

High Purity Opaque White Ptfе Chemical Storage Barrels And Customizable Fluoropolymer Reaction Sampling Vessels

Item Number: PL-CP116



Introduction

Discover premium high-purity PTFE reaction barrels and opaque storage vessels engineered for extreme chemical resistance and thermal stability. Our customizable industrial tanks ensure contamination-free sampling and fluid handling in demanding laboratory and pharmaceutical manufacturing environments.

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Application	Description	Key Benefit
Semiconductor Etching	Storage and transport of ultra-pure hydrofluoric acid and etching blends used in wafer fabrication.	Prevents metal ion leaching and maintains electronic-grade purity.
Pharmaceutical API Synthesis	Serving as a primary reaction vessel for the synthesis of Active Pharmaceutical Ingredients involving aggressive reagents.	Ensures no cross-batch contamination and withstands high reaction temperatures.
Trace Metal Analysis	Sampling and storage of environmental or industrial samples for high-sensitivity mass spectrometry.	Lowers detection limits by eliminating background interference from the vessel material.
Specialty Chemical Mixing	Blending of volatile or highly corrosive chemical catalysts and additives in industrial settings.	Protects operators and the environment through superior containment reliability.
Food & Flavor Processing	Handling of concentrated essential oils, acids, and flavoring agents in high-volume production.	FDA-compliant material properties ensure no odor or taste transfer.
Aerospace Fuel Additives	Storage of high-energy chemical additives and oxidizers used in specialized propulsion systems.	Reliable performance under extreme temperature fluctuations and corrosive stress.
Battery Electrolyte Prep	Mixing and storage of corrosive electrolytes for lithium-ion and next-generation battery testing.	Chemical compatibility with lithium salts and organic solvents used in battery R&D.
Cryogenic Fluid Storage	Containment of samples or reagents in ultra-low temperature environments.	Remains ductile and resists cracking at temperatures where other plastics become brittle.

Parameter	Specification Details (Model PL-CP116)
Base Material	High-Purity Virgin PTFE (Polytetrafluoroethylene)
Visual Appearance	Opaque White (UV-Shielding)
Nominal Capacity	10L (Custom volumes available from 1L to 100L)
Temperature Range	-260°C to +260°C (-436°F to +500°F)
Chemical Resistance	Universal (Except molten alkali metals and elemental fluorine)
Coefficient of Friction	0.05 to 0.10 (Static and Dynamic)
Dielectric Strength	18-22 kV/mm
Tensile Strength	Customizable based on wall thickness (typically 25-35 MPa)
Elongation at Break	250% - 350%
Customization Options	CNC-machined ports, dip tubes, venting caps, and integrated valves

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Cleaning Compatibility	Autoclavable; compatible with CIP (Clean-In-Place) systems	
Standard Configuration	Heavy-duty screw cap with leak-proof sealing ring	