

What is the Functional Difference Between the MRQ and the Max Recovery Autosampler Vials - HPLC Primer

Date: 17-JULY-2017 Last Updated: 27-OCTOBER-2025

Overview

Both MRQ™ and Max Recovery™ autosampler vials are engineered to maximize sample recovery without the need for inserts, making them ideal for precious or limited-volume samples. However, their design differences make each better suited for specific autosampler configurations and analytical needs.

Key Differences

1. Needle Compatibility

- MRQ™ Vials
Designed for compatibility with a wider range of autosamplers, including those with:
 - Side-port needles (e.g., Waters™ WISP®)
 - Bottom-port needles (e.g., Waters™ Alliance®, Acquity®)
- Max Recovery™ Vials
Optimized specifically for bottom-port needle autosamplers, such as:
 - Waters™ Alliance®
 - Waters™ Acquity®
 - Other brands using bottom-entry needle designs

Choosing the correct vial based on your autosampler's needle type ensures optimal sample access and minimizes residual volume.

2. Total Volume Capacity

- MRQ™ Vials: 1.2 mL (1,200 µL)
- Max Recovery™ Vials: 1.8 mL (1,800 µL)

This difference in total volume may influence your choice depending on:

- Sample availability
- Required injection volume
- Headspace considerations for concentration-sensitive analyses

3. Headspace Considerations

The amount of headspace (air above the liquid) in the vial after filling can impact:

- Volatile compound stability
- Concentration accuracy
- Evaporation rates

If your method is sensitive to headspace volume, consider how much sample you plan to use and select the vial that best aligns with your volume and recovery needs.

Summary

Feature	MRQ™ Vial	Max Recovery™ Vial
Needle Compatibility	Side-port & bottom-port	Bottom-port only
Total Volume	1.2 mL	1.8 mL
Best Use Case	Versatile autosampler support	Maximum volume with bottom-port
Insert Required	No	No

Click [HERE](#) for ordering information and pictures of the MRQ™ autosampler vials.

Click [HERE](#) for ordering information and pictures of the Max Recovery™ autosampler vials.

Printed from the Chrom Resource Center

Copyright 2025, All Rights Apply

MicroSolv Technology Corporation

9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900

Fax: (910) 769-9435

Email: customers@mtc-usa.com

Website: www.mtc-usa.com