

SAFETY DATA SHEET

Hydrogen Peroxide 50% Technical Grade



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1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Hydrogen Peroxide 50% Technical Grade

Other means of identification

CAS-No 7722-84-1

Recommended use of the chemical and restrictions on use

Recommended Use: Chemical synthesis where low residue or precipitates are required.
Restrictions on Use: Use as recommended by the label.

Manufacturer/Supplier

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2. HAZARDS IDENTIFICATION

Signal Words: Danger

Pictograms:



GHS Classification

Oxidizing liquids	Category 1
Acute toxicity, Dermal	Category 4
Acute toxicity, Oral	Category 4
Skin corrosion	Category 1A
Eye irritation	Category 1
Acute aquatic toxicity	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H271	May cause fire or explosion; strong oxidizer
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage. No smoking.
H402	Harmful to aquatic life

Hydrogen peroxide 50% Technical Grade**Page 2 / 8****Precautionary Statements:**

P210	Keep away from heat/sparks/open flames/hot surfaces
P220	Keep/Store away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P283	Wear fire/flame resistant/retardant clothing.
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/physician.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use appropriate media to extinguish.
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 regulations.

Potential Health Effects

Eyes	May cause serious damage.
Inhalation	Irritating to the respiratory system. Causes irritation to the respiratory tract.
Skin	Irritating to skin. Contact causes redness, burns, itching and pain. Prolonged or repeated skin exposure may cause dermatitis.
Ingestion	Causes irritation and pain.

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Keep container in a cool place out of direct sunlight. Store only in vented containers. Do not store on wooden pallets. Do not return used material to the original container. Avoid contamination - Contamination could cause decomposition and generation of oxygen which may result in high pressure and possible container rupture. Empty drums should be triple rinsed with water before discarding.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hydrogen peroxide 50% Technical Grade**Formula: H₂O₂ (HO-OH)**

Chemical name	CAS-No	Weight %
Hydrogen peroxide	7722-84-1	50
Water	7732-18-5	50

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

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

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 product major, or even fatal, injury to organs if a large amount has been ingested. In case of skin contact, may cause burns, erythema, blisters or even necrosis.

Indication of immediate medical attention and special treatment needed, if necessary

Hydrogen peroxide at these concentrations is a strong oxidant. Direct contact with the eye is likely to cause corneal damage 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.

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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.

Explosion data

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, protective equipment and emergency procedures**

See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions

Prevent spillage from entering drains. Any release to the environment may be subject to federal / national or local reporting requirements.

Methods and materials for containment and cleaning up

Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE**Precautions for safe handling**

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Isolate from combustible material. Store in the dark. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Hydrogen peroxide 50% Technical Grade**Occupational exposure controls:**

Component Limits	Exposure	Basis	Entity
Hydrogen peroxide	1 ppm - 1.4 mg/m ³	TLV	ACGIH
	1 ppm - 1.4 mg/m ³	PEL	OSHA
	1 ppm - 1.4 mg/m ³	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Hazard Statements:

Eyes	Wear chemical safety glasses with a face shield for splash protection.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear neoprene or nitrile gloves, apron and other protective clothing appropriate to the risk of exposure.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid
Physical state	Liquid
Color	Colorless
Odor	Odorless
Odor threshold	Not Applicable
pH	< 3.0
Melting point/freezing point	- 52°C
Boiling point/range	114°C
Flash point	Not Flammable
Evaporation rate	> 1 (n-butyl-acetate = 1)
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	18 mm Hg at 30°C
Vapor density	Not Available
Relative density	1.1960 at 20°C
Solubility (ies)	Completely soluble in water
Partition coefficient: n-octanol/water	log Kow = -1.5 at 20°C
Auto-ignition temperature	Not combustible

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Decomposition temperature	100°C (adiabatic)
Oxidizing properties	Strong oxidizer
Molecular weight	34
Bulk density	Not applicable

10. STABILITY AND REACTIVITY**Chemical Stability**

Stable

Possibility of Hazardous Reactions

Will not occur.

Conditions to Avoid

Store out of direct light

Incompatible Materials

Brass, Copper, Powdered metals, Iron, Iron and iron salts, combustible materials

Hazardous Decomposition Products

Not Available

11. TOXICOLOGICAL INFORMATION**Acute Toxicity****Hydrogen Peroxide**

Eyes	Not Available
Respiratory	Not Available
Skin	LD50 Dermal – rat – 4060 mg/kg
Ingestion	LD50 Oral – mouse – 2000 mg/kg

Carcinogenicity

IARC	3-Group 3: Not classifiable as to its carcinogenicity to humans (hydrogen peroxide).
ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Hydrogen peroxide 50% Technical Grade**signs & Symptoms of Exposure**

Skin	Redness, burning, itching and pain.
Eyes	Eye burns, pain, watering eyes.
Respiratory	Coughing, shortness of breath, burning, choking, coughing, wheezing, laryngitis, headache or nausea.
Ingestion	Causes irritation and pain.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Eyes, Skin, Respiratory system
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION**Hydrogen Peroxide**

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

DOT	UN2014, Hydrogen peroxide, aqueous solutions 5.1, (8), pg II
TDG	UN2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS 5.1, (8), PG II
IMDG	UN2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS 5.1, (8), PG II
Marine Pollutant	No
IATA/ICAO	UN2014, Hydrogen peroxide, aqueous solutions 5.1, (8), pg II

OTHER INFORMATION

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

15. REGULATORY INFORMATION

Brazilian Standart
ABNT NBR 14725-4:2014

16. OTHER INFORMATION

The information provided in this Safety Data Sheet (“SDS”) is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. The Carbon Científica NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. The Carbon Científica DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.