

# High Purity Water

# RICCA®



## RIGHT

Uncompromising Quality

## READY

4 Manufacturing/  
Inventory Locations

## RICCA

Tightest Tolerances in the Industry,  
Lowest Lot-to-Lot Variability

Put the simplicity back into water with RICCA, the premier choice for all your water needs. We offer the broadest line of water types, packaging and testing configurations. Our state of the art water and quality systems at multiple facilities means rapid manufacturing and delivery to anywhere in North America.

- Sterile, Molecular Biology Grade
- USP Sterile Purified (WFI Quality)
- LC/MS
- HPLC
- USP/EP/JP Purified
- ACS Reagent Grade, ASTM Type I, II, III, IV



## Why Source with RICCA?

### RIGHT

- Tightest Specifications in the industry, lowest lot-to-lot variability
- ISO 17025 Accredited Laboratories, FDA, cGMP compliant facilities
- All products Certified Traceable to NIST Standards when available

### READY

- Nationwide manufacturing/inventory locations
- Full documentation with each product - Certificate of Analysis
- Chemists ready to assist you in selecting the right product

### RICCA

- Over 45 years of successfully serving you, our customer



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 **fisher scientific**  
part of Thermo Fisher Scientific

## Water Solutions

Our goal is to provide you with the broadest choice of water type, packaging and test configuration to ensure that the right quality of water is used for your specific application, while helping you optimize your operating budget. Whether you are preparing samples, mobile phases or solutions, using the right type of water can make the difference in obtaining the best results.

**If you don't see the water type, packaging or test configuration you need, contact us for a fast, cost-effective custom product!**

### Sterile Water, Molecular Biology Grade

- Suitable for a wide range of applications including PCR, electrophoresis, DNA sequencing and more
- RNase, DNase, Protease and Endotoxin Free to mitigate biological interference.
- No toxic agents, such as DEPC, are used in purification methods



Part Number	Product Name	Package Size
R91450001G	Water, Molecular Biology Grade Sterile, RNase Free, DNase Free, Protease Free, DEPC Free, PETG	1 L

### Water, USP Purified Sterile Water (WFI Quality)

- Suitable for pharmaceutical, bio-processing, medical device manufacturing and research applications
- Tested to USP Monograph for Sterile Water for Injection (WFI), USP <71>
- Purified by reverse osmosis and sterile filtration
- No antimicrobial agents or other substances added



Part Number	Product Name	Package Size
R91920002oS	Water, USP Purified STERILE Filtered, WFI Quality, Poly Bag in a Box	20 L
R919200055S	Water, USP Purified STERILE Filtered, WFI Quality, Poly Bag in a Drum	200 L

### LC/MS Grade Water

- Suitable for use with critical LC/MS applications, mobile phase preparation, blanks and sample dilution
- Low UV Absorptivity to provide the most sensitive detection across all wavelengths
- Specifically purified under our exacting conditions and tested to the tightest tolerances for the lowest lot-to-lot variability, maximizing the quality of your data and life of your equipment



Part Number	Product Name	Package Size
R91540001C	Water, LC/MS Grade, Amber Glass Bottle	1 L
R91540004C	Water, LC/MS Grade, Amber Glass Bottle	4 L

#### Contact Us At:

sales@riccachemical.com  
(888) GO - RICCA (467-4222)

#### Visit Us Online:

www.riccachemical.com

## HPLC Grade Water

- Suitable for LC/HPLC/UPLC applications, mobile phase preparations, blanks, and sample dilution
- Absorbance and LC Suitability results on C of A
- Packaged in Amber Glass Bottles



Part Number	Product Name	Package Size
915332	Water, HPLC Grade ACS Reagent Grade, Suitable for Liquid Chromatography, Amber Glass Bottle	1 L
91531	Water, HPLC Grade ACS Reagent Grade, Suitable for Liquid Chromatography, Amber Glass Bottle	4 L

## USP/EP/JP Purified Water

- Ideal for Pharmaceutical testing laboratories
- Water system validated under cGMP
- Tested to the latest USP/EP requirements
- Low Microbial Count/Non-Sterile

Part Number	Product Name	Package Size
R918900020F	Water, USP /EP/JP Purified, Cubitainer®	20 L
R918900020E	Water, USP/EP/JP Purified, Ropak	20 L
91901	Water, USP/EP Purified, Poly Bottle	4 L
91901G	Water, USP/EP Purified, Amber Glass Bottle	4 L
R91900004F	Water, USP/EP Purified, Cubitainer®	4 L
919025	Water, USP/EP Purified, Cubitainer®	10 L
91905	Water, USP/EP Purified, Cubitainer®	20 L
91905HP	Water, USP/EP Purified, Ropak	20 L
919100055E	Water, USP Purified, Nonsterile, Poly Drum	55 Gal
R9191000330	Water, USP Purified, Nonsterile, Tote	330 Gal

## Distilled Water

- For methods that require distilled water
- Additional distillation step to further purify high purity water
- Specially cleaned packaging



Part Number	Product Name	Package Size
918032	Water, Distilled, Reagent Grade, Glass Amber Bottle	1 L
91801	Water, Distilled, Reagent Grade, Glass Amber Bottle	4 L
91805	Water, USP/EP Purified, Cubitainer®	20 L
R918000055E	Water, USP/EP Purified, Poly Drum	55 Gal

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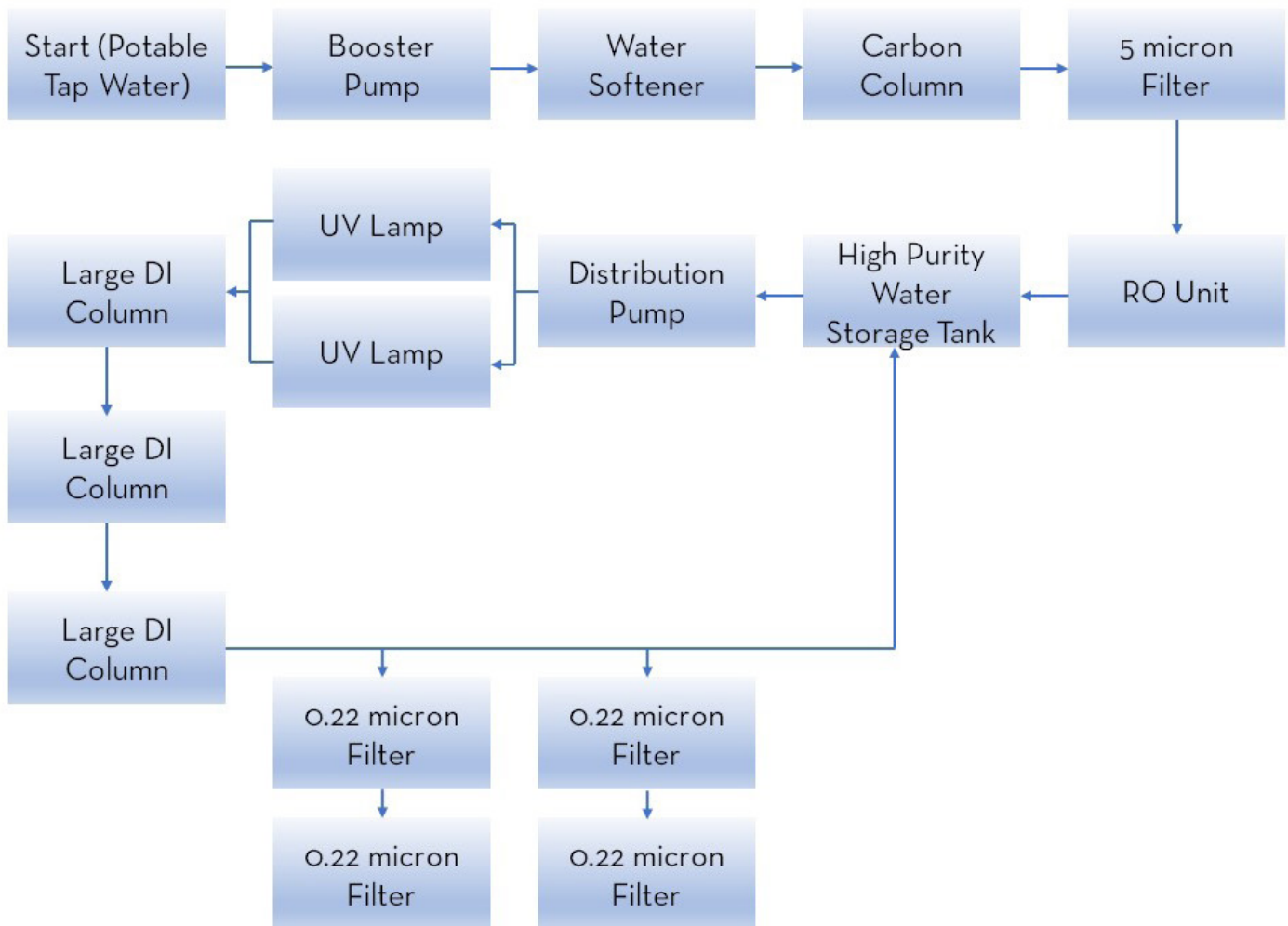
## ACS/ASTM Reagent Grade Water

- For general laboratory requirements where microbial specifications are not a concern
- Tested to latest ACS, ASTM requirements
- ASTM Types I-IV
  - > Type III Water, lowest laboratory grade water, recommended for glassware washing, heating baths and filling autoclaves or feed Type I lab water systems
  - > Type II Water, general laboratory applications, preparation of reagents, filling incubators or test chambers
  - > Type I Water, required for critical lab applications
- Deionized, 18 Megaohm water
- Packaged in glass bottles when very low organic levels are needed

Part Number	Product Name	Package Size
R9150000500	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Poly Bottle	500 mL
915032	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Poly Bottle	1 L
91501	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Poly Bottle	4 L
R91500004F	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Cubitainer®	4 L
915025	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Cubitainer®	10 L
91505	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Cubitainer®	20 L
91505HP	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Ropak	20 L
13622621	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Poly Drum	55 Gal
91511	Water, ACS Reagent Grade, ASTM Type I, ASTM Type II, Amber Glass	4 L
R9152000500	Water, ACS Reagent Grade, ASTM Type II, Poly Bottle	500 mL
915232	Water, ACS Reagent Grade, ASTM Type II, Poly Bottle	1 L
91521	Water, ACS Reagent Grade, ASTM Type II, Poly Bottle	4 L
915225	Water, ACS Reagent Grade, ASTM Type II, Cubitainer®	10 L
91525	Water, ACS Reagent Grade, ASTM Type II, Cubitainer®	20 L
915255	Water, ACS Reagent Grade, ASTM Type II, Poly Drum	55 Gal
R91514001A	Water, ASTM Type IV, Poly Bottle	1 L

## Schematic of Water System

Ricca's closed loop continuous process water systems at each of our facilities include continual monitoring of TOC (Total Organic Carbon). In addition, our systems use conventional water softening, prefiltration, activated carbon organic adsorption, reverse osmosis, mixed bed triple deionization, ultraviolet light irradiation and 0.2 micron membrane filtration. Our water systems have been validated to meet ACS/ASTM/USP/EP specifications.





## Water Specification Chart

	R9145000	R9150000	R9151000	R9152000	R9153000
Acidity					
Alkalinity					
Ammonia (NH <sub>3</sub> )					
Ammonium (NH <sub>4</sub> )					
Appearance	Clear, Colorless Liquid	Colorless Liquid	Colorless Liquid	Colorless Liquid	Colorless Li
Bioburden (no growth)	To Pass test				
Calcium					
Carbon Dioxide (CO <sub>2</sub> )					
Chloride (Cl)		max 1 ppb	max 1 ppb	max 5 ppb	max 0.4 ppm
Conductivity at 25°C		max 0.056 µS/cm	max 0.056 µS/cm	max 1.0 µS/cm	max 0.056 µ
Conductivity (Bulk) at 25°C USP <645>					
Conductivity (Packaged) at 25°C USP <645>					
DNase Activity	None detected				
Endotoxin (Chromogenic Determination)					
Endotoxin	None detected				
Heavy Metals (as Pb)		max 0.01 ppm	max 0.01 ppm	max 0.01 ppm	max 0.01 ppm
LC Suitability (Absorbance)					To Pass Test
LC Suitability (Gradient Elution Test)					To Pass Test
LCMS Suitability (neg Mode (As 4-Nitrophenol)					
LCMS Suitability (neg Mode (As Reserpine)					
Lithium					
Magnesium (Mg)					
Microbial Count (at time of manufacture)					
Nitrate (NO <sub>3</sub> )		max 0.4 ppm	max 0.4 ppm	max 0.4 ppm	max 0.4 ppm
Nitrogen (as Nitrite)					
Organic Carbon (TOC)		max 50 ppb	max 50 ppb	max 50 ppb	max 50 ppb
Oxidizable Substances (Permanganate Retention)		To Pass Test	To Pass Test	To Pass Test	To Pass Test
pH at 25°C					
Phosphate (PO <sub>4</sub> )		max 1.0 ppm	max 1.0 ppm	max 1.0 ppm	max 1.0 ppm
Potassium					
Protease Activity	None detected				
Residue after evaporation (non-Volatile Matter)					
RNase Activity	None detected				
Silicate (as SiO <sub>2</sub> )		max 3 ppb	max 3 ppb	max 3 ppb	max 0.01 ppm
Sodium (Na)		max 1 ppb	max 1 ppb	max 5 ppb	
Sterility USP <71>					
Sulfate (SO <sub>4</sub> )		max 1.0 ppm	max 1.0 ppm	max 1.0 ppm	max 1.0 ppm



	R9154000	R9180000	R9189000	R9190000	R9191000	R9192000
			To Pass Test	To Pass Test		
			To Pass Test	To Pass Test		
			max 0.05 ppm	max 0.3 ppm	max 0.3 ppm	
				max 0.2 ppm	max 0.2 ppm	
iquid	Clear, Colorless Liquid	Colorless Liquid	Colorless Liquid	Colorless Liquid	Clear, Colorless Liquid	
	max 10.00 ppb		max 0.5 ppm	max 0.5 ppm	max 0.5 ppm	
			To Pass Test	To Pass Test	To Pass Test	
n	max 0.04 ppm		max 0.1 ppm	max 0.5 ppm	max 0.5 ppm	
S/cm	max 0.056 µS/cm	max 1.5 µS/cm	max 1.0 µS/cm	max 1.0 µS/cm	max 1.0 µS/cm	
						max 1.3 µS/cm
						To Pass Test
			max 0.25 EU/mL	max 0.25 EU/mL		max 0.25 EU/mL
m			max 0.1 ppm	max 0.1 ppm	max 0.1 ppm	
	To Pass Test					
	To Pass Test					
	To Pass Test					
	To Pass Test					
	max 10 ppb					
	max 10 ppb		max 0.5 ppm	max 0.5 ppm	max 0.5 ppm	
			max 100 CFU/mL	max 100 CFU/mL		
n	max 0.4 ppm		max 1 ppb	max 0.2 ppm	max 0.2 ppm	
			max 1 ppb			
	max 50 ppb		max 0.5 ppm	max 0.50 ppm	max 0.50 ppm	max 500 ppb
			To Pass Test	To Pass Test	To Pass Test	
			5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	
			max 0.001%	max 0.001%	max 0.001%	
m						
						No Growth
			max 0.5 ppm	max 0.5 ppm	max 0.5 ppm	

# Product Offerings

## Buffers

### *pH Calibration*

- Reference\*
- Precision Reference\*
- Buffer Concentrates\*

### *pH Control*

- Dissolution
- Phosphate
- Acetate

## Compendial Solutions

- ACS
- AOAC
- APHA
- ASTM
- EPA
- TAPPI
- USP/EP

## Solvents

- Alcohol
- Blends
- Extraction Chemicals
- HPLC Grade Reagents
- Hydrocarbon
- Oxygenated
- Surfactant

## General Use

### *Cleaning Solutions*

- Electrode
- Surface
- Glassware
- Equipment

### *Other Aqueous Solutions*

### *Non-Aqueous Solutions*

### *Reagent Grade Chemicals*

## Acids

- Hydrochloric Acid
- Sulfuric Acid
- Nitric Acid
- Trichloroacetic Acid
- Acetic Acid
- Boric Acid
- Citric Acid
- Hydrofluoric Acid
- Phosphoric Acid

## Bases

- Sodium Hydroxide
- Potassium Hydroxide
- Ammonium Hydroxide

## Standards

### *Conductivity/TDS\**

- Potassium Chloride\*
- Sodium Chloride\*

### *Ion Selective Electrodes (ISE)*

- Ionic Strength Adjustors
- Filling Solutions
- ISE Standards

### *Color Standards*

- USP Colorimetric
- EP Colorimetric
- Gardner
- Platinum-Cobalt (APHA-Hazen)

### *UV-VIS Absorbance*

### *Oxidation-Reduction Potential*

### *Turbidity*

### *Specific Gravity*

## Spectroscopy

### *ICP/ICP-MS\**

- Single Elements\*
- Multi-element\*

### *Atomic Absorption (AA)\**

- Single Elements\*
- Ionization Buffer Agents
- GFAA\*
- Calibration & Spiking Blends\*
- Matrix Modifiers
- CVAA\*

### *Ion Chromatography (IC)\**

- Chlorine Equivalent\*
- Nitrogen/Nitrate/Nitrite\*
- Ammonia\*
- Carbon\*
- BOD/COD\*
- Chloride\*
- Fluoride\*
- Sulfate\*
- Phosphate\*

## Titration

### *Acids (Aqueous, Non-Aqueous)*

- Hydrochloric
- Sulfuric
- Nitric
- Acetic
- Perchloric

### *Bases (Aqueous, Non-Aqueous)*

- Sodium Hydroxide
- Potassium Hydroxide
- Sodium Carbonate
- Ammonium Hydroxide

### *Oxidation-Reduction (Redox)*

- Sodium Thiosulfate
- Potassium Permanganate
- Phenylarsine Oxide
- Iodate
- Iodate-Iodide
- Biiodate
- Bromate-Bromide
- Potassium Dichromate
- Iodine
- Ferrous Ammonium Sulfate
- Ceric Sulfate

### *Other Titrants*

- EDTA
- Mercuric Nitrate
- Calcium Chloride
- Potassium Thiocyanate
- Sodium Chloride
- Zinc Sulfate
- Silver Nitrate

### *Karl Fischer Reagents*

- Coulometric Reagents
- Volumetric Reagents
- Solvents
- Water Standards

## Indicators

- Mixed Indicators
- Universal Indicators
- Acid-Base Indicators
- Adsorption Indicators
- Hardness Indicators
- Oxidation Reduction Indicators
- Complexometric Indicators

## High Purity Water

- ACS/ASTM Type I-IV
- Distilled
- HPLC Grade
- LC/MS Grade
- Sterile Molecular Biology Grade
- USP/EP
- USP Purified, Sterile (WFI Quality)

## In-Vitro Diagnostics

- Clinical Reagents
- Cytology Reagents
- Fixatives & Stains
- Histology Reagents
- Microbiology Reagents

\* Tested in an ISO 17025 accredited laboratory options available  
\* Certified Reference Material  
ISO 17034 options available

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