

# SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 20-Feb-2024  
 Revision Number 3.08

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	Sulfuric Acid, Fuming
<b>Product Code</b>	194-04715

**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**

<b>Acute toxicity - Inhalation (Dusts/Mists)</b>	Category 3
<b>Skin corrosion/irritation</b>	Category 1
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Carcinogenicity</b>	Category 1A
<b>Specific target organ toxicity (single exposure)</b>	Category 2
<b>Category 2</b> respiratory system, digestive system	
<b>Specific target organ toxicity (repeated exposure)</b>	Category 2
<b>Category 2</b> lung, teeth	

**Pictograms**



**Signal word**

Danger

**Hazard statements**

- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H331 - Toxic if inhaled
- H350 - May cause cancer
- H371 - May cause damage to the following organs: respiratory system, digestive system
- H373 - May cause damage to the following organs through prolonged or repeated exposure: lung, teeth

**Precautionary statements-(Prevention)**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product

**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
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

**Precautionary statements-(Storage)**

- Store locked up
- Store in a well-ventilated place. Keep container tightly closed

**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** Substance

**Formula** H<sub>2</sub>SO<sub>4</sub>·xSO<sub>3</sub>

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Sulfuric Acid, Fuming	60.0 - 65.0 (as free sulfate)	N/A	(1)-430,(1)-537	*	8014-95-7

**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 or cover with dry earth, sand or other non-combustible material and transfer to containers

### 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 organic substance Avoid contact with reducing agents and combustible materials. 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

Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed. Store locked up.

##### Safe packaging material

Polyethylene

#### Incompatible substances

Organic substance, Combustible materials, Bases, Reducing agent

## 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 ( 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

<b>Form</b>	
<b>Color</b>	White - slightly brown , upon melting Colorless - slightly brown
<b>Appearance</b>	crystals or upon melting oily liquid
<b>Odor</b>	Pungent odor
<b>Melting point/freezing point</b>	3 °C
<b>Boiling point, initial boiling point and boiling range</b>	no data available
<b>Flammability</b>	no data available
<b>Evaporation rate:</b>	no data available
<b>Flammability (solid, gas):</b>	no data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper:</b>	no data available
<b>Lower:</b>	no data available
<b>Flash point</b>	no data available
<b>Auto-ignition temperature:</b>	no data available
<b>Decomposition temperature:</b>	no data available
<b>pH</b>	no data available
<b>Viscosity (coefficient of viscosity)</b>	no data available
<b>Dynamic viscosity</b>	no data available
<b>Solubilities</b>	sulfuric acid : at the rate of any miscible . water : decomposes.
<b>n-Octanol/water partition coefficient:(log Pow)</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Specific Gravity / Relative density</b>	1.925
<b>Vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

## Section 10: STABILITY AND REACTIVITY

### Stability

<b>Reactivity</b>	no data available
<b>Chemical stability</b>	May be altered by light.
<b>Hazardous reactions</b>	None under normal processing
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight
<b>Incompatible materials</b>	Organic substance, Combustible materials, Bases, Reducing agent
<b>Hazardous decomposition products</b>	Sulfur oxides (SOx)

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric Acid, Fuming	2140 mg/kg ( Rat )	N/A	347 ppm ( Rat ) 1 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
Sulfuric Acid, Fuming	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
Sulfuric Acid, Fuming	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
Sulfuric Acid, Fuming	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

Chemical Name	Serious eye damage/irritation source information
Sulfuric Acid, Fuming	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

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

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Sulfuric Acid, Fuming	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Sulfuric Acid, Fuming	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Sulfuric Acid, Fuming 8014-95-7		Group 1		

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
Sulfuric Acid, Fuming	Based on the NITE GHS classification results.

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Sulfuric Acid, Fuming	Based on the NITE GHS classification results.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity** No information available

**Other data**

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Sulfuric Acid, Fuming	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	UN1831
Proper shipping name:	SULPHURIC ACID, FUMING
UN classification	8
Subsidiary hazard class	6.1
Packing group	I
Marine pollutant	Not applicable

**IMDG**

UN number	UN1831
Proper shipping name:	SULPHURIC ACID, FUMING
UN classification	8
Subsidiary hazard class	6.1
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	UN1831
Proper shipping name:	SULPHURIC ACID, FUMING
UN classification	8
Subsidiary hazard class	6.1
Packing group	I
Environmentally Hazardous Substance	Not applicable

## Section 15: REGULATORY INFORMATION

**Japanese regulations**

<b>Fire Service Act</b>	Firefighting Inhibitor
<b>Poisonous and Deleterious Substances Control Law</b>	Deleterious Substances 1st. Grade
<b>Industrial Safety and Health Act</b>	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)
<b>Industrial Safety and Health Act (2024-)</b>	<b>【2024.4.1~】</b> Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57) <b>【2024.4.1~】</b> Notifiable Substances (Law Art.57-2) <b>【2024.4.1~】</b> Substances designated by the Minister of Health, Labor and Welfare as carcinogenic(Ordinance on Industrial Safety and Health Art.577, Para.2) <b>【2024.4.1~】</b> Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Forbidden (Ordinance Art.194)
<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>	Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
<b>Export Trade Control Order</b>	Appendix 2 Export Approval Item
<b>Narcotics and Psychotropics Control Law</b>	
<b>Air Pollution Control Law</b>	Specified Substances

### Industrial Safety and Health Law

Law Name	Chemical Name in Regulation	Weight %	
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Notifiable Substances (Law Art.57-2)	fuming sulfuric acid	60.0 - 65.0 (as free sulfate)	2024/4/1
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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-)
Sulfuric Acid, Fuming 8014-95-7 ( 60.0 - 65.0 (as free sulfate) )	Applicable	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

### Record of SDS revisions

The following contents were revised. Product and company Identification.  
 Composition/information on ingredients. Exposure controls/personal protection. Physical and chemical properties. 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**