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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: Hydrogen Peroxide 50%	**Revision date: 2026-10-29**	**Version: 1.0**	**Brand:** Richest

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product name	Hydrogen Peroxide 50% (Food Grade)
Synonyms	Hydrogen dioxide; Oxydol; H2O2 solution
CAS No.	7722-84-1
EC No.	231-765-0
Molecular formula	H2O2
Molecular weight	34.01 g/mol
Relevant identified uses	Oxidizing agent, bleaching agent, disinfectant and biocide for water treatment, textile, pulp & paper, food packaging sterilization and electronics industries
Uses advised against	None
Company	Richest Group Ltd.
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SECTION 2: Hazards identification

GHS Classification	Ox. Liq. 2; Skin Corr. 1B; Eye Dam. 1; Acute Tox. 4 (Oral); Acute Tox. 4 (Inhalation); STOT SE 3; Aquatic Chronic 3
Pictogram(s)	GHS03 (Oxidizing); GHS05 (Corrosion); GHS07 (Exclamation mark)
Signal word	Danger
Hazard statement(s)	H272 May intensify fire; oxidizer H302 Harmful if swallowed H314 Causes severe skin burns and eye damage

	H332 Harmful if inhaled H335 May cause respiratory irritation H412 Harmful to aquatic life with long lasting effects
Precautionary statement(s)	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 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 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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/doctor P370+P378 In case of fire: Use water spray to extinguish P405 Store locked up P501 Dispose of contents/container in accordance with local/regional/national/international regulation
Other hazards	Risk of overpressure and burst of containers due to decomposition with oxygen release; never return spilled product to the original container.

SECTION 3: Composition/information on ingredients

Component	Hydrogen peroxide (aqueous solution)
CAS No.	7722-84-1
EC No.	231-765-0
Classification	Ox. Liq. 1; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; STOT SE 3; Aquatic Chronic 3; H271, H302, H332, H314, H318, H335, H412 (pure substance)
Concentration (%)	50%

SECTION 4: First aid measures

If inhaled	Move victim into fresh air. With labored breathing: provide oxygen. Consult a doctor. If the casualty is not breathing: perform artificial respiration, notify emergency physician immediately.
In case of skin contact	Wash off affected area immediately with plenty of water for at least 15 minutes. If symptoms persist, consult a physician.

In case of eye contact	With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes. Consult an ophthalmologist immediately.
If swallowed	Rinse out mouth. Immediately give large quantities of water to drink. Consult a physician immediately. Do NOT induce vomiting.
Most important symptoms and effects	Harmful if inhaled and if swallowed. Causes severe skin burns and eye damage.
Indication of any immediate medical attention	Treat symptomatically. If skin irritation or rash occurs, get medical advice/attention.

SECTION 5: Firefighting measures

Suitable extinguishing media	Water spray (fog), foam, dry chemical, carbon dioxide (CO2)
Unsuitable extinguishing media	Organic compounds.
Special hazards arising from the chemical	Product is fire-stimulating (strong oxidizer). The product itself does not burn; involved in fire it may decompose yielding oxygen. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Release of oxygen may support combustion.
Advice for firefighters	In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Product causes chemical burns. Wear personal protective equipment. Evacuate personnel to safe areas. Keep out unprotected persons.
Environmental precautions	Observe regulations on prevention of water pollution. Dam with sand or earth. Do not use textiles, sawdust or combustible substances. Do not permit to enter into surface water or soil undiluted.
Methods and materials for containment and cleaning up	Collect product in suitable containers (e.g. made of plastic) using appropriate equipment. Keep away from flammable and incompatible substances. Rinse away any residue with plenty of water. Small amounts: dilute with lots of water or absorb with liquid-binding material (e.g. diatomaceous earth). Dispose of absorbed material in accordance with the regulations.

SECTION 7: Handling and storage

Precautions for safe handling	Handle in accordance with good industrial hygiene and safety practices. Avoid impurities and heat effect. Ensure good room ventilation. Avoid contact with skin, eyes and clothing. Do not inhale vapour/aerosols/mist. Wear personal protective equipment. Never return spilled product into its original container for re-use. Provide emergency shower and eye bath.
Conditions for safe storage, including	Cool, dry, clean and well ventilated. Only use containers which are specially

any incompatibilities	permitted for hydrogen peroxide. Keep away from heat, sunlight, combustible materials and incompatible substances. Store locked up.

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	TWA: 1 ppm (1.4 mg/m3) (ACGIH, OSHA)
Biological limit values	None established
Appropriate engineering controls	Ensure suitable suction/aeration at the workplace and with operational machinery. Provide for installation of emergency shower and eye bath.
Eye/face protection	Safety glasses with side-shields conforming to EN 166; when handling larger quantities: basket-shaped glasses.
Skin protection	Wear appropriate gloves to prevent skin exposure.
Body protection	Wear acid-proof protective clothing. Suitable materials: PVC, neoprene, nitrile rubber (NBR), rubber. Rubber or plastic boots.
Respiratory protection	If workplace exposure limit is exceeded, apply respiratory protective equipment. If open handling is unavoidable, wear respiratory protection.
Thermal hazards	Not applicable

SECTION 9: Physical and chemical properties

Physical state	Colorless transparent liquid
Colour	Colourless
Odour	Odourless
Melting point / freezing point	Approx. -33 °C (50% solution)
Boiling point or initial boiling point and boiling range	Approx. 114 °C (50% solution)
Flammability	Non-flammable, but oxidizing - may cause fire in contact with combustible materials
Lower and upper explosion limit / flammability limit	Not applicable (non-flammable)
Flash point	Not applicable (non-flammable)
Auto-ignition temperature	Not applicable (non-flammable)
Decomposition temperature	Decomposes on heating above 150 °C and in contact with impurities, releasing oxygen; self-accelerating decomposition possible at elevated temperatures
pH	Approx. 2 - 3 (50% solution)

Kinematic viscosity	Approx. 1.0 mm2/s at 20 °C (dynamic viscosity: ca. 1.2 mPa·s)
Solubility	Miscible with water in all proportions
Partition coefficient n-octanol/water	log Pow: -1.57 (hydrogen peroxide, QSAR)
Vapour pressure	Approx. 18 hPa at 20 °C (50% solution)
Density and/or relative density	1.19 g/cm3 at 20 °C
Relative vapour density	Not applicable (aqueous solution)
Particle characteristics	Not applicable (liquid)

SECTION 10: Stability and reactivity

Reactivity	Strong oxidizing agent and reactive. Contact with impurities, decomposition catalysts, metals, metallic salts, alkalis, reducing agents or combustible materials may lead to self-accelerated, exothermic decomposition with formation of oxygen.
Chemical stability	Stable under normal temperatures and pressures. Commercial products are stabilised to reduce risk of decomposition due to contamination.
Possibility of hazardous reactions	Danger of decomposition if exposed to heat or contamination. Mixtures with organic materials (e.g. solvents) can display explosive properties.
Conditions to avoid	Avoid sunlight, heat and heat effect. Keep away from sources of ignition - No smoking. Keep away from flammable and incompatible substances.
Incompatible materials	Impurities, decomposition catalysts, metals, metallic salts, alkalis, hydrochloric acid, reducing agents; flammable substances; organic solvents.
Hazardous decomposition products	Water and oxygen (steam, oxygen under thermal decomposition)

SECTION 11: Toxicological information

Acute toxicity - Oral / Inhalation / Dermal	LD50 Oral - Rat - male: 1,026 mg/kg; female: 693.7 mg/kg LC50 Inhalation - Rat - 4 h - > 170 mg/m3 air (aerosol) LD50 Dermal - Rabbit - > 2,000 mg/kg
Skin corrosion/irritation	Causes severe skin burns (concentration ≥50%).
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitization	Not a skin sensitizer
Germ cell mutagenicity	Positive in some in vitro tests (bacterial reverse mutation); negative in vivo (micronucleus test); not considered mutagenic in humans
Carcinogenicity	IARC: Group 3 (not classifiable as to its carcinogenicity to humans)
Reproductive toxicity	Not classified

STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

Toxicity to fish / daphnia / algae	Fish: LC50 - Pimephales promelas - 16.4 mg/L - 96 h; Daphnia: EC50 - Daphnia pulex - 2.4 mg/L - 48 h; Algae: EC50 - Chlorella vulgaris - 2.5 mg/L - 72 h (hydrogen peroxide)
Persistence and degradability	Readily biodegradable; rapidly decomposes into water and oxygen in the environment
Bioaccumulative potential	No bioaccumulation potential (decomposes to water and oxygen)
Mobility in soil	Decomposes rapidly in soil; no significant adsorption expected
Other adverse effects	Do not empty into drains.

SECTION 13: Disposal considerations

Product disposal methods	Dispose of contents in accordance with local, regional and national regulations. Offer surplus and non-recyclable product to a licensed disposal company.
Contaminated packaging	Dispose of as unused product or in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	UN 2014
UN Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with more than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)
Transport hazard class(es)	5.1 (8)
Packing group	II
Environmental hazards (Marine pollutant)	No
Special precautions for user	EmS Code: F-H, S-Q

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	EINECS: Listed (231-765-0); TSCA (USA): Listed; IECSC (China): Listed; DSL (Canada): Listed; AICS (Australia): Listed.

SECTION 16: Other information

Full text of H-Statements	H272 May intensify fire; oxidizer H302 Harmful if swallowed H314 Causes severe skin burns and eye damage H318 Causes serious eye damage H332 Harmful if inhaled H335 May cause respiratory irritation H412 Harmful to aquatic life with long lasting effects
Revision date	2026-10-29
Version	1.0

Abbreviations and acronyms: CAS: Chemical Abstracts Service; EC: European Commission; EINECS: European Inventory of Existing Commercial Chemical Substances; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; RID: Regulation concerning the International Carriage of Dangerous Goods by Rail; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; TWA: Time Weighted Average; STEL: Short Term Exposure Limit; LD50: Lethal Dose 50%; LC50: Lethal Concentration 50%; EC50: Effective Concentration 50%; PBT: Persistent, Bioaccumulative and Toxic; vPvB: very Persistent and very Bioaccumulative; SDS: Safety Data Sheet.

References: ECHA - European Chemicals Agency, https://echa.europa.eu/; IPCS - International Chemical Safety Cards (ICSC), http://www.ilo.org/; HSDB - Hazardous Substances Data Bank; eChemPortal - OECD Global Portal to Information on Chemical Substances; ERG - Emergency Response Guidebook by U.S. DOT.

Disclaimer: The information in this SDS is only applicable to the specified product and is provided in good faith. It is based on the knowledge available to Richest Group Ltd. at the date of issue and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute any guarantee of the properties of the product. Richest Group Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.