

SAFETY DATA SHEET

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

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	0.05mol/L Zinc Solution
Product code	268-02225

Manufacturer	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
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 and restrictions on use	For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 2
Category 2 respiratory system	
Specific target organ toxicity (repeated exposure)	Category 2
Category 2 respiratory system, teeth	
Short-term (acute) hazardous to the aquatic environment	Category 3
Long-term (chronic) hazardous to the aquatic environment	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	0.33	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 ³	N/A	STEL: 4 ppm TWA: 2 ppm
Zinc 7440-66-6	5 mg/m ³	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

Form	
Color	colorless
Turbidity	clear
Appearance	liquid
Odor	No data available
Melting point/freezing point	No data available
Boiling point, initial boiling point and boiling range	No data available
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	No data available
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

Reactivity	No data available
Chemical stability	Stable under recommended storage conditions.
Hazardous reactions	
None under normal processing	
Conditions to avoid	
Extremes of temperature and direct sunlight	
Incompatible materials	
Organic substance, Combustible materials, Bases	
Hazardous decomposition products	
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

	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.

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
Mobility	

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	Not regulated
UN number	-
Proper shipping name:	
UN classification	
Subsidiary hazard class	
Packing group	
Marine pollutant	Not applicable
IMDG	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
IATA	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	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.307 Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6)
Regulations for the carriage and storage of dangerous goods in ship	Not applicable
Civil Aeronautics Law	Not applicable
Pollutant Release and Transfer Register Law	Not applicable
Export Trade Control Order	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