

TECHNICAL DATA SHEET

Deionized Water ACS Reagent Grade

Reagent

CAS NUMBER	ALLIANCE CODE	GENERATED
7732-18-5	deionized-water	2026-08-31
REVISION	REVIEWED	
1.2	2026-06-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Deionized Water ACS Reagent Grade	deionized-water
GRADE	CONCENTRATION
Reagent	—
CAS NUMBER	FORMULA
7732-18-5 PubChem	H2O PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
18.015 PubChem	pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Ammonium (NH4)	max. 0.000001%	0.0000002 %	—	Supplier specification
Conductivity at 25 °C (ASTM D1193 Type II)	< 1 µS/cm	0.4	—	Supplier specification
Heavy Metals (as Pb)	<= 0.01 ppm	0.002 ppm	not stated	ACS Reagent Chemicals

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Iron (Fe) by ICP	max. 0.01 mg/Kg (ppm)	0.003 mg/Kg (ppm)	ICP	Supplier specification
Substances Reducing Permanganate	Passes Test	Passes test	not stated	ACS Reagent Chemicals
Residue on ignition	max. 0.0002 %	0.00002 %	—	Supplier specification
Resistivity at 25 °C (ASTM D1193 Type II)	> 1 MΩ-cm	2.5	—	Supplier specification
Silicate (as SiO ₂)	<= 0.01 ppm	0.005 ppm	not stated	ACS Reagent Chemicals
Silicate (SiO ₂)	max. 0.000001%	0.0000005 %	—	Supplier specification
Sodium (Na) by ICP	max. 0.1 mg/Kg (ppm)	0.02 mg/Kg (ppm)	ICP	Supplier specification
Sulfate (SO ₄)	<= 1.0 ppm	0.02 ppm	not stated	ACS Reagent Chemicals
Total organic carbon (TOC) (ASTM D1193 Type II)	< 50 ppb	15 ppb	—	Supplier specification
Ultraviolet absorbance, 1 cm, 254 nm	max. 0.01	0.001	—	Supplier specification
Chloride (Cl)	≤ 0.4 ppm	0.05 ppm	not stated	ACS Reagent Chemicals

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Nitrate (NO ₃)	≤ 0.4 ppm	0.03 ppm	not stated	ACS Reagent Chemicals
Phosphate (PO ₄)	≤ 1.0 ppm	0.01 ppm	not stated	ACS Reagent Chemicals
Residue after Evaporation	≤ 0.0002 %	0.00002 %	not stated	ACS Reagent Chemicals
Specific Conductance at 25°C	≤ 2.0 µS/cm at 25 °C	0.4	not stated	ACS Reagent Chemicals
Calcium (Ca) by ICP	max. 0.1 mg/Kg (ppm)	0.005 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted
Magnesium (Mg) by ICP	max. 0.1 mg/Kg (ppm)	0.003 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted
Potassium (K) by ICP	max. 0.1 mg/Kg (ppm)	0.01 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted
Copper (Cu) by ICP	max. 0.01 mg/Kg (ppm)	0.002 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted
Nickel (Ni) by ICP	max. 0.01 mg/Kg (ppm)	0.001 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted
Manganese (Mn) by ICP	max. 0.01 mg/Kg (ppm)	0.0005 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Zinc (Zn) by ICP	max. 0.01 mg/Kg (ppm)	0.002 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted
Lead (Pb) by ICP	max. 0.01 mg/Kg (ppm)	0.0005 mg/Kg (ppm)	ICP-OES (ASTM D1976 / EPA 200.7)	Interpreted

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless liquid	Adjudicated
Form	Liquid	Adjudicated
Color	Colorless	Adjudicated
Odor	Odorless	Adjudicated
pH	5.0 – 7.5	Adjudicated
Specific Gravity (20 °C)	0.998	Adjudicated
Density	0.998 g/cm ³ at 20 °C	Adjudicated
Boiling Point	100 °C (212 °F) at 760 mmHg	Adjudicated
Melting Point	0 °C (32 °F)	Adjudicated
Flash Point	Not applicable	Adjudicated
Vapor Pressure	17.5 mmHg at 20 °C	Adjudicated
Vapor Density	0.62 (air = 1)	Adjudicated
Solubility (water)	Not applicable	Adjudicated
Refractive Index (nD 20)	1.333	Adjudicated
Viscosity	1.002 mPa·s at 20 °C	Adjudicated

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated [Adjudicated](#)

PACKING GROUP

Not regulated [Adjudicated](#)

HAZARD CLASS

Not regulated [Adjudicated](#)

PROPER SHIPPING NAME

Not regulated [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

— [no canonical](#)

P-CODES (PRECAUTIONARY STATEMENTS)

— [no canonical](#)

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— [no canonical](#)

ACGIH TLV

— [no canonical](#)

NIOSH REL

— [no canonical](#)

NIOSH IDLH

— [no canonical](#)

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

APPLICATIONS

Reagent water for use in laboratory analysis, meeting ISO 3696 type 2 specifications [itwreagents.com](#)

Most widely used laboratory reagent, present in most laboratory processes and solutions

[itwreagents.com](#)

General laboratory, industrial process, agricultural and utility use [itwreagents.com](#)

Chemical manufacturing: solution preparation, chemical dilution and apparatus cleaning

[puretecwater.com](#)

Academic and research laboratory use in chemistry, biology and environmental science experiments

[puretecwater.com](#)

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

Storage: Room Temperature. [itwreagents.com](https://www.itwreagents.com)

INCOMPATIBILITIES

Consult the SDS for material-specific incompatibilities.

Class-level guidance — not product-specific; the SDS controls.

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

Class-level guidance — not product-specific; the SDS controls.

SHELF LIFE

60 months digitalassets.avantorsciences.com

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

Not regulated for transport.

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
55

REVISION HISTORY

Last reviewed 2026-06-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.2	2026-07-31	Canonical data updated: 15 fields changed via the provenance/adjudication pipeline. - appearance · canonical change (coa.data_provenance / adjudication) - pH · canonical change (coa.data_provenance / adjudication) - form · canonical change (coa.data_provenance / adjudication) - color · canonical change (coa.data_provenance / adjudication) - odor · canonical change (coa.data_provenance / adjudication) - specificGravity · canonical change (coa.data_provenance / adjudication) - density · canonical change (coa.data_provenance / adjudication) - boilingPoint · canonical change (coa.data_provenance / adjudication) - meltingPoint · canonical change (coa.data_provenance / adjudication) - flashPoint · canonical change (coa.data_provenance / adjudication) - vaporPressure · canonical change (coa.data_provenance / adjudication) - vaporDensity · canonical change (coa.data_provenance / adjudication) - solubility · canonical change (coa.data_provenance / adjudication) - refractiveIndex · canonical change (coa.data_provenance / adjudication) - viscosity · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-06-17	Canonical data re-verified: 3 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). - countryOfOrigin · canonical adjudication / reground (coa.data_provenance) - dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) - hsCode · canonical adjudication / reground (coa.data_provenance)	canonical_change
1.0	2026-05-20	Initial URL—first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.