

SPEX Certiprep 8000D Ball Mill Operating Instructions

(Rev. 3 – 15Ap10)

The SPEX Certiprep 8000 Ball Mill can be used to grind/mix organic and inorganic solid materials including plant, animal tissue, sand, and rocks. All new users must be trained and have read and signed the lab user policy forms. Contact Cathy Kochert if you have any questions.

Preparing samples

Excess moisture should be removed from samples before milling. Plant samples may need to be cut into smaller pieces before loading the vials.

Vials

Polycarbonate vials are available from SPEX Certiprep. A 1/8 or 3/8 inch methacrylate ball is used to grind samples in the polycarbonate vial. These vials work well for most plant and animal tissue samples.

For harder materials such as wood, seeds, soils, and sediment, the lab has a set of 8 hardened steel vials available for use.

Other vials are available from SPEX Certiprep to meet any specific needs.

Vials should be clean and free of contaminants before filling. Fill vial 1/3 to 1/2 with material, allowing enough space for the ball to travel. Place ball in vial and attach cap. Label vials with proper ID.

Adapters (provided by the lab) will be needed for smaller sized vials.

Loading samples

The load must be balanced by using the same type and same number of vials in each clamp. Empty vials can be used if needed.

Place vials in the appropriate adapter. Adapter will fit against the base of the clamp. The top of the clamp will press against the caps of the vials by turning the clamp screw. Once the clamps are firmly in place, tighten the locking screw by hand. (Right side clamp toward to tighten; Left side clamp away to tighten). Check to make sure the vials are not able to come loose. Close lid.

Running the Ball Mill

The power switch is located on the back of the ball mill. Set the timer by using the arrows. Press “start” button to begin milling. Do not attempt to open lid while machine is running. Press “stop” once to pause. The timer will remain programmed. Press “stop” twice to end. The timer will default back to 1 minute. Determine optimal milling time by checking samples after shorter increments (~5 min.). Most samples will fall within the 10-20 minute range.

NOTE: Caking of sample can occur if milling time is too long.

Milled samples can be stored in the polycarbonate vials. The hardened steel vials will need to be cleaned after each use.

Part Numbers

Catalog#	Description
3116PC	Polycarbonate Vial with Cap, 1/2 x 2 in.
3112	Methacrylate Balls, 3/8 in.

Refer to the SPEX Certiprep *Handbook of Sample Preparation and Handling* for more information on 8000D mixer mill applications.