

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 18-Jun-2024
 Revision Number 2.07

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Chromic Acid Mixture
Product Code	035-05411,037-05415

Supplier FUJIFILM Wako Pure Chemical Corporation
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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 (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Category 1 cardiovascular system, respiratory system, central nervous system, blood system, liver, kidneys	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 respiratory system	
Aspiration hazard	Category 1
Acute aquatic toxicity	Category 3
Chronic aquatic toxicity	Category 3

Pictograms



Signal word

Danger

Hazard statements

- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H330 - Fatal if inhaled
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H340 - May cause genetic defects
- H350 - May cause cancer
- H360 - May damage fertility or the unborn child
- H304 - May be fatal if swallowed and enters airways

- H317 - May cause an allergic skin reaction
 H402 - Harmful to aquatic life
 H412 - Harmful to aquatic life with long lasting effects
 H370 - Causes damage to the following organs: cardiovascular system, respiratory system, central nervous system, blood system, liver, kidneys
 H372 - Causes damage to the following organs through prolonged or repeated exposure: respiratory system

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
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- In case of inadequate ventilation wear respiratory protection
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- Do not eat, drink or smoke when using this product
- Avoid release to the environment

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 skin irritation or rash occurs: Get medical advice/attention
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Do NOT induce vomiting
- Rinse mouth

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
Sulfuric Acid	58.0 - 59.6	98.08	(1)-430	*	7664-93-9
Water	<40	18.02	-	-	7732-18-5
Chromium(VI) oxide	<2.0	99.99	(1)-284	*	1333-82-0

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 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 organic substance Avoid contact with reducing agents and combustible materials. 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 (preferably cool).
Keep container tightly closed. Store locked up.

Safe packaging material

Glass

Incompatible substances

Organic substance, Combustible materials, Bases, Reducing agent, 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
Sulfuric Acid 7664-93-9	Ceiling: 1 mg/m ³	N/A	TWA 0.2mg/m ³
Chromium(VI) oxide 1333-82-0	TWA: 0.01 mg/m ³ OEL TWA: 0.05 mg/m ³ OEL ISHL/ACL: 0.05 mg/m ³	ISHL/ACL: 0.05 mg/m ³	STEL: 0.0005 mg/m ³ Cr(VI) inhalable particulate matter TWA: 0.0002 mg/m ³ 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 (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	yellow-reddish brown
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 acidic
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	water Miscible at any arbitrary ratio .
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 to generate hydrogen gas.
Conditions to avoid	Extremes of temperature and direct sunlight
Incompatible materials	Organic substance, Combustible materials, Bases, Reducing agent, Metals
Hazardous decomposition products	Sulfur oxides (SO _x), Metal oxides

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric Acid	2140 mg/kg (Rat)	N/A	0.375 mg/L (Rat) 4 h
Chromium(VI) oxide	52 - 113 mg/kg (Rat)	57.7 mg/kg (Rabbit)	217 mg/m ³ (Rat) 4 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Sulfuric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chromium(VI) oxide	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	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Chromium(VI) oxide	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	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH
Sulfuric Acid 7664-93-9	-	Group 1	A2	-
Chromium(VI) oxide 1333-82-0	Known	Group 1	A1	Group 1

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
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Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Sulfuric Acid	Based on the NITE GHS classification results.
Chromium(VI) oxide	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sulfuric Acid	N/A	LC50: <i>Lepomis macrochirus</i> 16 - 28 mg/L 96 h	LC50: <i>Daphnia magna</i> 29 mg/L 24 h
Chromium(VI) oxide	N/A	LC50 : <i>Colisa fasciatus</i> 40 mg/L 96 h	LC50 : <i>Ceriodaphnia dubia</i> 145 µg/L 48 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
Sulfuric Acid	Based on the NITE GHS classification results	Based on the NITE GHS classification results
Chromium(VI) oxide	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	UN1830
Proper shipping name:	Sulphuric acid
UN classification	8
Subsidiary hazard class	
Packing group	II
Marine pollutant	Not applicable

IMDG

UN number	UN1830
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Proper shipping name: Sulphuric acid
UN classification 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 UN1830
Proper shipping name: Sulphuric acid
UN classification 8
Subsidiary hazard class
Packing group II
Environmentally Hazardous Substance Not applicable

Section 15: REGULATORY INFORMATION

Japanese regulations

Fire Service Act Not applicable
Poisonous and Deleterious Substances Control Law Deleterious 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 2 Specified Chemical Substance
 Group 3 Specified Chemical Substance
 Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
 Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
 Priority Assessment Chemical Substances (Law Article 2, Para.5)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc
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 Notification 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 (2023.4.1-) Specified Class 1 No.
Specified Class 1-No. 88
Water Pollution Control Act Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)
 Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order Narcotics and Psychotropics Control Law Appendix 2 Export Approval Item
Air Pollution Control Law Specified Substances, Priority Chemical Substances
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-)
Sulfuric Acid 7664-93-9 (58.0 - 59.6)	Applicable	Applicable	-
Chromium(VI) oxide	Applicable	Applicable	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-)
1333-82-0 (<2.0)			

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
://www.chem-info.nite.go.jp/chem/chrip/chrip_search/systemTop
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. Hazards identification. Composition/information on ingredients. 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