



Samchun Chemicals

Material Safety Data Sheet

Hydrogen peroxide, 30.0%-35.5%

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

1. Product Identifier	Hydrogen peroxide, 30.0%-35.5%; Hydrogen dioxide, 30.0%-35.5%
2. Recommended Use & Uses advised against	Uses for Laboratory and R&D only
3. Information of Supplier	SAMCHUN PURE CHEMICAL CO.,LTD ADDRESS; (Mogok-dong) 117, Sandan-ro 16Beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea Emergency Phone; 82-31-668-0700/3 Department; Safety & Environment dep. Web site; http://www.samchun.com

Section 2 – HAZARDS and DANGER IDENTIFICATION

1.GHS Classification· Identification	Oxidizing liquid	Category1
	Acute toxic(Oral)	Category4
	Skin Corrosion/Skin Irritation	Category1
	Serious Eye Damage/Eye Irritation	Category1
	Carcinogenicity	Category2
	Specific Target Organ Toxicity (Single Exposure)	Category1
	Specific Target Organ Toxicity (Single Exposure)	Category3- Respiratory irritation
	Specific Target Organ Toxicity (Repeated Exposure)	Category2
	Aspiration hazard	Category1
	Chronic Aquatic Toxicity	Category3

2. Label and Mark including Precautionary Statement

◦Label elements



◦Signal word

Danger

◦Hazard · Danger statement

H271 May cause fire or explosion; strong oxidizer
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H351 Suspected of causing cancer
H370 Causes damage to organs (CNS, Respiratory)
H335 May cause respiratory irritation
H373 May cause damage to organs (Blood, lung) through prolonged or repeated exposure
H304 May be fatal if swallowed and enters airways
H412 Harmful to aquatic life with long lasting effects

◦Precautionary statement

Precaution

P210 Keep away from heat/sparks/open flames/hot surfaces. . No smoking.
P220 Keep/Store away from clothing/.../combustible materials.

Precaution	P221 Take any precaution to avoid mixing with combustibles/... P280 Wear protective gloves/protective clothing/eye protection/face protection P283 Wear fire/flame resistant/retardant clothing. P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P201 Obtain special instructions before use P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment
Measures	P306+P360 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes P370+P378 In case of fire: Use (Section 5. explosions, according to the fire-fighting extinguishing agent suitable method) for extinction P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion P330 Rinse mouth. P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P310 Immediately call a POISON CENTER or doctor/physician. P321 Specific treatment (see Section 4. on this label). P363 Wash contaminated clothing before reuse. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting P303+P361+P353 SKIN (or hair) all contaminated clothing IF ON Take off. Rinse skin with water / shower. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P308+P313 IF exposed: Call a POISON CENTER or doctor/physician P308+P311 If exposed or concerns, call a poison center or physician P312 Call a POISON CENTER or doctor/physician if you feel unwell. P314 Get medical advice/attention if you feel unwell. P331 Do NOT induce vomiting. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician P405 Store locked up P403+P233 Store in a well-ventilated place. Keep container tightly closed.
Storage	P501 Dispose of contents/container under related law and regulations
Dispose	

3. Other Hazard-Risk which are not included in the classification criteria

NFPA index(0~4steps) : Health=2, Fire=0, Reaction=3

Section 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name	Other Name	CAS No.	Content (%)
Hydrogen peroxide	Hydrogen dioxide	7722-84-1	35.0 ~ 35.5
Water	Dihydrogen oxide	7732-18-5	64.5 ~ 65

Section 4 – FIRST AID MEASURES

1. Eye Contact	Rinse with plenty of water for at least 15minutes and get medical attention immediately.
2. Skin Contact	Take off contaminated cloths and shoes immediately, wash with plenty of water and soap for at least 15minutes.
3. Inhalation	Move victim to fresh air. If breathing is difficult, give artificial respiration and get medical attention immediately.
4. Ingestion	Do not induce vomiting. Get medical advice/attention immediately.
5. Immediate medical attention and	Keep the medical personnel aware of the materials involved and take

Notes for physician

protective action.
In case of inhalation, consider oxygen supply.
Avoid gastric lavage or vomiting.

Section 5 – FIRE-FIGHT MEASURES

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| 1. Suitable extinguish media | Use alcohol foam, carbon dioxide or water spray.
Inappropriate Extinguishing Media: N/A
Thermal decomposition products: oxygen |
| 2. Special hazards arising from the substance | |
| 3. Special protective equipment and Precautions for fire-fighters | Move containers from fire area if you can do it without risk. When extinguishing a fire, be sure to wear personal protective equipment. If it is not possible to extinguish the fire, withdraw immediately. Keep containers cool by spraying with water for a long time, even after the fire is out. Isolate hazardous areas and deny access to people. |

Section 6 – ACCIDENTAL RELEASE MEASURES

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| 1. Personal precautions and Emergency procedures | Do not touch damaged containers or leaked material without proper protection.
Avoid inhalation and skin contact. In case of confined space, wear air respirator and ventilate. Remove ignition source.
The leakage area should control access to outside parties. |
| 2. Environmental precautions | In case of small spills: In the case of soil spills, the contaminated area should be covered with dry soil, grease or nonflammable material, or the water contaminated area should be washed away.
For large spills: Water leak prevention operation or processing operations will be carried out under the expert control
Isolate more than 100m radius
In the same direction as the wind will do the prevention work. |
| 3. Methods and material for containment and cleaning up | Absorb spillage with sand, clay, or other absorbing material.
Dilute with water at least 50 times and discard. |

Section 7 – HANDLING AND STORAGE

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| 1. Precautions for safe Handling | Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. All containers should be grounded. |
| 2. Conditions for safe storage | Keep container tightly closed and dry.
Store in a well-ventilated place.
Keep away from incompatible materials.
Separate from combustible, reducing, food, strong base materials and metals. |

Section 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION**1. Occupational exposure limit, biological exposure limit****National law of Safety management of**

Occupational Health and Safety Act

TWA : 1ppm

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| 2. Appropriate Engineering controls | Ensure compliance with applicable exposure limits and operate local exhaust ventilation when working. |
| 3. Personal protective equipment | |
| ◦Respiratory protection | When handling, wear protective clothing over organic chemical respirator according to the Chemical Substance Control Act.
Respiratory protection must be certified by the Health and Safety Administration.
If you're concerned about the impact on the unknown concentrations, or other life and health in accordance with the working conditions, wear supplied-air respirator, air respirator |
| ◦Eye-protection | Wear safety glasses when handling as they may cause human health hazards due to chemicals. Install eye wash facilities and emergency eyewash stations near |

•Hand protection	chemical handling sites Wear safety gloves when handling the chemical substances in accordance with the Chemical Substances Control Act
•Skin and body protection	Wear chemical protective clothing 3 or 4 (full body) according to the Chemical Substance Control Law when handling.

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

1. Physical state and color	Liquid(Colorless)	2. Odor	Odorless
3. threshold	N/A	4. pH	2~4
5. Melting/Freezing point	-33°C	6. Boiling point/range	108°C
7. Flashing point	Non-described	8. Evaporation speed	N/A
9. Flammability(solid,gas)	Non-described	10. Flash or Explosion limit upper / lower	Non-described
11. Vapor pressure	3.2kPa@30°C	12. Solubility	Soluble
13. Vapor density	1.2(air=1)	14. Gravity	1.13
15. n-octanol-water Partition coefficient	-1.36	16. Self ignition temp(°C)	N/A
17. Cracking temp(°C)	N/A	18. Viscosity	1.245(Liquid, 100%)
19. Molecular Weight	34		

Section 10 – STABILITY AND REACTIVITY

1. Chemical stability and Possibility of Hazardous Reactions	That can cause an explosion or fire Strong oxidizing agent Can decompose at high temperature to produce toxic gas In contact with other combustible materials may catch fire Residue after drying can act as oxidant Vigorous polymerization reaction that can cause an explosion and fire May burn flammable materials (wood, paper, oil, clothing, etc.) Containers may explode when heated Leaks are a fire, explosion hazard. Caution should be exercised when contact with water generates severe corrosive and toxic gas. Accelerates combustion in case of fire Some reacts explosively with hydrocarbons May explode by friction, heat, or contamination Corrosive, toxic Vapors, dust, substance inhalation, ingestion, contact may cause serious injury, burns and death The toxic fumes may accumulate in confined spaces
2. Conditions to Avoid	Avoid heat, sparks, flames and other sources of ignition. Avoid contact with combustible materials. Dangerous gases can accumulate in the confined space Containers may rupture or explode if exposed to direct sunlight or heat.
3. Incompatible Materials	Combustible materials, acids, bases, metal oxides, metal salts, oxidizing agents, metals, reducing agents, organic substances
4. Hazardous Decomposition Products	Thermal decomposition products: oxygen, hydrogen gas

Section 11 – TOXICOLOGICAL INFORMATION

1. Information on the likely routes of exposure.

Burns when exposed to skin

Burns when exposed to respiratory

May have an allergic reaction

2. Health hazard information

◦Acute toxic	Oral : LD50 1051.1mg/kg Rat(Estimate) Skin : LD50 5633.8mg/kg Rat(Estimate) Inhalation : N/A
◦Serious skin corrosive / irritation	Causes severe skin burns
◦Serious eye damage / irritation	Causes serious eye damage (eye burns, mucous membrane burns).
◦Respiratory sensitization	N/A
◦Skin sensitization	N/A
◦Carcinogenicity	Notice of Ministry of Employment and Labor 2 IARC-Group3: Chemicals not classified as human carcinogens due to insufficient data ACGIH-A3: A substance that has carcinogenicity in animals but has no known carcinogenicity in humans
◦Germ cell Mutagenicity	In vitro mammalian chromosomal abnormality results: positive if no metabolic activation system Bacterial reverse mutation test using microorganisms: positive if no metabolic activation system In vivo mammalian erythrocyte smile nuclear tests negative
◦Reproductive toxic	Teratogenicity test result using Rat: No abnormality observed
◦Specific target organ toxicity (single exposure)	Causes damage to organs (respiratory, central nervous system)
◦Specific target organ toxicity (repeated exposure)	May cause damage to organs (lungs, blood)
◦Aspiration hazard	May cause aspiration pneumonia

Section 12 – ECOLOGICAL INFORMATION

1.Acquatic and Terrestrial eco toxicity	Fish toxicity : LC50 46.19mg/l 96hr(Estimate) Invertebrate toxicity : EC50 6.76mg/l 48hr Daphnia magna(Estimate) Sea algae : EC50 3.88mg/l 72hr(Estimate)
2.Persistence and degradability	Persistence : log Kow -1.36 Degradability : N/A
3.Bioaccumulative potential	Concentrations : N/A Bioaccumulative : N/A
4.Mobility in soil	N/A
5.Other adverse effects	N/A

Section 13 – Disposable considerations

1.Waste methods	Dispose in accordance with local regulations. Will be disposed of by dilution with water at least 50 times
2.Waste warning	Dispose prohibited substances and waste separately from others.

Section 14 – TRANSPORT INFORMATION

1. UN No.	2014
2.Proper shipping Name	Hydrogen peroxide
3.Hazard class	5.1(8)
4.Packing group	II
5.Marine pollutnat	N/A
6.Particular safety Measures for transportation	Fire emergency : F-H Emergency measures RELEASE : S-Q

Section 15 – REGULATORY INFORMATION

1. Occupation safety and health acts	Standard material of exposure Test material of working environment (Test period; 6months) Hazardous material of administration objective
2. Chemical Substances Control Act	Toxic, Safety material for Accident
3. National law of Safety management of hazardous material	Non-described
4. National law of management of Wastes	Designated Waste, Toxic Waste
5. Other domestic and foreign law	EU classification information (confirmed classification result): R50; R8C; R35Xn; R20 / 22 EU classification information (Risk phrases): R5, R8, R20 / 22, R35 EU classification information (safety phrases): S1 / 2, S17, S26, S28, S36 / 37 / 39.S45

Section 16 – OTHER INFORMATION

1. Material source	A chemical information MSDS Safety and Health Agency National Institute of Environmental Research Chemical Information Systems Korea Industrial Technology National Fire Hazardous Materials Information System
1. The 1 st edition	2002.07.30
2. Revision and The final revision	5 / 2019.01.03
. Other references	

* The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.