

SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision Date 07-Jul-2020
 Version 5.02

Section 1: PRODUCT AND COMPANY IDENTIFICATION

| | |
|---------------------|---------------------|
| Product name | Hydroquinone |
| Product code | 085-01212,089-01215 |

Manufacturer FUJIFILM Wako Pure Chemical Corporation
 1-2 Doshomachi 3-Chome
 Chuo-ku, Osaka 540-8605, Japan
 Phone: +81-6-6203-3741
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Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

Recommended uses and restrictions on use For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

| | |
|---|-------------|
| Acute toxicity - Oral | Category 4 |
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Category 1 |
| Germ cell mutagenicity | Category 1B |
| Carcinogenicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Category 1 central nervous system | |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Category 2 kidneys, liver | |
| Short-term (acute) hazardous to the aquatic environment | Category 1 |
| Long-term (chronic) hazardous to the aquatic environment | Category 1 |

Pictograms



Signal word Danger

Hazard statements

- H318 - Causes serious eye damage
- H302 - Harmful if swallowed
- H340 - May cause genetic defects
- H351 - Suspected of causing cancer
- H317 - May cause an allergic skin reaction
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects
- H370 - Causes damage to the following organs: central nervous system
- H373 - May cause damage to the following organs through prolonged or repeated exposure: kidneys, liver

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

Precautionary statements-(Response)

- IF exposed: 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.
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth.
- Collect spillage

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 Substance

Formula C₆H₆O₂

| Chemical Name | Weight-% | Molecular weight | ENCS | ISHL No. | CAS RN |
|---------------|----------|------------------|---------|----------|----------|
| Hydroquinone | 99.0 | 110.11 | (3)-543 | 公表 | 123-31-9 |

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

Water spray (fog), Carbon dioxide (CO₂), Foam, Extinguishing powder, Sand

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

Sweep up and gather scattered particles, and collect it in an empty airtight container.

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 strong oxidizing agents. 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.

Safe packaging material

Polyethylene

Incompatible substances

Strong oxidizing agents

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 |
|--------------------------|--------------|--------------|--------------------------|
| Hydroquinone 123-31-9 | N/A | N/A | TWA: 1 mg/m ³ |

Personal protective equipment

| | |
|---------------------------------|--|
| Respiratory protection | Dust mask |
| Hand protection | Protection 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 | White - nearly white |
| Appearance | crystals |
| Odor | No data available |
| Melting point/freezing point | 171 - 174 °C |
| Boiling point, initial boiling point and boiling range | 287 °C |
| 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 | 165 °C / 329 °F |
| Auto-ignition temperature: | 515 °C / 959 °F |
| Decomposition temperature: | No data available |
| pH | 3.7 (70 g/L aq.) |
| Viscosity (coefficient of viscosity) | No data available |
| Dynamic viscosity | No data available |
| Solubilities | Hot water , Ethanol , Diethyl ether : freely soluble . Cold water : soluble . |
| n-Octanol/water partition coefficient:(log Pow) | 0.59 |
| Vapour pressure | No data available |
| Specific Gravity / Relative density | 1.330 |
| Vapour density | 3.8 (Air=1) |
| Particle characteristics | No data available |

Section 10: STABILITY AND REACTIVITY

Stability

| | |
|---|---|
| Reactivity | No data available |
| Chemical stability | May be altered by light. |
| Hazardous reactions | None under normal processing |
| Conditions to avoid | Extremes of temperature and direct sunlight |
| Incompatible materials | Strong oxidizing agents |
| Hazardous decomposition products | Carbon monoxide (CO), Carbon dioxide (CO ₂) |

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|-------------------|------------------------|-----------------|
| Hydroquinone | 593 mg/kg (Rat) | 74800 mg/kg (Rabbit) | N/A |

| Chemical Name | Acute toxicity -oral- source information | Acute toxicity -dermal- source information | Acute toxicity -inhalation gas- source information |
|---------------|--|--|--|
| Hydroquinone | Based on the NITE GHS | Based on the NITE GHS | Based on the NITE GHS |

| | classification results. | classification results. | classification results. |
|---------------|--|---|---|
| Chemical Name | Acute toxicity -inhalation vapor- source information | Acute toxicity -inhalation dust- source information | Acute toxicity -inhalation mist- source information |
| Hydroquinone | 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 |
|---------------|---|
| Hydroquinone | Based on the NITE GHS classification results. |

Serious eye damage/ irritation

| Chemical Name | Serious eye damage/irritation source information |
|---------------|--|
| Hydroquinone | Based on the NITE GHS classification results. |

Respiratory or skin sensitization

| Chemical Name | Respiratory or Skin sensitization source information |
|---------------|--|
| Hydroquinone | Based on the NITE GHS classification results. |

Reproductive cell mutagenicity

| Chemical Name | germ cell mutagenicity source information |
|---------------|---|
| Hydroquinone | Based on the NITE GHS classification results. |

Carcinogenicity

| Chemical Name | Carcinogenicity source information |
|---------------|---|
| Hydroquinone | Based on the NITE GHS classification results. |

| Chemical Name | NTP | IARC | ACGIH | JSOH (Japan) |
|--------------------------|-----|---------|-------|--------------|
| Hydroquinone 123-31-9 | | Group 3 | A3 | |

Reproductive toxicity

| Chemical Name | Reproductive toxicity source information |
|---------------|---|
| Hydroquinone | Based on the NITE GHS classification results. |

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

| Chemical Name | Aspiration Hazard source information |
|---------------|---|
| Hydroquinone | Based on the NITE GHS classification results. |

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|---------------|--|--|-----------------------------------|
| Hydroquinone | EC50:Pseudokirchneriella subcapitata 0.335 mg/L 72 h EC50:Desmodesmus subspicatus 13.5 mg/L 120 h | LC50:Oncorhynchus mykiss 0.044 mg/L 96 h LC50:Pimephales promelas 0.044 mg/L 96 h | EC50:Daphnia magna 0.29 mg/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 |
|---------------|--|---|
| Hydroquinone | 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 |
| Mobility | |

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 | UN3077 |
| Proper shipping name: | Environmentally hazardous substance, solid, n.o.s. (Hydroquinone) |
| UN classification | 9 |
| Subsidiary hazard class | |
| Packing group | III |
| Marine pollutant | Yes |

IMDG

| | |
|--|---|
| UN number | UN3077 |
| Proper shipping name: | Environmentally hazardous substance, solid, n.o.s. (Hydroquinone) |
| UN classification | 9 |
| Subsidiary hazard class | |
| Packing group | III |
| Marine pollutant (Sea) | Yes |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | No information available |

IATA

| | |
|-------------------------------------|---|
| UN number | UN3077 |
| Proper shipping name: | Environmentally hazardous substance, solid, n.o.s. (Hydroquinone) |
| UN classification | 9 |
| Subsidiary hazard class | |
| Packing group | III |
| Environmentally Hazardous Substance | Yes |

Section 15: REGULATORY INFORMATION

International Inventories

| | |
|---------------|--------|
| EINECS/ELINCS | Listed |
| TSCA | Listed |

Japanese regulations

| | |
|---|--|
| Fire Service Act | Not applicable |
| Poisonous and Deleterious Substances Control Law | Not applicable |
| Industrial Safety and Health Act | Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.461 Mutagens - Existing Chemicals 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 | Noxious Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1) |
| Civil Aeronautics Law | Misellaneous Dangerous Substances and Articles (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1) |

Pollutant Release and Transfer Class 1**Register Law****Class 1 - No.** 336**Water Pollution Control Act** Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)**Export Trade Control Order** Not applicable**Air Pollution Control Law** Hazardous Air Pollutants

| Chemical Name | Poisonous and Deleterious Substances Control Law | Industrial Safety and Health Act Substances (Law Art.57-2) | Pollutant Release and Transfer Register Law |
|-----------------------------------|--|--|---|
| Hydroquinone 123-31-9 (99.0) | - | 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

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 Z7252(2019). *JIS: Japanese Industrial Standards

End of Safety Data Sheet