/m <sup>3</sup>	N/A	STEL: 4 ppm TWA: 2 ppm
Zinc 7440-66-6	5 mg/m <sup>3</sup>	N/A	N/A

**Personal protective equipment****Respiratory protection**

Protective 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

<b>Form</b>	
<b>Color</b>	colorless
<b>Turbidity</b>	clear
<b>Appearance</b>	liquid
<b>Odor</b>	No data available
<b>Melting point/freezing point</b>	No data available
<b>Boiling point, initial boiling point and boiling range</b>	No data available
<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>	No data available
<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>	No data available
<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	
<b>Incompatible materials</b>	
Organic substance, Combustible materials, Bases	
<b>Hazardous decomposition products</b>	
Metal oxides	

## Section 11: TOXICOLOGICAL INFORMATION

Since data of the mixture is not available, data as each components are described.

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc	630 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
Nitric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Zinc	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
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Nitric Acid	Based on the NITE GHS Classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS Classification results.
Zinc	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
Nitric Acid	Based on the NITE GHS classification results.
Zinc	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

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

**Respiratory or skin sensitization**

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

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Nitric Acid	Based on the NITE GHS classification results.
Zinc	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Nitric Acid	Based on the NITE GHS classification results.
Zinc	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Nitric Acid 7697-37-2	-	Group 1 Group 2A	-	-

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
Nitric Acid	Based on the NITE GHS classification results.
Zinc	Based on the NITE GHS classification results.

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Nitric Acid	Based on the NITE GHS classification results.
Zinc	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

Since data of the mixture is not available, data as each components are described.

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Nitric Acid	N/A	LC50: <i>Gambusia affinis</i> 72 mg/L 96 h	N/A
Zinc	ErC50 : <i>Pseudokirchneriella subcapitata</i> 0.15 mg/L 72h	LC50 : <i>Oncorhynchus mykiss</i> 0.24 mg/L 96 h	EC50: <i>Daphnia magna</i> 0.139 - 0.908 mg/L 48 h

**Other data**

Chemical Name	Short-term (acute) hazardous to the	Long-term (chronic) hazardous to the
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	aquatic environment source information	aquatic environment source information
Nitric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Zinc	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
<b>Mobility</b>	

### 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

<b>ADR/RID</b>	Not regulated
UN number	-
Proper shipping name:	
UN classification	
Subsidiary hazard class	
Packing group	
Marine pollutant	Not applicable
<b>IMDG</b>	Not regulated
UN number	-
Proper shipping name:	
UN classification	
Subsidiary hazard class	
Packing group	
Marine pollutant (Sea)	Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available
<b>IATA</b>	Not regulated
UN number	-
Proper shipping name:	
UN classification	
Subsidiary hazard class	
Packing group	
Environmentally Hazardous Substance	Not applicable

### Section 15: REGULATORY INFORMATION

#### International Inventories

EINECS/ELINCS	-
TSCA	-

#### Japanese regulations

Fire Service Act	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Industrial Safety and Health Act	Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6) 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 Oder Art.18-2 Attached Table No.9)No.307
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Not applicable
<b>Civil Aeronautics Law</b>	Not applicable
<b>Pollutant Release and Transfer Register Law</b>	Not applicable
<b>Water Pollution Control Act</b>	Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)
<b>Export Trade Control Order</b>	Not applicable

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law
Nitric Acid 7697-37-2 ( 2 )	-	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**