TECHNICAL DATA SHEET

Hydrogen Peroxide 3% Technical Grade

Revised: 04/27/2026

PRODUCT IDENTIFICATION

Product Name: Hydrogen Peroxide 3% Technical Grade
CAS Number: 7722-84-1
Molecular Formula: H_2O_2
Molecular Weight: 34.015 g/mol
Grade: Technical Grade
Purity / Concentration: 3%
Synonyms: H2O2 3%, Hydrogen Dioxide 3%

PRODUCT OVERVIEW

Hydrogen Peroxide 3% Technical Grade is a versatile oxidizing agent characterized by its high purity, featuring a 3.1% assay and minimal trace impurities like iron at 0.05 ppm. This clear, colorless liquid is widely utilized in industrial and laboratory settings for its effective oxidation and bleaching capabilities.

Grade Significance: Technical Grade indicates that this product is manufactured for industrial and commercial utility, ensuring reliable performance for non-medical applications where cost-effectiveness and consistency are paramount.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	3.1	2.9	3.3	Titration with Potassium Permanganate
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.01	1	1.02	USP <841>
Residue After Ignition	%	0.0020	—	0.01	Gravimetric
Iron (Fe)	ppm	0.05	—	0.5	ICP-OES
Chloride (Cl^-)	ppm	0.1	—	1	Ion Chromatography
Phosphate (PO_4^{3-})	ppm	0.1	—	2	Spectrophotometry
Sulfate (SO_4^{2-})	ppm	0.2	—	5	Ion Chromatography
Acidity As H2So4	ppm	15	—	50	Titration with NaOH

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	**Odor**	Slightly sharp, reminiscent of bleach
Form	Liquid	**Boiling Point**	150°C (302°F)
Melting / Freezing Point	-0.43°C (31.2°F)	**Specific Gravity**	1.01
Solubility	Miscible with water	**Molecular Formula**	H_2O_2
Molecular Weight	34.015 g/mol	**Vapor Pressure (20°C)**	0.23 mmHg
Viscosity (25°C)	1.0 cP	**Refractive Index (20°C)**	1.333
Density (25°C)	1.01 g/mL		

APPLICATIONS

1. **Water Treatment** — It is applied to enhance dissolved oxygen levels in water systems, supporting efficient aerobic processes.
2. **Textile Manufacturing** — This product acts as a reliable bleaching agent to achieve desired brightness and color consistency in fabric production.
3. **Pulp and Paper** — Used during the bleaching phase, it helps improve paper whiteness while maintaining structural integrity.
4. **Laboratory Research** — It serves as a standard reagent for analytical procedures requiring a consistent and stable oxidizing environment.
5. **Chemical Synthesis** — The solution functions as a controlled oxidant in various industrial chemical reactions where precise concentration is required.

STORAGE & HANDLING

Proper storage is critical to prevent decomposition, as hydrogen peroxide is sensitive to light and heat. It must be kept in its original, vented container in a cool, well-ventilated area to prevent pressure buildup and maintain its chemical stability.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent reactions.
- Avoid contact with organic materials and strong acids.
- Ensure proper ventilation when handling to minimize inhalation risks.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Warning

Hazard Statements:

- H319: Causes serious eye irritation

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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