TECHNICAL DATA SHEET

Hydrogen Peroxide 6% Technical Grade

Revised: 02/20/2026

PRODUCT IDENTIFICATION

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

PRODUCT OVERVIEW

Alliance Chemical's Hydrogen Peroxide 6% Technical Grade is a versatile solution characterized by its transparent, pale blue appearance and a specific gravity of 1.022 g/mL (at 20°C). As a strong oxidizing agent with an assay of 6.1%, this product is primarily used in various chemical reactions and water treatment processes. It is crucial to follow safety guidelines due to its potential to cause fire or explosion and severe skin burns.

Grade Significance: Technical Grade hydrogen peroxide signifies that the product meets specific industry standards for purity and quality, suitable for industrial and technical applications. While it may contain trace impurities, it is still effective for its intended uses in chemical processes, water treatment, and bleaching applications where high purity is not strictly required.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	6.1	5.8	6.4	Titration with Potassium Permanganate
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.022	1.019	1.025	Hydrometer
Residue After Ignition	%	0.0020	—	0.01	Gravimetric
Iron (Fe)	ppm	0.1	—	1	ICP-OES
Chloride (Cl^-)	ppm	0.2	—	2	Ion Chromatography
Nitrate (NO_3^-)	ppm	0.2	—	2	Ion Chromatography
Phosphate (PO_4^{3-})	ppm	0.1	—	1	Spectrophotometry
Sulfate (SO_4^{2-})	ppm	0.5	—	5	Ion Chromatography
Acidity As H2So4	ppm	15	—	50	Titration with NaOH

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Transparent, pale blue liquid	**Odor**	Slightly sharp, pungent odor
Form	Liquid	**Boiling Point**	150°C (302°F)
Melting / Freezing Point	-0°C (31°F)	**Specific Gravity**	1.025
Solubility	Fully miscible with water	**Molecular Formula**	H_2O_2
Molecular Weight	34.015 g/mol	**Vapor Pressure (20°C)**	0.23 mmHg
Viscosity (25°C)	1.12 cP	**Refractive Index (20°C)**	1.406
Density (25°C)	1.010 g/mL		

APPLICATIONS

1. **Chemical Synthesis** — Hydrogen peroxide acts as a powerful oxidizing agent in various chemical reactions, facilitating the synthesis of different compounds. Its controlled reactivity allows for selective oxidation, making it valuable in producing pharmaceuticals, polymers, and specialty chemicals.
2. **Water Treatment** — In water treatment, hydrogen peroxide effectively removes contaminants through oxidation. It breaks down organic pollutants, disinfects water sources, and controls odor, contributing to safer and cleaner water supplies.
3. **Textile Industry** — Hydrogen peroxide is a key bleaching agent for textiles, providing a clean and uniform whitening effect. It is used to prepare fabrics for dyeing and printing, ensuring high-quality and vibrant colors.
4. **Paper Industry** — In the paper industry, hydrogen peroxide bleaches wood pulp to produce brighter and higher-quality paper products. It offers an environmentally friendly alternative to chlorine-based bleaching agents, reducing harmful byproducts.
5. **Analytical Chemistry** — Hydrogen peroxide serves as a reagent in analytical chemistry for various quantitative and qualitative analyses. Its consistent and predictable reactions enable precise determination of analyte concentrations in different samples.
6. **Environmental Remediation** — Hydrogen peroxide is used in environmental remediation to treat contaminated soil and groundwater. It oxidizes pollutants in situ, breaking them down into less harmful substances and restoring environmental quality.

STORAGE & HANDLING

Proper storage of Hydrogen Peroxide 6% Technical Grade is crucial to maintain its stability and prevent hazardous situations. Due to its oxidizing nature, exposure to incompatible materials or elevated temperatures can lead to decomposition, potentially causing fire or explosion. Therefore, storing it in a cool, dry, and well-ventilated area, away from combustible substances, is essential for safety and product integrity.

- 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 in storage areas.
- Use personal protective equipment (PPE) such as gloves and goggles when handling.

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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