

PRODUCT IDENTIFICATION

**Product Name:** Deionized Water**CAS Number:** 7732-18-5**Molecular Formula:** H₂O**Molecular Weight:** 18.015 g/mol**Grade:** Technical**Purity / Concentration:** 100%**Synonyms:** Demineralized Water, Purified Water

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Technical grade Deionized Water, characterized by an exceptionally low conductivity of 0.06 µS/cm and minimal trace ion content. This demineralized water is an essential baseline solvent for sensitive chemical analyses, chromatography, and precision industrial cooling applications.

Grade Significance: Technical grade indicates a high-purity product suitable for industrial and laboratory applications where consistent, low-contaminant water is required for reliable results.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	100.0	99.5	100.5	Titration/Gravimetric
pH	—	6.25	5	7.5	pH Meter
Non Volatile Residue	mg/100mL	≤ 50 mg/100mL	—	—	Evaporation
Aluminum Al	ppm	ND	0	—	ICP-MS
Calcium Oxide Cao	%	ND	0	—	ICP
Chromium Cr	ppm	ND	0	—	ICP-OES
Copper Cu	ppm	ND	0	—	ICP-OES
Heavy Metals	ppm	≤ 1 ppm	—	—	ICP
Iron	ppm	ND	0	—	ICP
Lead Pb	ppm	ND	0	—	ICP-MS
Magnesium	%	ND	0	—	Per specification
Nickel Ni	ppm	ND	0	—	ICP-OES
Zinc Zn	ppm	ND	0	—	ICP-MS
Nitrate (NO ₃ ⁻)	ppm	≤ 0.4 ppm	—	—	Per specification
Phosphate	ppm	≤ 1 ppm	—	—	Per specification
Sulfate (SO ₄ ²⁻)	ppm	≤ 1 ppm	—	—	Ion chromatography
Conductivity 25C	μS/cm	0.05	—	0.06	Conductivity Meter
Silver Ag	ppm	ND	0	—	ICP-MS
Tin Sn	ppm	ND	0	—	ICP-MS
Total Solids	ppm	0.3	—	1	Per specification
Zirconium Zr	ppb	0.5	0	—	ICP-MS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, odorless	Odor	Odorless
Form	Liquid	Boiling Point	212 °F at 760 mmHg
Melting / Freezing Point	32°C (90°F)	Specific Gravity	1.0
Solubility	Miscible with water	Molecular Formula	H ₂ O
Molecular Weight	18.015 g/mol	Vapor Pressure (20°C)	23.8 mmHg
Refractive Index (20°C)	1.3330	Density (25°C)	0.998 g/mL
Decomposition Temp.	Not applicable		

APPLICATIONS

- Analytical Chemistry** — Used as a high-purity mobile phase component in reversed-phase chromatography to ensure accurate separation of organic compounds.
- Laboratory Research** — Serves as an ideal baseline solvent for UV-Vis spectroscopy due to its extremely low UV cutoff wavelength and lack of interfering contaminants.
- Industrial Manufacturing** — Utilized in high-performance cooling systems for machinery to prevent mineral buildup and equipment overheating.
- Chemical Formulation** — Acts as a reliable, non-reactive base for the preparation of complex reagents and chemical solutions where purity is critical.

STORAGE & HANDLING

Deionized water must be stored in high-quality, sealed containers to prevent the absorption of atmospheric carbon dioxide and airborne contaminants, which would quickly increase conductivity. Maintaining a clean, airtight environment preserves the product's integrity and prevents the leaching of ions from storage vessel materials.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent leaching of contaminants.
- Avoid exposure to air to minimize recontamination.
- Use appropriate PPE such as gloves and goggles when handling.
- Ensure proper ventilation in storage areas to avoid buildup of vapors.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Not Classified

No GHS pictograms assigned.

Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 1866 of 1876 companies (only 0.5% companies provided GHS information). For more detailed information, please visit ECHA C&L website.

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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