

PRODUCT IDENTIFICATION



Product Name: Hydrogen Peroxide 6% ACS Grade

CAS Number: 7722-84-1

Molecular Formula: H₂O₂

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, colorless oxidizing agent characterized by stringent analytical standards, including a 6% assay and ultra-low impurity levels like 0.2 ppm chloride. It serves as a reliable, stable solution for precise laboratory research and critical industrial processes requiring consistent chemical performance.

Grade Significance: ACS Grade signifies that the product meets the rigorous specifications set by the American Chemical Society, ensuring the high purity and low contaminant levels required for analytical and research applications.

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	150.2°C (302.4°F)	Melting / Freezing Point	-0.4°C (31.3°F)
Flash Point	42°C (107.6°F)	Specific Gravity	1.025
Solubility	Highly water miscible, polar solvent compatible	Molecular Formula	H ₂ O ₂
Molecular Weight	34.015 g/mol		

APPLICATIONS

1. **Analytical Chemistry** — Used as a high-purity reagent for precise titrations and complex laboratory analytical procedures where impurity interference must be minimized.
2. **Water Treatment** — Applied to control organic contaminants and neutralize odors, ensuring water quality meets strict environmental and safety standards.
3. **Textile Manufacturing** — Utilized as a controlled bleaching agent to achieve uniform whiteness and surface preparation in delicate fabric production.
4. **Chemical Synthesis** — Serves as a powerful oxidizing agent in various chemical reactions, facilitating controlled transformations in industrial manufacturing.

STORAGE & HANDLING

Proper storage is critical because this chemical is a strong oxidizer that poses fire and explosion risks if improperly handled. It must be kept in a cool, well-ventilated area away from incompatible materials to maintain chemical stability and prevent hazardous degradation.

- 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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