

Understanding 2mL, 1.8mL, and 1.5mL Vial Sizes – HPLC Primer

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If you've ever shopped for autosampler vials, you may have noticed that what looks like the same vial is sometimes labeled as 2mL, 1.8mL, or even 1.5mL. So, what's the difference?

It's All About How the Vial Is Used

- A 2mL vial can physically hold about 2 milliliters of liquid when filled to the very top—right up to the rim.
- But in real-world use, especially with autosamplers, you shouldn't fill it that full. Why? Because when the autosampler needle enters the vial to draw a sample, it displaces some of the liquid. If the vial is completely full, this can cause the liquid to spill or squirt out, especially if the vial is capped.

What Is “Nominal” Volume?

To avoid spills and ensure proper function, most labs only fill vials partially. That's why you'll often see the same vial described with a “nominal” volume—like 1.8mL or 1.5mL. This refers to the recommended usable volume, not the maximum capacity.

So:

- 2mL = Total capacity (filled to the brim)
- 1.8mL or 1.5mL = Usable volume (safe for autosampler use)

Visual Comparison Available

The helpful images below show the different fill levels side by side, so you can see exactly what each volume looks like in the same vial.



Click [HERE](#) for Screw Top Vial Ordering Information

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