

Glassware  
Solutions for

# Chemistry

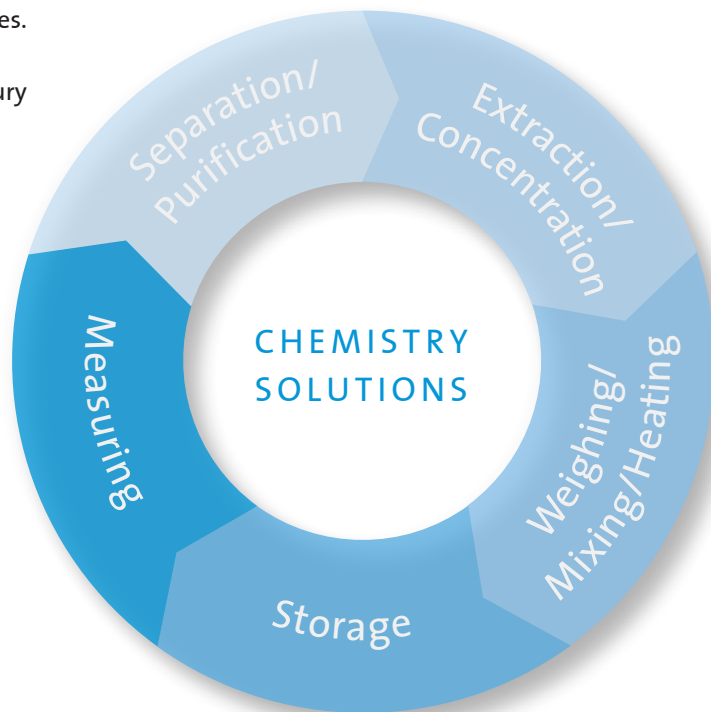
**PYREX®**

*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 nearly 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 [www.corning.com/lifesciences](http://www.corning.com/lifesciences).



**PYREX**

A Corning Brand

For over 95 years, 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.

**CORNING**

**FALCON**

**AXYGEN**

**GOSSELIN**

**PYREX**

## Weighing/Mixing/Heating

Basic tasks done routinely in chemistry labs.

- ▶ Beakers (PYREX® Series 1000, 1003, 1060; Plastic Series 1000P, 1003P)
- ▶ Erlenmeyer Flasks (PYREX Series 4980, 5100, 4995, 5000, 5020; Plastic Series 4985P, 4990P)
- ▶ Crucibles (Series 32940, 32960)
- ▶ Jars/Kettles (Series 6941, 6942, 6943, 6944, 6945, 6947, 6946A)
- ▶ Weighing Bottles (Series 1680, 1682, 1684, 1686, 1688)
- ▶ Hot Plates/Stirrers (Series 6795, 6796, 6797, 6798)
- ▶ Spatulas (Plastic Series 3003, 3004, 3005, 3006, 3007)
- ▶ Single-/Multi-Neck Flasks (Series 4320, 4321, 4320A, 4320B, 4321A/ 4950, 4960, 4960A)



## 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 (PYREX Series 1500, 6150; Plastic Series 1500P)
- ▶ Desiccators (Series 3081, 3121)
- ▶ Screw Cap Culture Tubes (Series 99447, 99448, 99449)
- ▶ Tubes (PYREX 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-1ML-SQ-C, P-2ML-SQ-C, P-DW-500-C, P-DW-11-C, P-SQ-20-C, P-5ML-48-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, 3400, 3405, 3410, 3415)
- ▶ Chromatography Columns (Series 2146, 2147, 2148, 2149)
- ▶ HPLC Reservoirs (Series 2150)
- ▶ Filtration (Series 33980, 5340, 65340, 5360, 431097, 431098)
- ▶ Funnels (PYREX 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, 6410, 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 (PYREX Series 2982, 3022, 3024; Plastic Series 3022P)
- ▶ Burets (Series 2094, 2103, 2105, 2110)
- ▶ Pipets (Series 7100, 7103, 7103C)
- ▶ Volumetric Flasks (PYREX Series 5580, 5640, 65640, 5680; Plastic Series 5640P, 5641P, 5650P)

### Types of Ware

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

**Serialized/Certified Ware:** PYREX flasks that are manufactured to Class A tolerances with a subset of manufacturing lot tested for accuracy

**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 Plastic Ware

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
<b>Acids</b>					
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
<b>Alcohols</b>					
Butanol	G	G	G	G	G
Ethanol	G	G	G	G	G
Methanol	G	G	G	G	G
<b>Amines</b>					
Aniline	G	G	G	G	G
Dimethylformamide	G	G	G	G	G

G= Good, F=Fair, P=Poor

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

## Why choose Corning products and PYREX® Laboratory Glass for your basic chemistry needs?

Expert Assistance; just a telephone call or email away; 800.492.1110, Option 3 or CLSTechServ@Corning.com

### Technical Brochures

- ▶ Care and Safe Handling of Lab Glassware: RG-CI-101 REV2
- ▶ Care and Safe Handling of PYREXPLUS®: CLS \*Website only
- ▶ Suggestions for Cleaning Glass Applications Note: CLS-AN-112
- ▶ Autoclaving Lab Glassware Applications Note: CLS-AN-103
- ▶ Glass Terminology: CLS-GL-035

\*Go to Corning Life Sciences Document Library



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### Product Selection Guides

- ▶ Corning Storage Bottles Selection & Use Guide: CLS-GL-025 REV3
- ▶ Corning® Accelerated One-Step® Extractor/Concentrator Assembly and Operating Instructions Manual
- ▶ PYREX Volumetric Ware from Corning: CLS-GL-028 REV3
- ▶ Corning Reusable Plastic Ware: CLS-GL-030 REV1

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