

# SAFETY DATA SHEET

According to JIS Z 7253:2012  
**Revision Date** 06-Sep-2018  
 Version 4.01

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	Perchloric Acid
<b>Product code</b>	166-00718,162-00715,160-00711,166-00713
<b>CAS No</b>	7601-90-3
<b>Formula</b>	HCIO4
<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
<b>Announcement of company name change</b>	Company name has changed since April 1, 2018. Former name was "Wako Pure Chemical Industries, Ltd."

## Section 2: HAZARDS IDENTIFICATION

**GHS classification**

**Classification of the substance or mixture**

<b>Oxidizing liquids</b>	Category 1
<b>Corrosive to metals</b>	Category 1
<b>Acute toxicity - Oral</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 1
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Specific target organ toxicity (single exposure)</b>	Category 2
<b>Category 2</b> respiratory system	

**Pictograms**



**Signal word**

Danger

**Hazard statements**

- H271 - May cause fire or explosion; strong oxidizer
- H290 - May be corrosive to metals
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage

H302 - Harmful if swallowed  
 H371 - May cause damage to the following organs: respiratory system

**Precautionary statements-(Prevention)**

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wear protective gloves/protective clothing/eye protection/face protection
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep/Store away from clothing/combustible materials
- Take any precaution to avoid mixing with combustibles
- Wear fire/flame resistant/retardant clothing
- Keep only in original container

**Precautionary statements-(Response)**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER or doctor/physician
- Wash contaminated clothing before reuse.
- IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes
- Rinse skin with water/shower
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth.
- Do NOT induce vomiting.
- In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion
- In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction
- Absorb spillage to prevent material damage

**Precautionary statements-(Storage)**

- Store locked up.
- Store in corrosive resistant/container with a resistant inner liner

**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

**Formula** HClO<sub>4</sub>

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No.
Perchloric Acid	60.0 - 62.0	100.46	(1)-221	1-221	7601-90-3
Water	38.0 - 40.0	18.02	N/A	N/A	7732-18-5

**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

**Special extinguishing method**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Protection of 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 reducing agents and combustible materials. 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**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Storage****Safe storage conditions****Storage conditions**

Store away from sunlight in well-ventilated place at room temperature (preferably cool).  
Keep container tightly closed.

<b>Safe packaging material</b>	Glass
<b>Incompatible substances</b>	Organic substance, Combustible materials, Strong 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

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### 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

### 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

### pH

strongly acidic

### Melting point/freezing point

-17 °C

### Boiling point, initial boiling point and boiling range

203 °C (72.4%) (azeotrope)

### Flash point

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

### Vapour pressure

No data available

### Vapour density

No data available

### Specific Gravity / Relative density

1.54 g/mL

### Solubilities

water : freely soluble .

### n-Octanol/water partition coefficient:(log Pow)

No data available

### Auto-ignition temperature:

No data available

### Decomposition temperature:

No data available

### Viscosity (coefficient of viscosity)

No data available

### Dynamic viscosity

No data available

## Section 10: STABILITY AND REACTIVITY

### Stability

#### Stability

Stable under recommended storage conditions.

#### Reactivity

No data available

### Hazardous reactions

None under normal processing

### Conditions to avoid

Extremes of temperature and direct sunlight

**Incompatible materials**

Organic substance, Combustible materials, Strong bases

**Hazardous decomposition products**

Hydrogen chloride (HCl) gas, Halides

**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Perchloric Acid	1100 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
Perchloric Acid	LD50(ori, rat): 1100mg/kg (RTECS).	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
Perchloric Acid	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
Perchloric Acid	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

Chemical Name	Serious eye damage source information
Perchloric Acid	Human: Corrosive (HSDB(2003), ICS(J)(2000)).

**Respiratory or skin sensitization**

Chemical Name	Respiratory, Skin sensitization source information
Perchloric Acid	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	Mutagenic source information
Perchloric Acid	Based on the NITE GHS classification results.

**Carcinogenicity**

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

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Perchloric Acid 7601-90-3		Group 1		

**Reproductive toxicity**

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity** No information available

**Other data**

Chemical Name	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
Perchloric Acid	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**

**UN number** UN1873  
**Proper shipping name:** perchloric acid  
**UN classification** 5.1  
**Subsidiary hazard class** 8  
**Packing group** I  
**Marine pollutant** Not applicable

**IMDG**

**UN number** UN1873  
**Proper shipping name:** perchloric acid  
**UN classification** 5.1  
**Subsidiary hazard class** 8  
**Packing group** I  
**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** UN1873  
**Proper shipping name:** perchloric acid  
**UN classification** 5.1  
**Subsidiary hazard class** 8  
**Packing group** I  
**Environmentally Hazardous Substance** Not applicable

### Section 15: REGULATORY INFORMATION

**International Inventories**

**EINECS/ELINCS** Listed  
**TSCA** Listed

**Japanese regulations**

<b>Fire Service Act</b>	Category VI, perchlorate,
<b>Poisonous and Deleterious Substances Control Law</b>	Not applicable
<b>Industrial Safety and Health Act</b>	Dangerous Substances - Oxidizing Substance (Enforcement Order Attached Table 1 Item 3)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Oxidizing Agents - Oxidizing Agents (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Oxidizing Agents - Oxidizing Agents (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
<b>Pollutant Release and Transfer Register Law</b>	Not applicable
<b>Export Trade Control Order</b>	Not applicable

### Section 16: OTHER INFORMATION

<b>Key literature references and sources for data etc.</b>	<p>NITE: National Institute of Technology and Evaluation (JAPAN)  <a href="http://www.safe.nite.go.jp/japan/db.html">http://www.safe.nite.go.jp/japan/db.html</a>          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</p>
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#### **Disclaimer**

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(2014). \*JIS: Japanese Industrial Standards

#### **Product information**

You might get a product which indicates a former company name, during the period of transition.

**End of Safety Data Sheet**