

## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Hydrogen Peroxide

Product code (SDS NO): 23157jis\_E-1

Relevant identified uses of the substance or mixture and uses advised against

Uses advised against: This product conform to JSFA(Japan's Specifications and Standards for Food Additives).

Do not use for other purposes.

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

### 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

**PHYSICAL AND CHEMICAL HAZARDS**

Oxidizing liquids: Category 2

**HEALTH HAZARDS**

Acute toxicity (Oral): Category 4

Acute toxicity (Dermal): Category 3

Acute toxicity (Inhalation): Category 2 (dust/mist)

Acute toxicity (Inhalation): Category 3 (vapors)

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Carcinogenicity: Category 2

Specific target organ toxicity – single exposure: Category 1(respiratory system)

Specific target organ toxicity – repeated exposure: Category 1(respiratory system)

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment (Acute): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

**HAZARD STATEMENT**

H272-May intensify fire; oxidizer

H302-Harmful if swallowed

H311-Toxic in contact with skin

H330-Fatal if inhaled

H331-Toxic if inhaled

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage

H351-Suspected of causing cancer

H370–Causes damage to organs after single exposure

H372–Causes damage to organs through prolonged or repeated exposure

H400–Very toxic to aquatic life

#### PRECAUTIONARY STATEMENT

##### Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid release to the environment.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

Do not breathe dust/mist.

Avoid breathing vapors.

In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

Do not eat, drink or smoke when using this product.

##### Response

In case of fire: Use appropriate media for extinction.

Collect spillage.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Take off immediately all contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

##### Storage

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

Store locked up.

##### Disposal

Dispose of contents/container in accordance with local/national regulation.

##### Specific Physical and Chemical hazards

Oxidizing material. Organic or combustible material may catch fire in contact with it.

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Mixture

Ingredient name:Hydrogen peroxide

Content (%):35.0 <

Chemical formula:H2O2

Chemicals No, Japan:1-419

CAS No.:7722-84-1

MW:34.01

ECNO:231-765-0

Ingredient name:Water

Content (%):Residual quantity of the ingredient mentioned above

Chemical formula:H<sub>2</sub>O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

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#### 4. First-aid measures

##### Descriptions of first-aid measures

###### General measures

Get medical attention/advice if you feel unwell.

Immediately call a POISON CENTER or doctor/physician.

###### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

###### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

###### IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

###### IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Call a POISON CENTER or doctor/physician if you feel unwell.

##### Most important symptoms and effects, both acute and delayed

###### (Symptoms when inhalation or ingestion)

Sore throat. Cough. Dizziness. Headache. Nausea. Shortness of breath. Abdominal pain.

Abdominal distension. Shock or collapse.

※Aspiration hazard!

###### (Symptoms when skin and/or eye contact)

Skin discoloration. Swelling. Redness. Pain. Burns. Blurred vision. Corneal damage.

※May be absorbed in the skin!

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#### 5. Fire-fighting measures

##### Extinguishing media

###### Suitable extinguishing media

In case of fire, use water in large amounts to extinguish.

The product is non-flammable.

###### Unsuitable extinguishing media

Do not use dry chemicals or foams.

##### Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

##### Advice for firefighters

###### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Cool container with water spray.

###### Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Runoff may create fire or explosion hazard.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

※Do NOT absorb in saw-dust or other combustible absorbents.

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

Keep combustibles (wood, paper, oil, etc.) away from spilled material.

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## 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/mist.

Avoid breathing vapors.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

May ignite combustibles (wood, paper, oil, clothing, etc.).

Contaminated clothing may be a fire risk when dry.

Any incompatibilities

Strong bases, Reducing agents, Metals, Combustible substances should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off immediately all contaminated clothing and wash it before reuse.

#### Storage

##### Conditions for safe storage

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

Keep cool. Protect from sunlight.

Store locked up.

##### Container and packaging materials for safe handling

Polyvinyl chloride(PVC), Polytetrafluoro ethylene (Teflon; PTFE)

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## 8. Exposure controls/personal protection

### Control parameters

Control value in MHLW is not available.

#### Adopted value

(Hydrogen peroxide)

Adopted value in JSOH is not available.

ACGIH(1990) TWA: 1ppm (Eye, URT & skin irr)

#### OSHA-PEL

(Hydrogen peroxide)

TWA: 1ppm, 1.4mg/m<sup>3</sup>

#### NIOSH-REL

(Hydrogen peroxide)

TWA: 1ppm

### Exposure controls

#### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures

##### Respiratory protection

Wear respiratory protection.

Wear positive pressure self-contained breathing apparatus (SCBA).

##### Hand protection

Wear protective gloves. Recommended material(s): butyl rubber

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

##### Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

##### Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless

Odor: None or slightly characteristic odor

Odor threshold data is not available.

pH: 2.7 (21°C)

Boiling point or initial boiling point: 108°C

Boiling range data is not available.

Evaporation rate data is not available.

Melting point/Freezing point:  $-33^{\circ}\text{C}$

Decomposition temperature:  $>60^{\circ}\text{C}$

Self-Accelerating Decomposition Temperature/SADT data is not available.

Flammability (gases, liquids and solids) data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Critical temperature data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Vapor pressure: 17hPa ( $20^{\circ}\text{C}$ )

Vapor density data is not available.

VOC data is not available.

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at  $20^{\circ}\text{C}$  (Air = 1) data is not available.

Density and/or relative density:  $1.13\text{g}/\text{cm}^3(20^{\circ}\text{C})$

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Miscible

Solubility in solvent: Soluble in alcohol.

n-Octanol/water partition coefficient data is not available.

No Particle characteristics data is not available.

Other information

※All of the above data : 35% (Hydrogen peroxide's concentration)

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## 10. Stability and Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

This product may gradually decompose into oxygen.

Possibility of hazardous reactions

Decomposes under the influence of light. Decomposes on warming. This produces oxygen. This increases fire hazard.

The substance is a strong oxidant. It reacts violently with combustible and reducing materials. This generates fire and explosion hazard particularly in the presence of metals.

Attacks many organic substances such as textiles and paper.

Conditions to avoid

Contact with incompatible materials.

Light, Heat.

Incompatible materials

Strong bases, Reducing agents, Metals, Combustible substances

Hazardous decomposition products

Oxygen gas

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## 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Hydrogen peroxide) rat LD50=805mg/kg (DFGOT vol.26, 2011)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Hydrogen peroxide) rabbit LD50=690mg/kg (DFGOT vol.26, 2011)

## Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Hydrogen peroxide)

mist: mouse LC50=0.46–1.00mg/L/4hr (DFGOT vol.26, 2011)

vapor: rat LC50=2000 mg/m<sup>3</sup>/4hr (= 1438 ppmV) (DFGOT vol.26, 2011)

Labor standard law, Japan; Toxic

Hydrogen peroxide

## Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Hydrogen peroxide) rabbit : corrosive (EU-RAR, 2003 et al.)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Hydrogen peroxide) animal : corrosive (EU-RAR, 2003)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

## Carcinogenicity

[GHS Cat. Japan, base data]

(Hydrogen peroxide)

cat.2; ACGIH A3 (ACGIH 7th, 2001)

IARC-Gr.3 : Not Classifiable as a Human Carcinogen

ACGIH-A3(1990) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity data is not available.

## STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Hydrogen peroxide) respiratory apparatus (ACGIH, 2001; EU-RAR, 2003)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Hydrogen peroxide) respiratory apparatus (EU-RAR, 2003)

Aspiration hazard data is not available.

## Additional data

Data on the preparation itself is not available.

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**12. Ecological Information**

## Ecotoxicity

## Aquatic toxicity

H400-Very toxic to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Hydrogen peroxide) Algae (Nitzschia) EC50=0.85mg/L/72hr (EU-RAR, 2003)

## Water solubility

(Hydrogen peroxide) miscible (ICSC, 2018)

## Persistence and degradability

(Hydrogen peroxide) Degrade rapidly (EU-RAR, 2003)

## Bioaccumulative potential

(Hydrogen peroxide) log Pow=-1.36 (ICSC, 2018)

Mobility in soil data is not available.

Ozone depleting chemical data is not available.

## Additional data

Data on the preparation itself is not available.

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### 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

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### 14. Transport Information

UN No., UN CLASS

UN No.: 2014

Proper Shipping Name :

HYDROGEN PEROXIDE, AQUEOUS SOLUTION with 20% or more but 40% or less hydrogen peroxide (stabilized as necessary)

Class or division : 5.1

Subsidiary hazard(s) : 8

Packing group : II

ERG GUIDE No.: 140

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2014

Proper Shipping Name :

HYDROGEN PEROXIDE, AQUEOUS SOLUTION with 20% or more but 40% or less hydrogen peroxide (stabilized as necessary)

Class or division : 5.1

Subsidiary hazard(s) : 8

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 2014

Proper Shipping Name :

HYDROGEN PEROXIDE, AQUEOUS SOLUTION with 20% or more but 40% or less hydrogen peroxide (stabilized as necessary)

Class or division : 5.1

Subsidiary hazard(s) : 8

Hazard labels : Oxidizer & Corrosive

Packing group : II

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

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### 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Environmental hazards

MARPOL Annex V – Prevention of pollution by garbage discharge

Specific target organ toxicity – repeated exposure: cat.1

Hydrogen peroxide

Hazardous to the aquatic environment – acute hazard: cat.1

Hydrogen peroxide

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

Hydrogen peroxide



Non Noxious Liquid ; Cat. OS

Water

US major regulations

Chemicals listed in TSCA Inventory

Hydrogen peroxide; Water

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

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16. Other information

GHS classification and labelling

H272–Ox. Liq. 2: H272 May intensify fire; oxidizer

H302–Acute Tox. 4: H302 Harmful if swallowed

H311–Acute Tox. 3: H311 Toxic in contact with skin

H330–Acute Tox. 2 (dust/mist): H330 Fatal if inhaled

H331–Acute Tox. 3 (vapors): H331 Toxic if inhaled

H314–Skin Corr. 1: H314 Causes severe skin burns and eye damage

H318–Eye Dam. 1: H318 Causes serious eye damage

H351–Carc. 2: H351 Suspected of causing cancer

H370–STOT SE 1: H370 Causes damage to organs after single exposure

H372–STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

H400–Aquatic Acute 1: H400 Very toxic to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN IMDG Code, 2018 Edition (Incorporating Amendment 39–18)

IATA Dangerous Goods Regulations (60th Edition) 2019

Classification, labelling and packaging of substances and mixtures (table3–1 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2019 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

JIS Z 7253 : 2019

JIS Z 7252 : 2019

2019 Recommendation on TLVs (JSOH)

Supplier's data/information

Chemicals safety data management system "GHS Assistant" (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform (NITE-CHRIP)

[https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)

GHS Classification Guidance for Enterprises 2013 Revised Edition (Aug. 2013, METI)

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this



Hydrogen Peroxide ,JUNSEI CHEMICAL CO., LTD.,23157jis\_E-1,19/03/2020

Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2018).