

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

A. Product name: Hydrogen Peroxide, 3%

Other means of identification

Product No.: 5241, P006

B. Recommended use and Limitations on use:

Recommended use: For Laboratory, Research or Manufacturing Use.

Restrictions on use: Not determined.

C. Details of the supplier of the safety data sheet:

Company Name: Avantor Performance Materials Korea Limited
Address: 201-204, Ace Gwanggyo tower 1, Daehak 4ro 17, Yeongtong-gu, Suwon, Korea 16226

Telephone: 82-31-645-7250

Fax: 82-31-645-7279

Emergency telephone number: CHEMTREC: (82) 070-7686-0086 (24/7)

2. HAZARDS IDENTIFICATION

A. Hazard category/Classification:

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 2
Toxic to reproduction	Category 2
Specific Target Organ Toxicity - Single Exposure (Oral)	Category 2 ¹
Specific Target Organ Toxicity - Repeated Exposure	Category 2

Target Organs

- Lungs

Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	0 %
Acute toxicity, inhalation, vapor	0 %
Acute toxicity, inhalation, dust or mist	0 %

B. Warning label items including precautionary statement:

Pictograms:



Signal Words: Danger

Hazard Statement(s): H315: Causes skin irritation.
H319: Causes serious eye irritation.
H340: May cause genetic defects.
H371: May cause damage to organs.

Precautionary Statements:

Prevention: P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P270: Do not eat, drink or smoke when using this product.

Response: P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.
P308+P311: IF exposed or concerned: Call a POISON CENTER/doctor.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

C. Other hazards not included in the hazard category criteria: No data available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

Chemical name	Common name and synonyms	CAS number	KECI No.	Content in percent (%)
Hydrogen peroxide		7722-84-1	KE-20204	2.00 - 4.00%
Water	, Dihydrogen oxide	7732-18-5	KE-35400	96.00 - 98.00%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

General: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

A. In case of eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

- B. In case of skin contact:** Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- C. In case of inhalation:** Move to fresh air. Get medical attention if symptoms occur. If breathing stops, provide artificial respiration.
- D. In case of swallowing:** Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.
- E. Notes to the physician:**
- Hazards:** No data available.
 - Symptoms:** Irritating to eyes, respiratory system and skin.
 - Treatment:** Treat symptomatically. Symptoms may be delayed.

5. FIRE-FIGHTING MEASURES

- General Fire Hazards:** In case of fire and/or explosion do not breathe fumes.
- A. Suitable (and unsuitable) extinguishing media:**
- Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.
 - Unsuitable extinguishing media:** None known.
- B. Special hazards arising from the substance or mixture:** Contact with metals may evolve flammable hydrogen gas. Fire may produce irritating, corrosive and/or toxic gases. May intensify fire; oxidizer.
- C. Specific methods of fire-fighting:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
- Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES

- A. Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- B. Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
- C. Methods and material for containment and cleaning up:**
- Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
 - Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

7. HANDLING AND STORAGE

- A. Precautions for safe handling:** Use personal protective equipment as required. Do not breathe mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment. Avoid contact with eyes. Avoid contact with skin. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- B. Conditions for safe storage, including any incompatibilities:** Do not store in metal containers. Keep in a cool, well-ventilated place. Store in a dry place. Store locked up.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

A. Exposure limit values, biological values, etc.:

Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
Hydrogen peroxide	TWA	1 ppm	Korea. OELs. Standards for Exposure to Chemical Substances and Physically Hazardous Factors (08 2016)

- B. Appropriate engineering controls:** No data available.

C. Personal protective equipment (ppe):

- Respiratory Protection:** In case of inadequate ventilation use suitable respirator.
- Eye Protection:** Wear safety glasses with side shields (or goggles) and a face shield.
- Hand Protection:** Chemical resistant gloves
- Body protection:** Wear suitable protective clothing.

- Hygiene measures:** Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when using the product. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance:

- Physical state:** Liquid
- Form:** Liquid
- Color:** Colorless

- B. Odor:** Odorless
- C. Odor Threshold:** No data available.
- D. pH:** No data available.
- E. Melting point/freezing point:** 0 °C
- F. Boiling point, initial boiling point, and boiling range:** 100 °C
- G. Flash Point:** No data available.
- H. Evaporation Rate:** No data available.
- I. Flammability (solid, gas):** No data available.
- J. Upper/lower limit on flammability or explosive limits:**

Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.
Dust Explosion Limit, Upper:	No data available.
Dust Explosion Limit, Lower:	No data available.
K. Vapor pressure:	No data available.
L. Solubility(ies):	
Solubility in Water:	Completely soluble
Solubility (other):	No data available.
M. Vapor density (air=1):	No data available.
N. Specific Gravity:	1.01 (20 °C)
O. Partition coefficient (n-octanol/water):	No data available.
P. Autoignition Temperature:	No data available.
Q. Decomposition Temperature:	No data available.
R. Viscosity:	No data available.
S. Molecular weight:	No data available.

10. STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential

Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

B. Conditions to avoid: Excessive heat. Contact with incompatible materials.

C. Incompatible Materials: Strong oxidizing agents. Organic compounds. Reducing agents.

D. Hazardous Decomposition Products: None under normal conditions.

11. TOXICOLOGICAL INFORMATION

A. Information on likely routes of exposure:

Inhalation: May be harmful if inhaled. Mist or vapors may cause irritation.

Skin Contact: Causes skin irritation.

Eye contact: Causes serious eye irritation.

Ingestion: May be harmful if swallowed. May irritate and cause stomach pain, vomiting and diarrhoea.

B. Information on health hazards:

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix (Rat): 17,342.5 mg/kg

Dermal Product: ATEmix (Rabbit): 101.5 g/kg

Inhalation Product: No data available.

Specified substance(s):

Hydrogen peroxide LOAEL (Rat): 2 mg/l
LC 50 (Rat): > 170 mg/m3

Water LC 50 (Rat): 50 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation

Product: Causes serious eye irritation.

Respiratory or Skin Sensitization

Product: Not a skin nor a respiratory sensitizer.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

ACGIH Carcinogens

No carcinogenic components identified

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: May cause genetic defects.

In vivo

Product: May cause genetic defects.

Reproductive toxicity

Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: Oral: Lungs

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: Lungs

Aspiration Hazard

Product: Not classified

Other effects:

None known.

12. ECOLOGICAL INFORMATION

A. Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Hydrogen peroxide NOAEL (Pimephales promelas, 96 h): 5 mg/l
 LC 50 (Pimephales promelas, 96 h): 16.4 mg/l
 LC 50 (Ictalurus punctatus, 96 h): 37.4 mg/l

Water LC 50 (Fish, 96 h): > 100 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Hydrogen peroxide NOAEL (Daphnia pulex, 48 h): 1 mg/l
 LC 50 (Daphnia pulex, 48 h): 2.4 mg/l

Chronic hazards to the aquatic environment:
Fish

Product: No data available.

Specified substance(s):

Water NOEC (Fish): > 1 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Hydrogen peroxide LOAEL (Daphnia magna, 21 d): 1.25 mg/l
 NOAEL (Daphnia magna, 21 d): 0.63 mg/l

Toxicity to Aquatic Plants

Product: No data available.

B. Persistence and Degradability
Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

C. Bioaccumulative potential
Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

D. Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Hydrogen peroxide No data available.

Water No data available.

E. Other adverse effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. DISPOSAL CONSIDERATIONS

A. Method of disposal: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

B. Disposal considerations (including disposal of contaminated containers or packaging): No data available.

14. TRANSPORT INFORMATION

IMDG

A.: UN Number:	Not regulated.
B.: UN Proper Shipping Name:	Not regulated.
C.: Transport Hazard Class(es)	
Class:	Not regulated.
Label(s):	Not regulated.
EmS No.:	Not regulated.
Tunnel restriction code:	Not regulated.
D.: Packing Group:	Not regulated.
E.: Marine Pollutant:	Not regulated.
F.: Special precautions, which a user needs to be aware of, or needs for transportation and transport methods:	Not regulated.

IATA

A.: UN Number:	Not regulated.
B.: UN Proper Shipping Name:	Not regulated.
C.: Transport Hazard Class(es)	
Class:	Not regulated.
Label(s):	Not regulated.
EmS No.:	Not regulated.
D.: Packing Group:	Not regulated.
E.: Marine Pollutant:	Not regulated.
F.: Special precautions, which a user needs to be aware of, or needs for transportation and transport methods:	Not regulated.

15. REGULATORY INFORMATION

A. Restriction under the Industrial Safety and Health Law:

Harmful Substances Prohibited from Manufacturing

None present or none present in regulated quantities.

Harmful Substances Requiring Permission for Manufacture or Use

None present or none present in regulated quantities.

Controlled Hazardous Substances

Chemical name

Hydrogen peroxide (7722-84-1)	Listed
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Harmful Substances Requiring Special Medical Examination

None present or none present in regulated quantities.

Harmful Substances Requiring Workplace Environment Monitoring

Chemical name

Hydrogen peroxide (7722-84-1) Listed

B. Restrictions under the Chemicals Control Law:

Accidental Release Prevention Substances

None present or none present in regulated quantities.

C. Restrictions under the Dangerous Substances Safety Management Act:

Dangerous Substances Safety Management Act

Chemical name	Class	Threshold limit value
Hydrogen peroxide (7722-84-1)	Class 6: Oxidizing liquid.	300 kg

D. Restrictions under the Wastes Control Act:

Halogenated Materials in Waste Organic Solvents

Not Regulated

E. Restrictions under other foreign or domestic laws:

Clean Air Conservation Act

Air Pollutants

Not Regulated

Specific Air Pollutants

Not Regulated

Act on the Registration and Evaluation of Chemicals

Banned Toxic Chemicals

None present or none present in regulated quantities.

Designated Existing Chemicals Subject to Registration (PEC) (MoE No. 2015-92)

Chemical name

Hydrogen peroxideHydrogen peroxide (7722-84-1) Listed

Restricted Chemical Substances

None present or none present in regulated quantities.

Toxic Chemicals

None present or none present in regulated quantities.

Inventory Status

AICS	On or in compliance with the inventory
DSL	On or in compliance with the inventory
IECSC	On or in compliance with the inventory
ENCS (JP)	On or in compliance with the inventory
ISHL (JP)	Not in compliance with the inventory.
KECI (KR)	On or in compliance with the inventory
INSQ	On or in compliance with the inventory

NZIOC	On or in compliance with the inventory
PICCS (PH)	On or in compliance with the inventory
TCSI	On or in compliance with the inventory
TSCA	On or in compliance with the inventory
EU INV	On or in compliance with the inventory

16. OTHER INFORMATION

A. Source of information: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

B. Issue Date: 07/10/2014

C. Number of revisions and date of most recent revision: 2
03/09/2020

D. Other: No data available.

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