

# Grinding Balls

## For sample homogenization

### **WISBIOMED**

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### Sample Preparation Products



### Benefits

- ❖ All grinding balls are CLEANED before shipping.
- ❖ Available in a variety of different sizes
- ❖ Most dense of all the grinding media.
- ❖ Moderate cost.
- ❖ High precision.
- ❖ Can be removed from vials using magnets.

### Description

Grinding balls are used with deep well plates, vial sets, and individual microfuge tubes to bead beat plant tissues, seeds, and animal tissues. Grinding balls are made of zirconium oxide for use with phenol or 440C stainless steel which allows them to be retrieved with a magnet while making them resistant to tarnishing. Grinding balls are treated to remove residual oils and contaminants prior to packaging.

### Recommended Applications:

- 5/32" Use with deep well plates for leaf punches or animal tissue of 50 mg or less.
- 3/8" Good for homogenizing seeds and larger samples of animal tissue in polycarbonate vials.
- 7/16" Suitable for larger grinding jobs, such as pooled seeds, in 15 ml vials.

# Grinding Balls – Applications and Types

## A Comparison of Grinding Media

	Stainless Steel	Glass	Zirconium Silicate	Zirconium Oxide (Yttria stabilized)	Zirconium Oxide (Zirconox Ceria stabilized)
Density g/cc	7.9	2.25	3.84	6.0	6.20
Durability	Medium	Low	Medium	High	High
Approximate Hardness on Vickers Scale	700	533	690	1280	1150
Compatibility (Low 1-High 4)	1	2	3	4	4
Cost (Low 1-High 4)	3	1	2	4	4
SPECS (Low 1-High 4)	4	1	2	3	3
Other	May be removed with magnets	Derivatize (Silane chemistry)	Partially modify	-	-

## Grinding Balls

Product Number	Description	Quantity	Price
OP-GBSS 156-5000-01	5/32" Grinding Balls, Stainless Steel	Bottle of 5000	\$425
OP-GBZO 156-1000-04	5/32" Grinding Balls, Zirconium Oxide	Pack of 1000	\$140
OP-GBSS 375-1000-02	3/8" Grinding Balls, Stainless Steel	Pack of 1000	\$300
OP-GBSS 437-1000-03	7/16" Grinding Balls, Stainless Steel	Pack of 1000	\$405

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