SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 22-Feb-2023
Revision Number 1.05

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Zinc Standard Solution (Zn : 1,000mg/l)
Product Code	264-01421

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 use only

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Pictograms

Signal word Warning

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements-(Prevention)
- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)
- 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

Precautionary statements-(Storage)
- Not applicable

Precautionary statements-(Disposal)
- Not applicable

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	98.92	18.02	N/A	N/A	7732-18-5
Nitric Acid	0.63	63.01	(1)-394	*	7697-37-2
Zinc Nitrate Hexahydrate	0.45	297.49	1-491	*	10196-18-6

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 contaminent and methods and materials for cleaning up
Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.
Recoverly, 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. Avoid contact with eyes and skin Open after shaking containers well. 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. Do not breathe dust/fume/gas/mist/vapors/spray

Storage

Safe storage conditions

Storage conditions	Store away from sunlight in well-ventilated place at room temperature (under 25 °C). Keep container tightly closed.
Safe packaging material	Polyethylene
Incompatible substances	Metals, 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

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, protective boots

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	Strongly aciditc, pH = 1
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	water , Ethanol : at the rate of any miscible .
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

corrodes metals.

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Metals, Bases

Hazardous decomposition products

Nitrogen oxides (NOx), 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
Nitric Acid	N/A	N/A	334 ppm (Rat) 0.5 h
Zinc Nitrate Hexahydrate	1,330 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 Nitrate Hexahydrate	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
Nitric Acid	Based on the NITE GHS Classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS Classification results.
Zinc Nitrate Hexahydrate	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 Nitrate Hexahydrate	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 Nitrate Hexahydrate	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 Nitrate Hexahydrate	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

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

Carcinogenicity

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

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Nitric Acid 7697-37-2	-	Group 1 Group 2A	-	-
Zinc Nitrate Hexahydrate 10196-18-6		Group 2A		

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Nitric Acid	Based on the NITE GHS classification results.
Zinc Nitrate Hexahydrate	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 Nitrate Hexahydrate	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 Nitrate Hexahydrate	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 Nitrate Hexahydrate	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 : Gambusia affinis 72 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
Nitric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Zinc Nitrate Hexahydrate	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

Do not reuse container

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number	UN2031
Proper shipping name:	Nitric acid
UN classfication	8
Subsidiary hazard class	
Packing group	II
Marine pollutant	Not applicable

IMDG

UN number	UN2031
Proper shipping name:	Nitric acid
UN classfication	8
Subsidiary hazard class	
Packing group	II
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	UN2031
Proper shipping name:	Nitric acid
UN classfication	8
Subsidiary hazard class	
Packing group	II
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	Not applicable
Regulations for the carriage and storage of dangerous goods in ship	Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Corrosive 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 (~2023.3.31)	Not applicable
Pollutant Release and Transfer Register Law (2023/4/1~)	Not applicable
Water Pollution Control Act	Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinace Designating

	Wastewater Standards Art.1)
Export Trade Control Order	Not applicable
Air Pollution Control Law	Hazardous Air Pollutants

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