

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 31-Oct-2023  
 Revision Number 2.02

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Chromium Standard Solution (Cr 100)
<b>Product Code</b>	037-16221

<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</b>	For research use only
<b>Restrictions on use</b>	Seek expert judgment when using for purposes other than those recommended.

## 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	99.34	18.02	N/A	N/A	7732-18-5
Nitric Acid	0.63	63.01	(1)-394	*	7697-37-2
Potassium dichromate	0.03	294.18	(1)-278	*	7778-50-9

**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

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. Avoid contact with metal. 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, Metals

## 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
Potassium dichromate 7778-50-9	TWA: 0.05 mg/m <sup>3</sup> OEL TWA: 0.01 mg/m <sup>3</sup> OEL ISHL/ACL: 0.05 mg/m <sup>3</sup>	ISHL/ACL: 0.05 mg/m <sup>3</sup>	STEL: 0.0005 mg/m <sup>3</sup> Cr(VI) inhalable particulate matter TWA: 0.0002 mg/m <sup>3</sup> Cr(VI) inhalable particulate matter Skin

### 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

#### 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

yellow

#### 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	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	alkaline substances, Metals
Hazardous decomposition products	Nitrogen oxides (NOx), Metal oxides

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric Acid	N/A	N/A	334 ppm ( Rat ) 0.5 h
Potassium dichromate	17 mg/kg (Rat)	403 mg/kg (Rabbit)	0.029 mg/L ( Rat ) 4 h

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.
Potassium dichromate	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.
Potassium dichromate	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.
Potassium dichromate	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.
Potassium dichromate	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.

Potassium dichromate	Based on the NITE GHS classification results.
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**Reproductive cell mutagenicity**

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

**Carcinogenicity**

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

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Nitric Acid 7697-37-2	-	Group 1 Group 2A	-	-
Potassium dichromate 7778-50-9	Known	Group 1	A1	Group 1

**Reproductive toxicity**

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

**Aspiration hazard**

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

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Nitric Acid	N/A	LC50 : <i>Gambusia affinis</i> 72 mg/L 96 h	N/A
Potassium dichromate	N/A	LC50 : <i>Morone saxatilis</i> 26 mg/L 96h	EC50 : <i>Daphnia pulex</i> 0.061 mg/L 48h

**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.
Potassium dichromate	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.

<b>Section 14: TRANSPORT INFORMATION</b>
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<b>ADR/RID</b>	Not regulated
<b>UN number</b>	-
<b>Proper shipping name:</b>	
<b>UN classification</b>	
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	
<b>Marine pollutant</b>	Not applicable
<b>IMDG</b>	Not regulated
<b>UN number</b>	-
<b>Proper shipping name:</b>	
<b>UN classification</b>	
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	
<b>Marine pollutant (Sea)</b>	Not applicable
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available
<b>IATA</b>	Not regulated
<b>UN number</b>	-
<b>Proper shipping name:</b>	
<b>UN classification</b>	
<b>Subsidiary hazard class</b>	
<b>Packing group</b>	
<b>Environmentally Hazardous Substance</b>	Not applicable

<b>Section 15: REGULATORY INFORMATION</b>
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**Japanese regulations**

<b>Fire Service Act</b>	Not applicable
<b>Poisonous and Deleterious Substances Control Law</b>	Deleterious Substances 3rd. Grade
<b>Industrial Safety and Health Act</b>	Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Not applicable
<b>Civil Aeronautics Law</b>	Not applicable
<b>Marine Pollution Prevention Law</b>	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y
<b>Pollutant Release and Transfer Register Law (2023.4.1-)</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
<b>Air Pollution Control Law</b>	Priority Chemical Substances
<b>Soil Contamination Control Law</b>	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-)
Potassium dichromate	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 (2023.4.1-)
7778-50-9 ( 0.03 )			

## 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

### Record of SDS revisions

The following contents were revised. Product and company Identification. Exposure controls/personal protection. Physical and chemical properties. Toxicological information. Ecological information. Regulatory information.

### 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**