

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Issue Date** 14-Feb-2025  
 Revision Number 1

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Tantalum Standard Solution (Ta 1000)[CRM]
<b>Product Code</b>	200-21741

**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** For research use only

**Restrictions on use** Seek expert judgment when using for purposes other than those recommended.

## 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, cardiovascular system

Specific target organ toxicity (repeated exposure)

Category 2

Category 2 respiratory system, teeth, bone

## Pictograms



Signal word

Warning

## Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H371 - May cause damage to the following organs: respiratory system, cardiovascular system

H373 - May cause damage to the following organs through prolonged or repeated exposure: respiratory system, teeth, bone

## 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

## 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	97.4	18.02	*	*	7732-18-5
Nitric Acid	2.0	63.01	(1)-394	*	7697-37-2
Hydrogen fluoride	0.50	20.01	(1)-306	*	7664-39-3
Tantalum	0.10	180.948	-	N/A	7440-25-7

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

### 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 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 (under 25 °C).  
Keep container tightly closed. Store locked up.

##### Safe packaging material

Polyethylene

#### Incompatible substances

alkaline 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

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Nitric Acid 7697-37-2	TWA: 2 ppm OEL TWA: 5.2 mg/m <sup>3</sup> OEL	N/A	STEL: 4 ppm TWA: 2 ppm
Hydrogen fluoride 7664-39-3	Ceiling: 3 ppm Ceiling: 2.5 mg/m <sup>3</sup>	ISHL/ACL: 0.5 ppm	TWA: 0.5 ppm F Skin Ceiling: 2 ppm F
Tantalum 7440-25-7	N/A	N/A	TWA: 2.5 mg/m <sup>3</sup> F

### Personal protective equipment

#### Respiratory protection

Gas mask for acidic gas ( JIS T 8152 )

#### Hand protection

chemical protective gloves ( JIS T 8116 )

#### Eye protection

protective eyeglasses or chemical safety goggles (JIS T 8147)

**Skin and body protection** Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

If this product is classified as "Chemical Substances Hazardous to Skin, etc.", use appropriate protective equipment to them.

## 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**

alkaline substances

**Hazardous decomposition products**

Nitrogen oxides (NOx), Halides, Metal oxides

## Section 11: TOXICOLOGICAL INFORMATION

\*NITE: National Institute of Technology and Evaluation (JAPAN)

[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)

**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric Acid	N/A	N/A	334 ppm ( Rat ) 0.5 h
Hydrogen fluoride	N/A	N/A	0.0008 - 0.004 mg/L 4 h
Tantalum	595 mg/kg ( Rat )	N/A	> 5.18 mg/L ( Rat ) 4 h

Chemical Name	Acute toxicity -oral- source	Acute toxicity -dermal- source	Acute toxicity -inhalation gas-
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	information	information	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.
Hydrogen fluoride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tantalum	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.
Hydrogen fluoride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tantalum	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.
Hydrogen fluoride	Based on the NITE GHS classification results.
Tantalum	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.
Hydrogen fluoride	Based on the NITE GHS classification results.
Tantalum	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.
Hydrogen fluoride	Based on the NITE GHS classification results.
Tantalum	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.
Hydrogen fluoride	Based on the NITE GHS classification results.
Tantalum	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Nitric Acid	Based on the NITE GHS classification results.
Hydrogen fluoride	Based on the NITE GHS classification results.
Tantalum	Based on the NITE GHS classification results.

**Reproductive toxicity**

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

**Aspiration hazard**

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

## Section 12: ECOLOGICAL INFORMATION

\*NITE: National Institute of Technology and Evaluation (JAPAN)

[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)

### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Nitric Acid	N/A	LC50 : <i>Gambusia affinis</i> 72 mg/L 96 h	N/A
Hydrogen fluoride	EC50 : <i>Pseudokirchneriella subcapitata</i> > 402 mg/L 72 h	LC50 : Killifish >8.6 mg/L 28 d	EC50 : <i>Gammarus fasciatus</i> 73.3 mg/L 96 h

### 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.
Hydrogen fluoride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Tantalum	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

## 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	No information available

the IBC Code  
 IATA Not regulated  
 UN number -  
 Proper shipping name:  
 UN classification  
 Subsidiary hazard class  
 Packing group  
 Environmentally Hazardous Not applicable  
 Substance

## Section 15: REGULATORY INFORMATION

### Japanese regulations

**Fire Service Act** Not applicable  
**Poisonous and Deleterious Substances Control Law** Poisonous Substances 2nd. Grade  
**Industrial Safety and Health Act** Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)  
 Notifiable Substances (Law Art.57-2)  
 Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6)  
 Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)  
**Regulations for the carriage and storage of dangerous goods in ship** Not applicable  
**Civil Aeronautics Law** Not applicable  
**Marine Pollution Prevention Law** Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y  
**Pollutant Release and Transfer Register Law (2023.4.1-)** Not applicable  
**Water Pollution Control Act** Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)  
**Air Pollution Control Law** Specified Substances, Hazardous Air Pollutants  
**Soil Contamination Control Law** Designated Hazardous 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 (2023.4.1-)
Nitric Acid 7697-37-2 ( 2.0 )	-	Applicable	-
Hydrogen fluoride 7664-39-3 ( 0.50 )	Applicable	Applicable	-

## Section 16: OTHER INFORMATION

### Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)  
[https://www.chem-info.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput)  
 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 Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**