



24 Well (4 ml) Polycarbonate Vial Sets

Product No.

PCVS 04-240-02 (Unlined caps)

PCVS 04-240-03 (PE-lined caps)

The 24 Well Polycarbonate Vial Sets are designed for homogenizing hard and fibrous samples (e.g., individual corn kernel). Samples should generally not exceed 0.5 gm. Each polycarbonate vial contains a large stainless-steel grinding balls (3/8") and cap.

Vial Sets offer the convenience of preloaded grinding vials arranged in a microplate footprint for higher throughput sample grinding. OPS Diagnostics offers three basic types of vial sets: 24 Well (4 ml) Polycarbonate Vial Sets, 24 Well (4 ml) Polyethylene Vial Sets, and 15 ml Polycarbonate Vial Sets. Cap selection varies. Unlined caps may be used for dry grinding, while lined caps are recommended for use with buffers.



Vial sets have 24 vials per set and 10 sets per case (240 vials per case).

Each case of 24 Well (4 ml) Polycarbonate Vial Sets contain:

- 10 Polyethylene Storage Boxes with Foam Rack with Neoprene Mat
- 240 4 ml Polycarbonate Vials
- 240 3/8" 440C Stainless Steel Grinding Balls (1 per vial)
- 240 Polypropylene Screw Caps (Unlined or Polyethylene-lined, varies by product)

Storage/Maintenance:

Vials, unlined caps, and grinding balls can be autoclaved at 121°C for 15 minutes. **PE-lined caps cannot be autoclaved.** Vials may be washed using detergent and air dried. Alcohol may be used to briefly rinse vials.

Related Products

3/8" Grinding Balls

24 Well (4 ml) Polyethylene Vial Sets

24 Well (4 ml) Polycarbonate Replacement

Vials

Format

1,000 each

240 vials, *cap selection varies*

240 vials, *cap selection varies*

Product No.

GBSS 375-1000-02

see website

see website

This product is for research purposes only, not for clinical use.

WARNING: Do not overfill. Do not use cracked vials and caps. Do not use phenol or chloroform (including TRIzol® and TRI Reagent®) with polycarbonate vials. Follow safety and institutional guidelines for the proper use of Liquid Nitrogen if cryogenic grinding.

If you have questions about this product, please contact OPS Diagnostics:



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Protocol

24 Well (4 ml) Polycarbonate Vial Sets

The 24 Well Polycarbonate Vial Sets may be used with a mixer mill (e.g., HT Homogenizer II™, Retsch®, 1600 MiniG® or Geno/Grinder®) for ambient processing*, in a similar way one would use a deep well plate.

Protocol

1. Detach the lid from the storage box; it can later be re-attached for storage purposes. Also remove the foam pad.
2. Remove the cap and grinding ball from the vial, add no more than 0.5 gm of sample (and buffer, if desired). Place the grinding ball back into the vial.

Helpful Tip: The amount of headspace is important for efficiently homogenizing sample. Generally, the harder the substance to be ground, the less should be added to each vial to allow for greater movement. The upper mass of each sample type is best determined empirically. NOTE: Over or under filling vials can lead to inefficient homogenization and damage the vial.

3. Seal vials with the caps provided. Load the entire storage box (without the lid) into the mixer mill. It is important that the vial caps are secured against a hard surface during homogenization or they may loosen. If using an HT Homogenizer II™, caps should rest firmly against the base plate of the carriage.

Helpful Tip: Some mixer mills (e.g., 1600 MiniG®, Geno/Grinder®), permit stacking of vial sets to increase throughput. Follow manufacturers' instructions when stacking vials, additional accessories are required.

IF USING A GENO/GRINDER® OR OTHER TWO-PLATE MILL, DO NOT RUN WITH ONLY ONE VIAL SET OR ONE PLATE. TWO SETS MUST BE USED TO BALANCE THE PLATFORM – AS WITH A CENTRIFUGE.

4. Grind samples as required. See **GENERAL GUIDELINES** below.

Helpful Tip: Generally, it takes approximately 2 minutes at 2/3 speed to grind most samples. The parameters for different samples must be determined empirically.

GENERAL GUIDELINES**

Sample Type	Sample Mass	Buffer Volume	Bead Beater Speed
Plant	100-200 mg	0.5 ml	High
Seed (dry grind)	≤ 500 mg (1 kernel)	none	High
Animal	100-200 mg	0.5 ml	High

*NOTE: Preloaded vials should be removed from the storage box and placed in **Cryo-Blocks** for cryogenic grinding. See website for [Bead Beating: A Primer](#) for more information on cryogenic grinding.

**See website for [Bead Beating: A Primer](#) for additional guidelines by sample type and format.

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