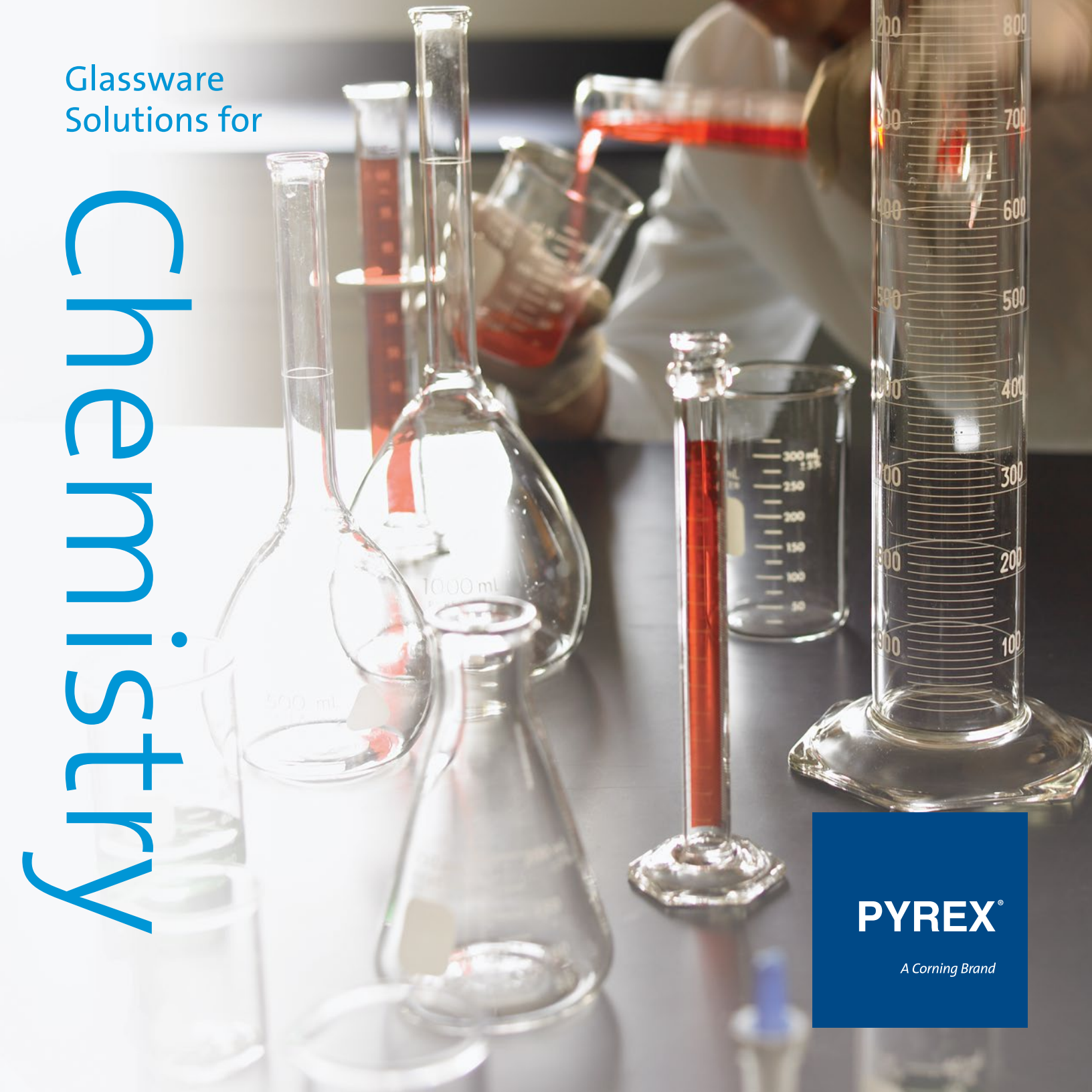
Glassware Solutions for Chemistry



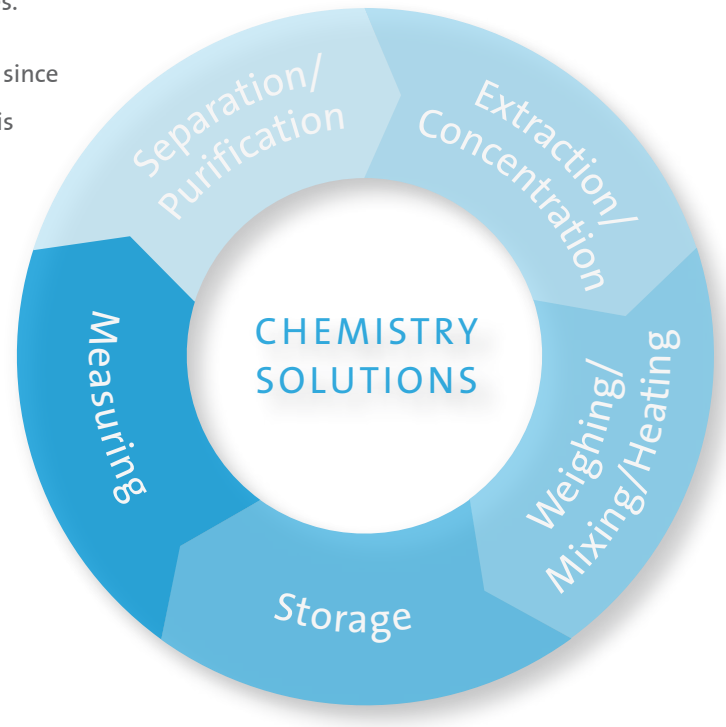
PYREX®

A Corning Brand

Glassware Solutions for Chemistry

Because it is so fundamental to our world, chemistry plays a role in everyone's lives and touches almost every aspect of our existence in some way. In chemistry, research can take many forms, from synthesizing compounds to building computational models or gathering and analyzing data using a wide variety of instruments and techniques.

Corning has been a valued supplier to chemists for over a century since the introduction of PYREX® low expansion borosilicate glass that is the quality standard for labware because of its clarity, strength, heat and chemical resistance. Detailed product information and a complete technical resource library is available on our website at **www.corning.com/pyrex.**



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For over a century, Corning has developed special glass for use in both chemical and life science laboratories. PYREX glassware is made from Type 1, Class A low expansion borosilicate glass that has become the accepted standard in chemistry labs across the globe.

Weighing/Mixing/Heating

Basic tasks done routinely in chemistry labs.

- Beakers (Glass Series 1000, 1003, 1060; Plastic Series 1000P, 1003P)
- Erlenmeyer Flasks (Glass Series 4980, 5100, 4995, 5000, 5020; Plastic Series 4985P, 4990P)
- Crucibles (Series 32940, 32960)
- Jars/Kettles (Series 6941, 6942, 6943, 6944, 6945, 6947)
- Weighing Bottles (Series 1680, 1682, 1684, 1686, 1688)
- Hot Plates/Stirrers (Series 6795, 6796, 6797, 6798)
- Spatulas (Plastic Series 3003, 3004, 3005, 3006, 3007, 3012, 3013)
- Single-/Multi-Neck Flasks (Series 4320, 4321, 4320A, 4320B, 4321A/ 4950, 4960)

Storage

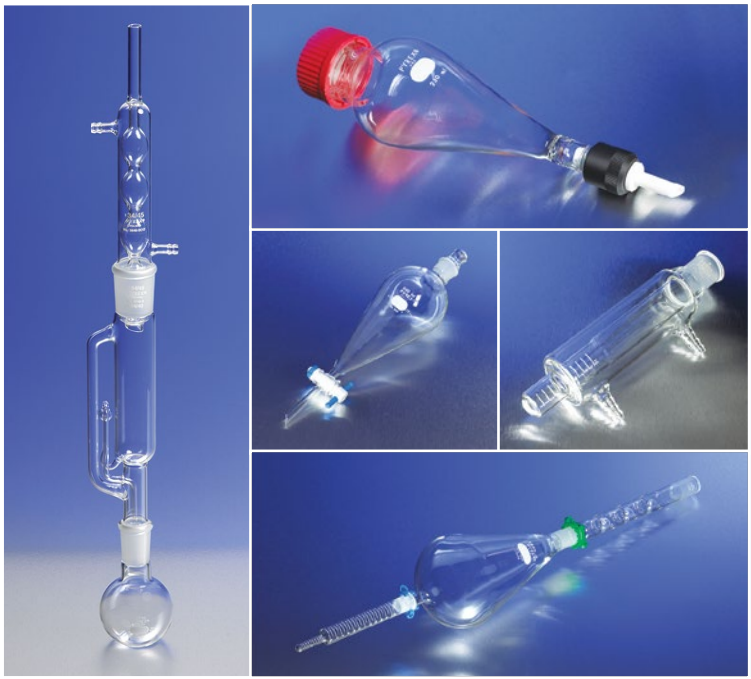
Chemical solutions or solids should be stored in vessels that are chemically compatible and are properly sealed and labeled.

- Storage Bottles (Series 1395, 1396, 1397, 61626, 51395)
- Carboys/Solution Bottles (Series 1595, 1596, 61596)
- Reagent Bottles (Glass Series 1500, 6150; Plastic Series 1500P)
- Desiccators (Series 3081, 3121)
- Screw Cap Culture Tubes (Series 99447, 99448, 99449)
- Tubes (Glass Series 9800, 9820, 9825, 9826, 69825; Plastic Series 430052, 430828)
- Plates (Plastic Series P-96-450V-C, P-96-450R-C, P-384-120SQ-C, P-384-240SQ-C, P-2ML-SQ-C, P-5ML-48-C , P-DW-500-C, P-DW-11-C, P-DW-10ML-24-C)

Separation/Purification

An important step in chemistry is the separation of a mixture into its components and the removal of impurities or contaminants.

- Chemistry Kits (Series 6949, 6949E, 6949K)
- Distillation (Series 3340, 3350, 3360)
- Chromatography Columns (Series 2146)
- HPLC Reservoirs (Series 2150)
- Filtration (Series 33980, 5340, 65340, 5360, 431097, 431098)
- Funnels (Glass Series 36060, 36210; Plastic Series 6120P)



Extraction/Concentration

Extraction in chemistry is the separation of a substance from a matrix. Concentration is the amount of a substance per defined space or the removal of excess solvent. Concentration usually is expressed in terms of mass per unit volume.

- Liquid/Liquid Extractors (Series 3920M, 3922)
- Soxhlet Extractors (Series 3840, 3880)
- Separatory Funnels (Series 6400, 6402, 6404, 6406, 6412A, 6305)
- Accelerated One-step (Series 3915-C)
- Kuderna-Danish Apparatus (Series 2157, 2158)

Measuring

Accurate and precise measurement is critical for many scientific procedures. Being accurate means to measure to a true value or quantity and being precise means to deliver accurate results repeatedly. Corning offers a wide range of volumetric vessels designed to support your requirements for liquid measurement.

- Graduated Cylinders (Glass Series 2982, 3022, 3024; Plastic Series 3022P)
- Burets (Series 2094, 2103, 2105, 2110)
- Pipets (Series 7100, 7103, 7103C)
- Volumetric Flasks (Glass Series 5580, 5640, 65640, 5680; Plastic Series 5640P, 5641P, 5650P)

Types of Glassware

Verified: Each flask is tested to ensure it meets its stated accuracy.

Serialized/Certified Ware: Certified Ware is calibrated to Class A specifications. Each piece is individually serialized and furnished with a Certificate of Identification and Capacity, traceable to NIST standards, guaranteeing its calibration.

Class A: For PYREX, ware is manufactured to tolerances established by ASTM E-694 for volumetric ware, ASTM-542 for calibration of volumetric ware, and ASTM E-288 for volumetric flasks.

Class B: Typically is calibrated to twice the tolerance of Class A.

Materials

PYREX: Type I borosilicate glass that conforms to ASTM standards for glass composition and tolerances.

PMP: Volumetric flasks manufactured to Class A tolerances as defined by ISO 1042.

Corning® Reusable Plasticware

Reusable plastic products are available in 4 different types of polymer material:

- **PP (Polypropylene):** general use plastic
- **PMP (Polymethylpentene):** can be autoclaved to 121°C without affecting the graduation tolerance
- **PFA (Perfluoroalkoxy-copolymer):** withstands high temperatures and are resistant to a variety of aqueous solutions and organic solvents
- **LDPE (Low-density polyethylene):** general-use plastic

Chemical Compatibility Chart

Compound	LDPE	PP	PMP	PFA	PYREX
Acids					
Hydrochloric acid (25%)	G	G	G	G	G
Hydrochloric acid concentrated	G	G	G	G	G
Hydrofluoric acid	P	P	P	G	P
Nitric acid concentrated	P	P	F	G	G
Nitric acid (25%)	F	F	F	G	G
Alcohols					
Butanol	G	G	G	G	G
Ethanol	G	G	G	G	G
Methanol	G	G	G	G	G
Amines					
Aniline	G	G	G	G	G
Dimethylformamide	G	G	G	G	G

G=Good, F=Fair, P=Poor

Compound	LDPE	PP	PMP	PFA	PYREX
Bases					
Ammonium hydroxide (25%)	G	G	G	G	G
Ammonium hydroxide 1N	G	G	G	G	G
Sodium hydroxide	G	G	G	G	P
Hydrocarbons					
Hexane	F	G	F	G	G
Toluene	F	F	G	G	G
Xylene	F	P	F	G	G
Dioxane	G	G	F	G	G
Dimethyl sulfoxide (DMSO)	G	G	G	G	G
Halogenated Hydrocarbons					
Chloroform	P	P	F	G	G
Methylene chloride	F	F	P	G	G
Ketones					
Acetone	G	G	G	G	G
Methyl ethyl diketone	F	G	P	G	G

Additional Resources

- PYREX® and Corning® Glass and Reusable Plastic Product Selection Guide (CLS-GL-001)
- Corning Plastic and Glass Storage Bottles Product Selection Guide (CLS-PSG-BOTTLES)

CORNING

For additional product or technical information, visit **www.corning.com/lifesciences** or call 800.492.1110.
Outside the United States, call +1.978.442.2200.