

5mL Tube Applications, Uses and Compatibilities

In general, a 5mL tube can be used anywhere a 15 mL conical tube is used, but where the volume in the tube is 5mL or less. Conversely, a 5mL tube is recommended to replace 1.5mL or 2mL tubes wherever sample volume exceeds the capacity of those tubes.

Main reasons for using a 5mL tube:

1. Contamination - when reaching into a 15mL tube to get smaller volumes, the plastic shaft of the pipette can come into contact with the sides of the tube. The shorter profile of the 5mL tube prevents this. Only the tip enters the neck of the tube, preventing cross-contamination.
2. Storage space - A 5mL tube takes up much less space than a 15mL tube. In storage, shipping and freezer applications, a quantity of 5mL tubes requires 60% less space than the same quantity of 15mL tubes.
3. Cost - why pay for a larger tube when a smaller one will work?
4. A “greener” solution - using a 15mL tube for applications where the volume is between 2 and 5mL is a waste of resources and places an unnecessary volume of plastic into the waste stream.

Applications:

Biopsies, whether stored, dry, or in solution
Preparation of master mixes or buffers
Sample storage in the refrigerator, freezer or on the shelf
Tissue and cell lysis
High Speed Centrifugation of samples up to 25,000xg (Centrifuge and rotors for 5mL tubes from Hermle, Hettich, Eppendorf and Benchmark are available).
Mixing of samples
Heating/Cooling samples (Eppendorf and Benchmark offer equipment and accessories to fit 5mL tubes directly).
Phenol extractions- the high grade polypropylene is compatible with short term exposure to phenol.
Cell separations
Sample prep
Homogenization
DNA, RNA and protein extractions/purification

Common Instruments which will accommodate 5mL tubes:

Centrifuges (dedicated 5mL as well as 15mL rotors with our adapter (C2570))
Dry blocks
Bead homogenizers with a 5mL tube holder
Thermal mixers