Care and Safe Handling of PYREXPLUS® Glassware



CORNING

Introduction

PYREXPLUS glassware is coated with a tough, transparent plastic vinyl. The coating, which is applied to the outside of the vessel, helps prevent exterior surface abrasion. It also helps minimize the loss of contents and helps contain glass fragments if the glass vessel is broken.

Your attention to a few details regarding the use and care of this product will maximize product life and will provide you with a safer laboratory vessel.

- Do not place PYREXPLUS glassware over direct heat or open flame.
- Do not expose to dry heat above 110°C (230°F).
- Do not autoclave above 121°C (250°F).
- Do not continuously expose PYREXPLUS glassware to temperatures above 80°C.
- Do not refrigerate below -20°C (-4°F).
- Do not remove the protective coating. Do not use a vessel on which the coating is hardened, darkened or otherwise damaged.
- Do not use PYREXPLUS glassware to store hazardous chemicals below room temperature.
- Do not allow prolonged or repeated exposure of the coating to strong acids or solvents.


By doubling the resistance to impact fractures and reducing scratches and abrasions the PVC PYREXPLUS coating can extend product life compared to uncoated glassware.

- Do not use a vessel once the glass is broken. Immediately transfer the contents of a broken vessel to an approved container and properly dispose of the broken vessel.
- Do not incinerate broken or discarded vessels. Place in proper disposal containers.

Proper care and handling of PYREXPLUS® glassware or any labware will greatly increase its life and increase the safety of your workplace. The following suggestions will help you get the most from your PYREXPLUS glassware.

The PYREXPLUS coating on this reagent bottle is designed to resist leakage resulting from a brief chemical exposure that might occur if the vessel is broken.

Exposure to Chemicals

The coating of PYREXPLUS glassware is designed to resist leakage resulting from a brief chemical exposure that might occur if the vessel is broken. Prolonged and/or repeated chemical exposure of the coating to aldehydes, ketones, chlorinated solvents and concentrated acids should be avoided.

Exposure to Heat

PYREXPLUS glassware is designed to withstand the temperatures associated with steam sterilization. However, it should not be placed over direct heat or an open flame. Prolonged exposure to dry heat above 80°C may also cause the coating to become brittle and thereby reduce the useful life of the vessel. A brown appearance or hardening of the tough coating is a sign that the coating has become brittle and should be discarded.

The upper temperature limit for PYREXPLUS glassware is 110°C (230°F). PYREXPLUS glassware should not be exposed to elevated temperature in a vacuum greater than 5 inches (127 mm) mercury.

Exposure to Cold

PYREXPLUS glassware should not be exposed to temperature below -20°C (-4°F). Extremely low temperatures may result in the coating becoming cracked. Exposure to temperatures below room temperature (23°C or 73°F) can temporarily reduce the ability of the coating to contain its contents if the vessel is broken.

Exposure to Vacuum

PYREXPLUS containers have demonstrated the ability to contain glass fragments upon implosion at room temperature. Only the 250 mL to 2L screw cap round storage bottles and the filter flasks are recommended for use under vacuum applications. In keeping with safe laboratory practice, always use a safety shield around vessels under negative pressure.



PYREXPLUS Filter Flasks and Aspirator Bottles provide an extra layer of safety from injuries from glass fragments during implosions.

Exposure to Ultraviolet

Prolonged and/or repeated exposure of the PYREXPLUS glassware coating to direct sunlight or ultraviolet sources (such as sterilization lamps) is not recommended.

Exposure to Microwave

PYREXPLUS glassware is completely microwave safe. However, as with any microwave vessel, be sure there is a load (water or other microwave absorbing material) in the microwave oven. Also, be sure all caps and closures are loosened.

Labeling and Marking

Use water-based markers for temporary marking or labeling of the PYREXPLUS® glassware coating. Solvent-based markers, dyes and stains cannot be removed from the coating. **Note:** A slight "plastic" odor may be detected when handling PYREXPLUS glassware. This is due to additives in the plastic coating which are responsible for its superior performance. The odor is normal and will not affect the inertness of the inside borosilicate glass surface.

Autoclaving

PYREXPLUS glassware can be successfully sterilized repeatedly (Table 1) using liquid or dry cycle sterilization which involves no vacuum or low vacuum (less than 5 inches mercury).

Table 1. Recommended Cycles for PYREXPLUS Glassware in Automated Autoclaves

Autoclave Cycle	Autoclave Type	
	Gravity	Prevacuum
Liquid	Yes	Yes
Dry	Yes	
Prevac	-	No

Caution: Always autoclave vessels with loose caps or closures.

Heavy duty PYREXPLUS storage bottles have a protective PVC coating for extra security and can be autoclaved at 121°C.

Sterilization time should not exceed 15 minutes at 121°C (250°F). Drying time should not exceed 15 minutes at 110°C (230°F). The actual cavity temperature of the autoclave should be checked to be sure the autoclave temperature does not exceed the recommended sterilization and drying temperature. Vessels should not be allowed to touch each other during autoclaving.

It is better to use a slow cool cycle for venting rather than fast venting to reduce the chance that air pockets will form between the glass and the coating.

Should the coating appear clouded due to dissolved moisture, simply let dry overnight at room temperature or briefly heat to 110°C (230°F).

Cleaning PYREXPLUS Ware

Wash glassware as quickly as possible after use. The longer it is left unwashed the harder it will be to clean. If a thorough cleaning is not possible immediately, disassemble the glassware and put it to soak in water. If glassware is not cleaned immediately, it may become impossible to remove the residue. Do not overload sinks, dishwashers, or soaking bins. Rubber sink and counter mats can help reduce the chance of breakage and resultant injury.

Any non-abrasive glassware detergent may be used for hand or automatic dishwasher cleaning. If using a dishwasher or glassware dryer, care should be taken to be sure the drying temperature does not exceed 110°C (230°F). Exposure to dry heat should be minimized. Avoid brushes and cleaning pads which could abrade the glass or damage the coating. If using a chromic acid cleaning solution minimize contact of the solution with the coating.

The PYREXPLUS coating on this separatory funnel provides better gripping both during use and clean up.

Safety Note: Eye protection and heavy duty slip-resistant and chemically resistant gloves should be used when washing glassware. Depending on the detergents and cleaning solutions being used an apron and fume hood may also be required. Always check with your Safety Office before using caustic washing solutions.

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