

SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 18-Aug-2017
Version 3.04

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Hydrogen Peroxide
Product code	088-01187,080-01186
CAS No	7722-84-1
Formula	H2O2
Manufacturer	Wako Pure Chemical Industries, Ltd. 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
Supplier	Wako Pure Chemical Industries, Ltd. 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81 (0)6-6203-3741 Fax: +81 (0)6-6201-5964
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

Oxidizing liquids

Category 1

Acute toxicity - Oral

Category 4

Acute toxicity - Inhalation (Vapors)

Category 4

Skin corrosion/irritation

Category 1

Serious eye damage/eye irritation

Category 1

Reproductive Toxicity

Category 2

Specific target organ toxicity (single exposure)

Category 1

Category 1 respiratory system, central nervous system

Specific target organ toxicity (repeated exposure)

Category 1, Category 2

Category 1 lung

Category 2 blood

Aquatic environment (acute hazard)

Category 2

Pictograms



Signal word

Danger

Hazard statements

H271 - May cause fire or explosion; strong oxidizer

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H302 - Harmful if swallowed

H332 - Harmful if inhaled

H361 - Suspected of damaging fertility or the unborn child
 H401 - Toxic to aquatic life
 H370 - Causes damage to the following organs: respiratory system, central nervous system
 H372 - Causes damage to the following organs through prolonged or repeated exposure: lung
 H373 - May cause damage to the following organs through prolonged or repeated exposure: blood

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
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid release to the environment
- 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

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.
- Call a POISON CENTER or doctor/physician if you feel unwell.
- 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 CO₂, dry chemical, or foam for extinction

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

Formula H₂O₂

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No.
Water	64.5-70.0	18.01	N/A	N/A	7732-18-5
Hydrogen Peroxide	30.0-35.5	34.01	(1)-419	N/A	7722-84-1

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)

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 with earth, sand or other non-combustible material and transfer to containers for later disposal

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. Highly flammable. Avoid contact with high temperature objects, spark, and 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

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray

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

Polyethylene

Incompatible substances

Ammonia, Strong bases, Organic substance, Combustible materials, Metals, Strong oxidizing agents, 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

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Hydrogen Peroxide 7722-84-1	N/A	N/A	TWA: 1 ppm

Personal protective equipment**Respiratory protection**

Gas mask for acidic gas

Hand protection

Impermeable protective gloves

Eye protection

Tight sealing safety goggles, Wear safety glasses with side shields (or goggles)

Skin and body protection

Long-sleeved work clothes, protective boots

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

No data available

Melting point/freezing point

-11 °C

Boiling point, initial boiling point and boiling range

106 °C

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

1.11g

Solubilities

water : miscible .

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

Ammonia, Strong bases, Organic substance, Combustible materials, Metals, Strong oxidizing agents, Reducing agent

Hazardous decomposition products

No information available

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrogen Peroxide	311 mg/kg (Rat)	4060 mg/kg (Rabbit)	2 g/m ³ (Rat) 4 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas-source information
Hydrogen Peroxide	LD50(ori,rat): 311mg/kg (Value of statistical processing from 4data, EU-RAR (2003))	LD50(skn,rat):4060mg/kg(EU-RA R (2003)).	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
Hydrogen Peroxide	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
Hydrogen Peroxide	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage source information
Hydrogen Peroxide	Based on the NITE GHS classification results.

Respiratory or skin sensitization

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

Reproductive cell mutagenicity

Chemical Name	Mutagenic source information
Hydrogen Peroxide	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Hydrogen Peroxide	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Hydrogen Peroxide 7722-84-1	-	Group 3	A3	-

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Hydrogen Peroxide	Based on the NITE GHS classification results.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Hydrogen Peroxide	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Hydrogen Peroxide	N/A	LC50: <i>Oncorhynchus mykiss</i> 10.0 - 32.0 mg/L 96 h	EC50: <i>Daphnia magna</i> 2.4 mg/L 48 h

Other data

Chemical Name	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
Hydrogen Peroxide	EC50(Water flea):2.4mg/L/48h(EU-RAR, 2003).	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	UN2014
Proper shipping name:	Hydrogen peroxide, aqueous solution
UN classification	5.1
Subsidiary hazard class	8
Packing group	II
Marine pollutant	Not applicable

IMDG

UN number	UN2014
Proper shipping name:	Hydrogen peroxide, aqueous solution
UN classification	5.1
Subsidiary hazard class	8
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	UN2014
Proper shipping name:	Hydrogen peroxide, aqueous solution

UN classification	5.1
Subsidiary hazard class	8
Packing group	II
Environmentally Hazardous Substance	Not applicable

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS	Listed
TSCA	Listed

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, Para.1, Enforcement Order Art.18) Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.126 Dangerous Substances - Oxidizing Substance (Enforcement Order Attached Table 1 Item 3)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc	Priority Assessment Chemical Substances (Law Article 2, Para.5)
Regulations for the carriage and storage of dangerous goods in ship	Oxidizing Agents - Oxidizing Agents (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Oxidizing Agents - Oxidizing Agents (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	Not applicable
Water Pollution Control Act	Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)
Export Trade Control Order	Not 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

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

End of Safety Data Sheet