

1. Product and Company Identification

Product Name: Wesol/Durox LR-3% (Food Grade)

Recommended Use of the Chemical and Restrictions on Use:

Recommended Use: Bacteria disinfectant for tools, equipment in food, dairy, beverage, juice industries

Restrictions on Use: Use as recommended by the label.

Manufacturer

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2. Hazards Identification

GHS Classification

Serious Eye Damage/Eye Irritation – Category 2/2A

GHS Label Elements



Signal Word

Warning

Hazard Statement

H319 Causes serious eye irritation

Precautionary Statements - Prevention

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

Precautionary Statements - Response

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.

3. Composition / Information on Ingredients

Formula: HO - OH

Chemical Name	CAS#	EC Number	Wt%
Hydrogen Peroxide	7722-84-1	231-765-0	3
Water	7732-18-5	231-791-2	97

4. First Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Seek immediate medical attention/advice.
Skin Contact	In case of skin irritation or allergic reactions, wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation persists.
Inhalation	Move to fresh air. If person is not breathing, contact emergency medical services, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	Rinse mouth. Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	Hydrogen Peroxide irritates respiratory system and, if inhaled, may cause inflammation and pulmonary edema. The effects may not be immediate. Overexposure symptoms are coughing, giddiness and sore throat. In case of accidental ingestion, necrosis may result from mucous membrane burns (mouth, esophagus and stomach). Oxygen rapid release may cause stomach swelling and hemorrhaging, which may produce major, or even fatal, injury to organs if a large amount has been ingested.
Indication of immediate medical attention and special treatment needed, if necessary	Hydrogen peroxide at this concentration is a mild oxidant. Direct contact with the eye is likely to cause irritation especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

5. Fire Fighting Measures

Suitable Extinguishing Media	Water. Do not use any other substance.
Specific Hazards Arising from the Chemical	In closed unventilated containers, risk of rupture due to the increased pressure from decomposition. Contact with combustible material may cause fire.
Hazardous Combustion Products	On decomposition product releases oxygen which may intensify fire.
<u>Explosion data</u>	
Sensitivity to Mechanical Impact	Not sensitive
Sensitivity to Static Discharge	Not sensitive
Protective equipment and precautions for firefighters	Use water spray to cool fire exposed surfaces and protect personnel. Move containers from fire area if you can do it without risk. As in any fire, wear self-contained breathing apparatus and full protective gear.

6. Accidental Release Measures

Personal Precautions	Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Isolate and post spill area. Keep people away from and upwind of spill/leak. Eliminate all sources of ignition and remove combustible materials.
Other	Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire.
Environmental Precautions	See Section 12 for additional Ecological Information.
Methods for Containment	Dike to collect large liquid spills. Stop leak and contain spill if this can be done safely. Small spillage: Dilute with large quantities of water.
Methods for cleaning up	Flush area with flooding quantities of water. Hydrogen peroxide may be decomposed by adding sodium metabisulfite or sodium sulfite after diluting to about 5%.

7. Handling and Storage

Handling	Use only in well-ventilated areas. Keep/ Store away from clothing/ combustible materials. Wear personal protective equipment. Never return unused hydrogen peroxide to original container. Contamination may cause decomposition and generation of oxygen gas which could result in high pressures and possible container rupture. Empty drums should be triple rinsed with water before discarding. Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic. Pipes and equipment should be passivated before first use. Hydrogen peroxide should be stored only in vented containers and transferred only in a prescribed manner.
Storage	Keep containers in cool areas out of direct sunlight and away from combustibles. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment. Containers must be vented. Keep/store only in original container. Store rooms or warehouses should be made of non-combustible materials with impermeable floors. In case of release, spillage should flow to safe area. Containers should be visually inspected on a regular basis to detect any abnormalities.
Incompatible Products	Combustible materials. Copper alloys, galvanized iron. Strong reducing agents. Heavy metals. Iron. Copper alloys. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

8. Exposure Controls / Personal Protection

Exposure Limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH
Hydrogen Peroxide	1 ppm (TWA)	1 ppm (TWA) 1.4 mg/m ³ (TWA)	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³

Appropriate engineering controls

Engineering measures Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use chemical splash-type monogoggles and a full-face shield made of polycarbonate, acetate, polycarbonate/acetate, PETG or thermoplastic.

Skin and Body Protection For body protection wear impervious clothing such as an approved splash protective suit made of SBR rubber, PVC (PVC Outershell w/Polyester Substrate), Gore-Tex (Polyester trilaminate w/Gore-Tex), or a specialized HAZMAT Splash or Protective Suite (Level A, B, or C). For foot protection, wear approved boots made of NBR, PVC, Polyurethane, or neoprene. Overboots made of Latex or PVC, as well as firefighter boots or specialized HAZMAT boots are also permitted. **DO NOT** wear any form of boot or overboot made of nylon or nylon blends. **DO NOT USE** cotton, wool or leather as these materials react rapidly with higher concentrations of hydrogen peroxide. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood or other combustibles, can cause the material to ignite and result in a fire.

Hand Protection For hand protection, wear approved gloves made of nitrile, PVC, or neoprene. **DO NOT** use cotton, wool or leather for these materials react **RAPIDLY** with higher concentrations of hydrogen peroxide. Thoroughly rinse the outside of gloves with water prior to removal. Inspect regularly for leaks.

Respiratory Protection If concentrations in excess of 10 ppm are expected, use NIOSH/DHHS approved self-contained breathing apparatus (SCBA) or other approved air-supplied respirator (ASR) equipment (e.g., a full-face airline respirator (ALR)). **DO NOT** use any form of air-purifying respirator (APR) or filtering facepiece (dust mask), especially those containing oxidizable sorbants such as activated carbon.

Hygiene measures Avoid breathing vapors, mist or gas. Clean water should be available for washing in case of eye or skin contamination.

General information Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

9. Physical and Chemical Properties

Odor:	Odorless
Appearance:	Clear, colorless liquid
Autoignition Temperature:	Non-combustible
Flammability (Solid, Gas)	Not flammable
Flammability Limit in Air	
Lower flammable limit (LFL):	Not applicable

Upper flammable limit (UFL):	Not applicable
Boiling Point:	102°C
Coefficient of Oil / Water:	Not available
Density / Weight Per Volume:	Not available
Evaporation Rate:	> 1 (Butyl Acetate = 1)
Flash Point:	Non-combustible
Freezing Point:	-5°C
Odor Threshold:	Not available
Oxidizing Properties:	Strong oxidizer
Percent Volatile:	100
pH:	<= 3
Solubility in Water:	100 %
Specific Gravity:	1.01 @ 25°C
Vapor Density:	Not available (Air = 1)
Vapor Pressure:	31 mmHg @ 30°C

10. Stability and Reactivity

Reactivity	Reactive and oxidizing agent.
Chemical Stability	Stable under normal conditions. Decomposes on heating. Stable under recommended storage conditions.
Possibility of Hazardous Reactions	Contact with organic substances may cause fire or explosion. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat; Contamination; Exposure to UV-rays; pH variations.
Incompatible materials	Combustible materials. Copper alloys, galvanized iron. Strong reducing agents. Heavy metals. Iron. Copper alloys. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.
Hazardous Decomposition Products	Oxygen which supports combustion. Liable to produce overpressure in container.

11. Toxicological Information

Product Information

LD₅₀ Oral	50% solution: LD ₅₀ > 225 mg/kg bw (rat) 35% solution: LD ₅₀ 1193 mg/kg bw (rat)
LD₅₀ Dermal	35% solution: LD ₅₀ > 2000 mg/kg bw (rabbit)
LC₅₀ Inhalation	50% solution: LC ₅₀ > 170 mg/m ³ (rat) (4-hr) Hydrogen Peroxide vapors: LC ₅₀ 9400 mg/m ³ (mouse) (5 - 15 minutes) Hydrogen Peroxide vapors: LC ₅₀ > 2160 mg/m ³ (mouse)
Serious eye damage/eye irritation	Corrosive.
Skin corrosion/irritation	Corrosive to skin.
Sensitization	Did not cause sensitization on laboratory animals.

Information on toxicological effects

Symptoms	Vapors, mists, or aerosols of hydrogen peroxide can cause upper airway irritation, inflammation of the nose, hoarseness, shortness of breath, and a sensation of burning or tightness in the chest. Prolonged exposure to concentrated vapor or to dilute solutions can cause irritation and temporary bleaching of skin and hair. Exposure to vapor, mist, or aerosol can cause stinging pain and tearing of eyes.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	This product contains hydrogen peroxide. The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of hydrogen peroxide in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans). The American Conference of Governmental Industrial Hygienists (ACGIH) has concluded that hydrogen peroxide is a 'Confirmed Animal Carcinogen with Unknown Relevance to Humans' (A3).
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Chemical Name	IARC	NTP	OSHA	Other
Hydrogen Peroxide	Group 3	Not listed	Not listed	(ACGIH) Listed (A3, animal carcinogen)

Mutagenicity	This product is not recognized as mutagenic by Research Agencies. In vivo tests did not show mutagenic effects.
Reproductive toxicity	This product is not recognized as reprotox by Research Agencies. No toxicity to reproduction in animal studies.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Target organ effects	Eyes, Respiratory System, Skin.
Aspiration hazard	Aspiration risk: may cause lung damage if swallowed.

12. Ecological Information

Ecotoxicological Information:

Fish *Leuciscus idus* 72-hour LC50 = 35 mg/L
 Fish *Pimephales promelas* 96-hour LC50 = 16.4 mg/L
Daphnia magna 24-hour EC50 = 7.7 mg/L
Daphnia pulex 48-hour EC50 = 2.4 mg/L
 Algae *Skeletonema costatum* 72-hour EC50 = 1.38 mg/L
Daphnia magna 21-day NOEC = 0.63 mg/L

For more information refer to ECETOC "Joint Assessment of Commodity Chemicals No. 22, Hydrogen Peroxide." ISSN-0773-6339, January 1993

Persistence and degradability:	Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in freshwater ranged from 8 hours to 20 days, in air from 10-20 hours and in soils from minutes to hours depending upon microbiological activity and metal contaminants.
Bioaccumulation:	Material may have some potential to bioaccumulate but will likely degrade in most environments before accumulation can occur.
Mobility:	Will likely be mobile in the environment due to its water solubility but will likely degrade over time.
Other Adverse Effects:	Decomposes into oxygen and water. No adverse effects.

13. Disposal Considerations

Waste disposal methods:	Dispose of in accordance with local regulations.
Contaminated Packaging	Dispose of in accordance with local regulations. Drums - Empty as thoroughly as possible. Triple rinse drums before disposal. Avoid contamination; impurities accelerate decomposition. Never return product to original container.

14. Transport Information

UN Recommendations on the Transport of Dangerous Goods

Proper Shipping Name:	Not applicable (non-dangerous goods)
Primary Hazard Class / Division:	Not applicable (non-dangerous goods)
Subsidiary Risk:	Not applicable (non-dangerous goods)
UN Number:	Not applicable (non-dangerous goods)
UN Packing Group:	Not applicable (non-dangerous goods)
Label(S):	Not applicable (non-dangerous goods)
Placard(S):	Not applicable (non-dangerous goods)

International Maritime Dangerous Goods (IMDG)

Proper Shipping Name: Not applicable (non-dangerous goods)

**International Civil Aviation Organization (ICAO) /
International Air Transport Association (IATA)**

Proper Shipping Name: Not applicable (non-dangerous goods)

Other Information:

Protect from physical damage. Keep drums in upright position. Drums should not be stacked in transit. Do not store drum on wooden pallets.

15. Regulatory Information

There is no information for this product.

16. Other Information

Thai Peroxide believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING

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