

PRODUCT IDENTIFICATION

**Product Name:** Hydrogen Peroxide 5% ACS Grade**CAS Number:** 7722-84-1**Molecular Formula:** H_2O_2 **Molecular Weight:** 34.015 g/mol**Grade:** ACS Grade**Purity / Concentration:** 5%**Synonyms:** Dihydrogen Dioxide, Hydrogen Peroxide Solution

PRODUCT OVERVIEW

Hydrogen Peroxide 5% ACS Grade is a high-purity oxidizing agent characterized by strictly controlled trace metal levels, such as copper at 0.03 ppm and aluminum at 0.3 ppm. This clear, colorless liquid is engineered for precise analytical procedures and sensitive chemical synthesis where consistency is paramount.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards established by the American Chemical Society, ensuring it is suitable for demanding laboratory and analytical applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Permanganate)	%	5	4.5	5.5	Permanganate Titration
Residue On Evaporation	ppm	6	0	20	Evaporation
Aluminum Al	ppm	0.3	0	1	ICP-MS
Arsenic Antimony As As	ppm	0.0030	0	0.01	ICP-MS
Calcium Ca	ppm	0.3	0	1	ICP-MS
Cobalt Co	ppm	0.15	0	0.5	ICP-MS
Copper	ppm	0.03	0	0.1	ICP
Iron	ppm	0.15	0	0.5	ICP
Lead Pb	ppm	0.15	0	0.5	ICP-MS
Magnesium Mg	ppm	0.03	0	0.1	ICP-MS
Manganese	ppm	0.3	0	1	ICP
Nickel Ni	ppm	0.03	0	0.1	ICP-MS
Potassium K	ppm	0.3	0	1	ICP-MS
Sodium Na	ppm	0.3	0	1	ICP-MS
Zinc Zn	ppm	0.3	0	1	ICP-MS
Chloride Cl	ppm	0.6	0	2	ICP
Phosphate Po4	ppm	0.6	0	2	ICP
Sulfate So4	ppm	1.5	0	5	ICP
Barium Ba	ppm	0.3	0	1	ICP-MS
Boron B	ppm	0.15	0	0.5	ICP-MS
Cadmium Cd	ppm	0.3	0	1	ICP-MS
Free Acid As H2So4	ueq/g	0.18	0	0.6	Titration
Silicon Si	ppm	0.3	0	1	ICP-MS
Silver Ag	ppm	0.15	0	0.5	ICP-MS
Strontium Sr	ppm	0.3	0	1	ICP-MS
Tin Sn	ppm	0.3	0	1	ICP-MS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear colorless liquid with slight viscosity	Odor	Slightly sharp, reminiscent of bleach
Form	Liquid	Boiling Point	Not characterized for the 5% solution
Melting / Freezing Point	Not characterized for the 5% solution	Flash Point	93°C (199.4°F)
Specific Gravity	1.02	Solubility	Highly water soluble, limited organic solvent mix
Molecular Formula	H ₂ O ₂	Molecular Weight	34.015 g/mol
Vapor Pressure (20°C)	0.23 mmHg	Viscosity (25°C)	1.0 cP
Refractive Index (20°C)	1.406	Density (25°C)	1.01 g/mL

APPLICATIONS

1. **Analytical Chemistry** — Used as a reliable reagent in complex titrations and standardized analytical procedures requiring high-purity chemical inputs.
2. **Textile Manufacturing** — Functions as a controlled bleaching agent to achieve consistent whitening and fiber preparation without the interference of heavy metal contaminants.
3. **Water Treatment** — Applied as an effective oxidant to neutralize and remove organic and inorganic contaminants from water supplies.
4. **Paper and Pulp** — Utilized in the bleaching process to improve brightness and purity in paper products while maintaining strict manufacturing standards.
5. **Chemical Synthesis** — Serves as a powerful oxidizing agent in various laboratory-scale reactions where trace impurity levels must be minimized.

STORAGE & HANDLING

Hydrogen Peroxide must be stored in a cool, ventilated area to prevent thermal decomposition and pressure buildup within the container. Because it is a strong oxidizer, it should be kept away from incompatible materials to minimize the risk of fire and ensure the product remains stable.

- 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) 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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