

PRODUCT IDENTIFICATION

**Product Name:** Hydrogen Peroxide 10% ACS Grade**CAS Number:** 7722-84-1**Molecular Formula:** H_2O_2 **Molecular Weight:** 34.015 g/mol**Grade:** ACS Grade**Purity / Concentration:** 10%**Synonyms:** Hydrogen Dioxide, Peroxide Solution

PRODUCT OVERVIEW

Hydrogen Peroxide 10% ACS Grade is a high-purity, clear, colorless liquid designed for demanding laboratory and industrial applications. Featuring a precise 10.1% assay and exceptionally low trace metal levels like Iron at 0.05 ppm, this solution serves as a reliable and powerful oxidizing agent.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring it is suitable for high-precision analytical work.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Permanganate)	%	10	9.5	10.5	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	Odor	Slightly sharp, characteristic odor
Form	Liquid	Boiling Point	Not characterized for the 10% solution
Melting / Freezing Point	Not characterized for the 10% solution	Specific Gravity	1.035
Solubility	Completely soluble in water	Molecular Formula	H ₂ O ₂
Molecular Weight	34.015 g/mol	Vapor Pressure (20°C)	6.3 mmHg
Viscosity (25°C)	1.12 cP	Refractive Index (20°C)	1.406
Density (25°C)	1.01 g/mL	Decomposition Temp.	not applicable

APPLICATIONS

1. **Analytical Chemistry** — Used as a reagent for precise titrations and complex chemical assays where purity is critical for accurate results.
2. **Water Treatment** — Applied to enhance water quality by oxidizing contaminants and removing organic pollutants through controlled chemical reactions.
3. **Textile Manufacturing** — Utilized as a high-performance bleaching agent to whiten fabrics without compromising fiber integrity.
4. **Chemical Synthesis** — Serves as a fundamental oxidizing agent in various synthetic processes requiring consistent, high-grade chemical inputs.

STORAGE & HANDLING

As a strong oxidizer, Hydrogen Peroxide must be stored in a cool, ventilated area away from combustible materials to prevent fire or explosion risks. Proper containment is essential to prevent severe skin burns and eye damage, as well as to maintain the chemical stability of the solution over time.

- Store in a cool, dry place away from direct sunlight and heat sources.
- Use containers made of HDPE or glass to prevent reactions with metals.
- Avoid contact with organic materials and reducing agents to prevent hazardous reactions.
- 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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