Autoclaving of Safety Coated Glass Bottles for Mobile Phases is Not Supported - Tech Information

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Overview

Safety-coated glass bottles used for HPLC mobile phase storage are designed specifically for ambient-temperature laboratory use. Although the underlying glass may tolerate high temperatures, the protective plastic safety coating will not.

This coating is engineered to help contain glass fragments if the bottle breaks, but it is *not* engineered for exposure to high-temperature or gas-based autoclave cycles.

Why These Bottles Cannot Be Autoclaved

1. Heat-Based Autoclaving

Autoclaving at high temperatures can:

- Melt or soften the plastic coating
- Cause significant discoloration or clouding
- Compromise the integrity of the safety layer, defeating its purpose

Once the coating deforms, the safety function is no longer reliable.

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2. Gas Autoclaving (e.g., Ethylene Oxide)

Gas sterilization methods may:

- Harden the plastic coating
- Introduce chemical discoloration
- Cause premature aging or brittleness

These changes can make the bottle unsafe for handling and inappropriate for precise analytical workflows.

Recommended Alternatives for Sterilization

If sterilization is required, use:

- Uncoated glass bottles
- With a protective safety mesh

These can be properly autoclaved without the risk of coating damage and are widely available from laboratory supply distributors.

Bottle Cap Temperature Tolerance

Most caps supplied with safety-coated mobile phase bottles can typically withstand temperatures up to 140°C. However, this does *not* make the bottle itself autoclave-safe when the plastic coating is present.

Click *HERE* for safety coated bottle ordering information.
Click *HERE* for non-coated bottle ordering information.

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