TECHNICAL DATA SHEET

Hydrogen Peroxide 6% ACS Grade

Revised: 09/10/2026

PRODUCT IDENTIFICATION

Product Name: Hydrogen Peroxide 6% ACS Grade
CAS Number: 7722-84-1
Molecular Formula: H_2O_2
Molecular Weight: 34.015 g/mol
Grade: ACS Grade
Purity / Concentration: 6%
Synonyms: Hydrogen Dioxide, Peroxide Solution

PRODUCT OVERVIEW

Hydrogen Peroxide 6% ACS Grade is a high-purity, transparent liquid oxidizing agent formulated to meet rigorous analytical standards. With a low impurity profile, including chloride levels at 0.2 ppm and arsenic at 0.0050 ppm, this solution is designed for precise laboratory and industrial applications.

Grade Significance: ACS Grade signifies that this product meets the strict purity standards set by the American Chemical Society, ensuring it is suitable for demanding laboratory use and analytical testing where impurities must be minimized.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	6	5.8	6.2	Iodometric titration (potassium iodide) with back-titration using standardized thiosulfate
Color (APHA)	APHA	2	—	5	APHA/Hazen visual comparison
Specific Gravity (20°C)	g/mL	1.012	1.01	1.015	Hydrometer or pycnometer at 20°C
Residue After Ignition	%	0.01	—	0.02	Gravimetric analysis after ignition
Aluminum (Al)	ppm	0.05	—	0.2	ICP-OES
Arsenic (As)	ppm	0.0050	—	0.01	ICP-MS
Calcium (Ca)	ppm	0.4	—	1	ICP-OES
Chromium (Cr)	ppm	0.05	—	0.2	ICP-OES
Cobalt (Co)	ppm	0.03	—	0.1	ICP-OES
Copper (Cu)	ppm	0.05	—	0.1	ICP-OES
Heavy Metals (as Pb)	ppm	0.0050	—	0.01	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-OES or ICP-MS
Lead (Pb)	ppm	0.03	—	0.1	ICP-OES
Magnesium (Mg)	ppm	0.4	—	1	ICP-OES
Manganese (Mn)	ppm	0.03	—	0.1	ICP-OES
Nickel (Ni)	ppm	0.04	—	0.1	ICP-OES
Potassium (K)	ppm	0.2	—	0.5	ICP-OES
Sodium (Na)	ppm	0.2	—	0.5	ICP-OES
Zinc (Zn)	ppm	0.08	—	0.2	ICP-OES
Ammonium (NH_4^+)	ppm	0.2	—	0.5	Ion Chromatography (IC)
Chloride (Cl^-)	ppm	0.2	—	0.5	Ion Chromatography (IC) or ICP-OES
Nitrate (NO_3^-)	ppm	0.5	—	1	Ion Chromatography (IC)
Phosphate (PO_4^{3-})	ppm	0.2	—	0.5	Ion Chromatography (IC)
Sulfate (SO_4^{2-})	ppm	1	—	2	Ion Chromatography (IC)

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Transparent, colorless liquid solution	**Form**	Liquid
Boiling Point	Not characterized for the 6% solution	**Melting / Freezing Point**	Not characterized for the 6% solution
Specific Gravity	1.02	**Solubility**	Highly water miscible, polar solvent compatible
Molecular Formula	H_2O_2	**Molecular Weight**	34.015 g/mol

APPLICATIONS

1. **Analytical Chemistry** — Used as a reliable reagent in laboratory titrations and complex analytical procedures requiring high-purity components.
2. **Water Treatment** — Applied in specialized water treatment processes to effectively control organic contaminants through its powerful oxidizing properties.
3. **Textile Manufacturing** — Utilized as a controlled bleaching agent for fabrics to achieve consistent whitening and preparation results.
4. **Chemical Synthesis** — Serves as a versatile oxidizing agent in various chemical reactions where purity is essential for reaction integrity.

STORAGE & HANDLING

Proper storage is critical because hydrogen peroxide can decompose when exposed to heat or light, which compromises its concentration and effectiveness. It should be kept in a cool, well-ventilated area in its original, vented container to prevent pressure buildup and maintain 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 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:

- Not classified as hazardous under GHS based on available data.

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.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com