1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the product

Product code: H8089
Product name: Hydrogen Peroxide 35%
CAS No.: 7722-84-1

1.2 Recommended use and restriction on use

General use : for experimental, research and industrial use
Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

1.3 Manufacturer / Supplier / Distributor information

Importer/distributors identification

Company : ASIA CHEMIE (THAILAND) CO., LTD.
Address : 44/27 Moo.4 T.Huaykapi A.Muangchonburi, Chonburi, Thailand. 20130
Telephone number : +66 3838 7988
Fax number : +66 3838 7989
E-mail : asiachemie@gmail.com, natchakot@asiachemie.com, natchakot@gmail.com

2. Hazards identification

2.1 GHS Classification

Oxidizing liquids: Category1
Acute toxicity (oral): Category4
Acute toxicity (inhalation: vapor): Category4
Skin corrosion/irritation: Category1A
Chronic aquatic toxicity: Category3

2.2 GHS label elements

Hazard symbols

Signal words: Danger

Hazard statements

H271 May cause fire or explosion; strong oxidizer
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H332 Harmful if inhaled
H412 Harmful to aquatic life with long lasting effects

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 Keep/Store away from clothing//combustible materials.
P221 Take any precaution to avoid mixing with combustibles, incompatibles material
P260 Do not breathe gas/mist/vapours/spray.
P261 Avoid breathing gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P283 Wear fire/flame resistant/retardant clothing.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. 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.
P306+P360 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P310 Immediately call a POISON CENTER or doctor/physician.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P321 Specific treatment
P330 Rinse mouth.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use Suitable extinguishing media for extinction (Refer Section MSDS 5).
P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulation

2.3Other hazards which do not result in classification: (NFPA Classification)

NFPA grade (0 ~ 4 level)

- Health: 3, Flammability: 0, Reactivity: 0

3. Composition/information on ingredients

Chemical Name	Synonyms	CAS No.	Concentration (%)
Water	Dihydrogen oxide; Oxidane	7732-18-5	65~72
Hydrogen peroxide	Hydrogen dioxide; Hydrogen dioxide solution; Hydrogen peroxide solution; Hydroperoxide; Perhydrol; Peroxan; Peroxide; Superoxol;	7722-84-1	28~35

4. First aid measures

4.1 Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

4.2 Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Wash thoroughly after handling.

4.3 Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

4.4 Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.

4.5 Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

4.6. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. Fire-fighting measures

5.1 Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

5.2 Specific hazards arising from the chemical

- Not available

5.3 Special protective actions for firefighters

- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.
- Explosion hazards : Keep people away and fight fire from a safe distance.
- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Move people from the area.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

6.2 Environmental precautions:

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

6.3 Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Prevent the influx to waterways, sewers, basements or confined spaces.

7. Handling and storage

7.1 Precautions for safe handling

- Avoid direct physical contact.
- Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Do not inhale the steam prolonged or repeated.
- Handling only authorized person.

7.2. Conditions for safe storage, including any incompatibilities

- Store according to current laws and regulations.
- Do not apply any physical shock to container.
- Avoid direct sunlight.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.
- Do not store in metal containers.
- Store away from water and sewer.

8. Exposure controls/personal protection

8.1 Exposure limits

ACGIH TLV

- [Hydrogen peroxide] : TWA, 1 ppm (1.4 mg/m3

OSHA PEL

- [Hydrogen peroxide]:1ppm 1.4mg/m3

8.2 Engineering controls

Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

Hand protection
- Wear appropriate chemical resistant glove.

Skin protection
- Wear appropriate chemical resistant protective clothing.

Others
- Not available

9. Physical and chemical properties

A. Appearance	
- Appearance	Liquid
- Color	colorless
B. Odor	ether odor
C. Odor threshold	Not available
D. pH	5.1 (90 wt%)
E. Melting point/Freezing point	-0.43 ℃
F. Initial Boiling Point/Boiling Ranges	152 ℃
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability (solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	1.97 ml Hg (25℃)
L. Solubility	100 g/100 ml (25℃)
M. Vapour density	1 (air=1)
N. Specific gravity (Relative density)	1.4425 (25℃)
O. Partition coefficient of n-octanol/water	-1.36
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	1.245 cP
S. Molecular weight	34.01
T. Molecular formula	H2O2

10. Stability and reactivity

10.1 Chemical Stability
- This material is stable under recommended storage and handling conditions.

10.2 Possibility of hazardous reactions
- Hazardous Polymerization will not occur.

10.3 Conditions to avoid
- Avoid contact with incompatible materials and condition.
- Avoid: Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with incompatible materials and condition.
- Keep away from heat source.

10.4 Incompatible materials
- Not available

10.5 Hazardous decomposition products
- May emit flammable vapour if involved in fire.

11. Toxicological information

11.1Information on the likely routes of exposure

Respiratory tracts
- Not available

Oral
- Harmful if swallowed

Eye·Skin
- Causes severe skin burns and eye damage

11.2 Delayed and immediate effects and also chronic effects from short and long term exposure

Acute toxicity

*** Oral**
- Product (ATEmix) : >5000mg/kg
- [Water] : LD50 > 90000 mg/kg Rat (KOSHA)
- [Hydrogen peroxide] : LD50 1193 mg/kg Rat (GLP, US EPA Guidelines)

*** Dermal**
- Product (ATEmix) : >5000mg/kg
- [Hydrogen peroxide] : LD50 > 2000 mg/kg Rabbit (No deaths, OECD TG 402, GLP)

*** Inhalation**
- Product (ATEmix) : Not available
- [Hydrogen peroxide] : Steam LC50 > 170 mg/m^3 4 hr Rat (OECD TG 403, GLP)

Skin corrosion/irritation
- Causes severe skin burns and eye damage

Serious eye damage/irritation
- Not available

Respiratory sensitization
- Not available

Skin sensitization
- Not available

Carcinogenicity

*** IARC**
- [Hydrogen peroxide] : Group 3

*** OSHA**
- Not available

*** ACGIH**
- [Hydrogen peroxide] : A3

*** NTP**
- Not available

*** EU CLP**
- Not available

Germ cell mutagenicity
- Not available

Reproductive toxicity
- Not available

STOT-single exposure
- Not available

STOT-repeated exposure
- Not available

Aspiration hazard
- Not available

12. Ecological information

12.1 Ecotoxicity

Fish
- [Hydrogen peroxide] : LC50 16.4 mg/l 96 hr Pimephales promelas (USEPA method)

Crustaceans
- [Hydrogen peroxide] : LC50 2.4 mg/l 48 hr Daphnia pulex (USEPA method)

Algae
- [Hydrogen peroxide] : ErC50 1.38 mg/l 72 hr Skeletonema costatum (Paris Commission guidelines1990, GLP)

12.2 Persistence and degradability

Persistence
- [Water] : log Kow = -1.38
- [Hydrogen peroxide] : log Kow -1.36

Degradability
- Not available

12.3 Bioaccumulative potential

Bioaccumulative potential

- Not available

Biodegration

- [Hydrogen peroxide] : 99 % 30 day (OECD 209, GLP)

12.4 Mobility in soil

Not available

12.5 Other adverse effects

Not available

13. Disposal considerations

13.1 Disposal methods

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.
- Do disposal as neutralization, hydrolysis and oxidation-reduction.
- High temperature incinerating, high-temperature melt processing will be landfilled
- Solidification processing.

13.2 Special precautions for disposal

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. Transport information

14.1 UN No. (IMDG CODE/IATA DGR)

- 2014

14.2 Proper shipping name

- HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS WITH NOT LESS THAN 20 PERCENT BUT NOT MORE THAN 40 PERCENT HYDROGEN PEROXIDE (STABILIZED AS NECESSARY)

14.3 Hazard Class

- 5.1

14.4 IMDG CODE/IATA DGR Packing group

- II

14.5 Marine pollutant

- Not applicable

14.6 Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-H (Oxidizing substances with explosive potential)
- EmS SPILLAGE SCHEDULE : S-Q (Oxidizing substances)

15. Regulatory information

15.1 National and/or international regulatory information:

POPs Management Law

- Not applicable

Information of EU Classification

*** Classification**

- [Hydrogen peroxide] : H271, H332, H302, H314

U.S. Federal regulations

*** OSHA PROCESS SAFETY (29CFR1910.119)**

- [Hydrogen peroxide] : 3401.9925 kg 7500 lb

*** CERCLA Section 103 (40CFR302.4)**

- Not applicable

*** EPCRA Section 302 (40CFR355.30)**

- [Hydrogen peroxide] : 453.599 kg 1000 lb

*** EPCRA Section 304 (40CFR355.40)**

- [Hydrogen peroxide] : 453.599 kg 1000 lb

*** EPCRA Section 313 (40CFR372.65)**

- Not applicable

Rotterdam Convention listed ingredients

- Not applicable

Stockholm Convention listed ingredients

- Not applicable

Montreal Protocol listed ingredients

- Not applicable

16. Other information

Reason for the revision: General update.
Date: 11/1/2015

Revision 4
Date: 07/01/2024

No warranty, expressed or implied for a particular purpose or otherwise is made, except the products herein discussed comply to the chemical description on the labels. Buyer assumers risks of the use, storage and handling. Producer or distributors shall not be liable for any incidental or consequential damages arising directly or indirectly in connection with the purchase, use, storage or handling of this product. The information contained herein is, to the best of our knowledge, true and accurate. However, all recommendations or suggestions are made without guarantee, since the conditions of use are beyond our control. We disclaim any liability incurred in connection with the use of these data or suggestions.