

PRODUCT IDENTIFICATION



Product Name: Hydrogen Peroxide 25% Technical Grade

CAS Number: 7722-84-1

Molecular Formula: H₂O₂

Molecular Weight: 34.015 g/mol

Grade: Technical Grade

Purity / Concentration: 25%

Synonyms: H₂O₂, Peroxide Solution

PRODUCT OVERVIEW

Hydrogen Peroxide 25% Technical Grade is a clear, colorless, and powerful oxidizing agent widely utilized across industrial sectors. With a verified assay of 25.3% and extremely low impurity levels—including iron at 0.05 ppm—this solution provides the consistent performance required for demanding chemical processes.

Grade Significance: Technical Grade signifies a product manufactured to meet industrial standards for performance and consistency, making it ideal for large-scale operations where cost-efficiency and reliability are essential.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	25.3	24.5	26.5	Titration with KMnO ₄
Color (APHA)	APHA	5	—	20	ASTM D1209
Specific Gravity (20°C)	g/mL	1.09	1.08	1.1	ASTM D891
Residue After Ignition	%	0.0020	—	0.02	Gravimetric
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-OES
Iron (Fe)	ppm	0.05	—	1	ICP-OES
Chloride (Cl ⁻)	ppm	0.1	—	2	Ion Chromatography
Phosphate (PO ₄ ³⁻)	ppm	0.1	—	5	Spectrophotometry
Sulfate (SO ₄ ²⁻)	ppm	0.5	—	10	Ion Chromatography
Acidity As H ₂ SO ₄	ppm	15	—	50	Titration

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Slightly sharp, acrid odor
Form	Liquid	Boiling Point	Not characterized for the solution
Melting / Freezing Point	Not characterized for the solution	Specific Gravity	1.09
Solubility	Soluble in water	Molecular Formula	H ₂ O ₂
Molecular Weight	34.015 g/mol	Vapor Pressure (20°C)	0.5 mmHg
Viscosity (25°C)	1.2 cP	Refractive Index (20°C)	1.406
Density (25°C)	1.11 g/mL		

APPLICATIONS

1. **Textile Manufacturing** — Used as a primary bleaching agent to achieve high-quality whitening of fabrics and fibers.
2. **Pulp and Paper** — Acts as an effective oxidizing agent in the bleaching process to improve paper brightness and purity.
3. **Water Treatment** — Applied to neutralize contaminants and manage odors, ensuring cleaner effluent in industrial water systems.
4. **Analytical Chemistry** — Serves as a reliable reagent for laboratory testing and synthesis, backed by strict quality specifications.
5. **Chemical Synthesis** — Functions as a robust oxidant in various chemical reactions to facilitate the production of complex compounds.

STORAGE & HANDLING

Proper storage is critical because Hydrogen Peroxide is a strong oxidizer that poses severe fire and explosion risks if mismanaged. It must be stored in a cool, well-ventilated area away from incompatible materials to prevent rapid decomposition and ensure facility safety.

- 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 reducing agents.
- Ensure proper ventilation when handling to minimize inhalation risks.
- Wear appropriate personal protective equipment (PPE) including 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: **Danger**



Hazard Statements:

- H271: May cause fire or explosion; strong Oxidizer [Danger Oxidizing liquids; Oxidizing solids]
- H302: Harmful if swallowed [Warning Acute toxicity, oral]
- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]
- H332: Harmful if inhaled [Warning Acute toxicity, inhalation]

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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