**Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

**Product Identifier**

**Perihalan Produk:** **HIDROGEN PEROKSIDA, 35% BERAT LARUTAN DALAM AIR, DISTABILKAN**
**Product Description:** **Hydrogen Peroxide, 35 wt% solution in water, stabilized**
**Cat No. :** 202460000; 202460010; 202460025; 202460100; 202460250; 202460251; 202465000
**Synonyms** Hydrogen Dioxide

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

**Recommended Use** Laboratory chemicals.
**Uses advised against** No Information available

**Company**

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CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

## SECTION 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

| | |
|---|---|
| Oxidizing liquids | Category 2 (H272) |
| Acute oral toxicity | Category 4 (H302) |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 (H332) |
| Skin Corrosion/Irritation | Category 2 (H315) |
| Serious Eye Damage/Eye Irritation | Category 1 (H318) |
| Specific target organ toxicity - (single exposure) | Category 3 (H335) |

**Label Elements**

**Signal Word** **Danger**

**Hazard Statements**
H272 - May intensify fire; oxidizer
H302 + H332 - Harmful if swallowed or if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

**Precautionary Statements**
**Prevention**
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P220 - Keep away from clothing and other combustible materials
P221 - Take any precaution to avoid mixing with combustibles
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
**Response**
P330 - Rinse mouth
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P304 + P340 - IF INHALED: Remove person to fresh air and keep 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
P310 - Immediately call a POISON CENTER or doctor
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P362 + P364 - Take off contaminated clothing and wash it before reuse
**Storage**
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
**Disposal**
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Hazards**

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|---|---|---|
| Hydrogen peroxide | 7722-84-1 | 35-40 |
| Water | 7732-18-5 | 60-65 |

## SECTION 4: FIRST AID MEASURES

**Description of first aid measures**

**General Advice** If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Inhalation** If not breathing, give artificial respiration. Remove to fresh air. Get medical attention if symptoms occur.

**Self-Protection of the First Aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

None reasonably foreseeable. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

**Hazardous Combustion Products**

Oxygen.

**Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Use personal protective equipment as required. Ensure adequate ventilation.

**Environmental precautions**

Should not be released into the environment.

**Methods and Material for Containment and Cleaning Up**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

**Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling**
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.

**Conditions for Safe Storage, Including any Incompatibilities**
Keep only in the original container. Do not store near combustible materials. Do not store in metal containers. Protect from direct sunlight. To maintain product quality: Keep refrigerated.

**Specific End Uses**
Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters**

| Component | Malaysia | ACGIH TLV | OSHA PEL |
|---|---|---|---|
| Hydrogen peroxide | | TWA: 1 ppm | (Vacated) TWA: 1 ppm<br>(Vacated) TWA: 1.4 mg/m³<br>TWA: 1 ppm<br>TWA: 1.4 mg/m³ |

| Component | European Union | The United Kingdom | Germany |
|---|---|---|---|
| Hydrogen peroxide | | STEL: 2 ppm 15 min<br>STEL: 2.8 mg/m³ 15 min<br>TWA: 1 ppm 8 hr<br>TWA: 1.4 mg/m³ 8 hr | TWA: 0.5 ppm (8 Stunden). AGW - TWA: 0.71 mg/m³ (8 Stunden). AGW - exposure factor 1<br>TWA: 0.5 ppm (8 Stunden). MAK<br>TWA: 0.71 mg/m³ (8 Stunden). MAK<br>Höhepunkt: 0.5 ppm<br>Höhepunkt: 0.71 mg/m³ |

**Exposure Controls**
**Engineering Measures**
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

| | |
|---|---|
| **Eye Protection** | Goggles |
| **Hand Protection** | Protective gloves |
| **Skin and body protection** | Long sleeved clothing |

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

| | |
|---|---|
| **Respiratory Protection** | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators |
| **Recommended Filter type:** | Particulates filter conforming to EN 143 Inorganic gases and vapours filter Type B Grey conforming to EN14387 |

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice

**Environmental exposure controls** Prevent product from entering drains Do not allow material to contaminate ground water system

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | |
|---|---|---|
| **Appearance** | Colorless | |
| **Physical State** | Liquid | |
| **Odor** | No information available | |
| **Odor Threshold** | No data available | |
| **pH** | 2-4 | |
| **Melting Point/Range** | -33 °C / -27.4 °F | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | 108 °C / 226.4 °F | @ 760 mmHg |
| **Flash Point** | No information available | **Method -** No information available |
| **Evaporation Rate** | > 1.0 (Butyl Acetate = 1.0) | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | No data available | |
| **Vapor Pressure** | No data available | |
| **Vapor Density** | 1.10 | (Air = 1.0) |
| **Specific Gravity / Density** | 1.135 | |
| **Bulk Density** | Not applicable | Liquid |
| **Water Solubility** | Miscible | |
| **Solubility in other solvents** | No information available | |

**Partition Coefficient (n-octanol/water)**

| **Component** | **log Pow** |
|---|---|
| Hydrogen peroxide | -1.1 |

| | |
|---|---|
| **Autoignition Temperature** | No data available |
| **Decomposition Temperature** | > 125°C |
| **Viscosity** | No data available |
| **Explosive Properties** | No information available |
| **Oxidizing Properties** | Oxidizer |

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity**

Yes.

**Chemical Stability**

Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire.

**Possibility of Hazardous Reactions**

**Hazardous Polymerization** Hazardous polymerization does not occur.
**Hazardous Reactions** None under normal processing.

**Conditions to Avoid**

Incompatible products. Excess heat. Combustible material.

**Incompatible Materials**

Metals. copper. Finely powdered metals. Reducing Agent. Strong bases. Combustible material. Strong reducing agents.

**Hazardous Decomposition Products**

Oxygen.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Information on Toxicological Effects**

**Product Information**

**(a) acute toxicity;**
**Oral** Category 4
**Dermal** No data available
**Inhalation** Category 4

**Toxicology data for the components**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Hydrogen peroxide | 376 mg/kg ( Rat ) (90%)<br>910 mg/kg ( Rat ) (20-60%)<br>1518 mg/kg ( Rat ) (8-20% sol) | >2000 mg/kg ( Rabbit ) | LC50 = 2000 mg/m³ ( Rat ) 4 h |
| Water | - | - | - |

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** Category 1
Bridging principle "Dilution"

**(d) respiratory or skin sensitization;**
**Respiratory** No data available
**Skin** No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;** No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** Category 3

**Results / Target organs** Respiratory system.

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** Based on available data, the classification criteria are not met

**Symptoms / effects,both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contains a substance which is:. Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---|---|---|---|---|
| Hydrogen peroxide | LC50: 16.4 mg/L/96h (P.promelas) | EC50 7.7 mg/L/24h | EC50 2.5 mg/L/72h | |

**Persistence and degradability** Readily biodegradable

**Persistence** Soluble in water, Persistence is unlikely, based on information available, Miscible with water.

**Degradability** Not relevant for inorganic substances.

**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative potential** Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| Hydrogen peroxide | -1.1 | No data available |

**Mobility in soil** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from Residues/Unused Products** Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains Large amounts will affect pH and harm aquatic organisms

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

| | |
|---|---|
| **UN-No** | UN2014 |
| **Hazard Class** | 5.1 |
| **Subsidiary Hazard Class** | 8 |
| **Packing Group** | II |
| **Proper Shipping Name** | HYDROGEN PEROXIDE, AQUEOUS SOLUTION |

**Road and Rail Transport**

| | |
|---|---|
| **UN-No** | UN2014 |
| **Hazard Class** | 5.1 |
| **Subsidiary Hazard Class** | 8 |
| **Packing Group** | II |
| **Proper Shipping Name** | HYDROGEN PEROXIDE, AQUEOUS SOLUTION |

**IATA**

| | |
|---|---|
| **UN-No** | UN2014 |
| **Hazard Class** | 5.1 |
| **Subsidiary Hazard Class** | 8 |
| **Packing Group** | II |
| **Proper Shipping Name** | HYDROGEN PEROXIDE, AQUEOUS SOLUTION |

**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

| Component | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL |
|---|---|---|---|---|---|---|---|---|---|
| Hydrogen peroxide | 231-765-0 | X | X | X | X | X | X | X | KE-20204 |
| Water | 231-791-2 | X | X | X | X | | X | X | KE-35400 |

**National Regulations**

| | |
|---|---|
| **Persistent Organic Pollutant** | This product does not contain any known or suspected substance |
| **Ozone Depletion Potential** | This product does not contain any known or suspected substance |

## SECTION 16: OTHER INFORMATION

**Legend**

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**IECSC** - Chinese Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**ENCS** - Japanese Existing and New Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit
**ACGIH** - American Conference of Governmental Industrial Hygienists
**RPE** - Respiratory Protective Equipment
**LC50** - Lethal Concentration 50%
**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average
**IARC** - International Agency for Research on Cancer
**LD50** - Lethal Dose 50%
**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**OECD** - Organisation for Economic Co-operation and Development
**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**ATE** - Acute Toxicity Estimate
**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

| | |
|---|---|
| **Revision Date** | 21-Mar-2025 |
| **Revision Summary** | Not applicable. |

### In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

### 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, use, processing, storage, transportation, disposal and release 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**

## End of Safety Data Sheet