

# 活性炭

行业:	Chemistry
进料尺寸:	< 1mm
最终精度:	d50 < 7µm
样品量:	25g
研磨建议:	A grinding to d50 < 7µm can be done with our Planetary Mono Mill PULVERISETTE 6 classic line. We recommend using a 250ml zirconium oxide bowl with maximum 20mm Ø diameter.



## PLANETARY MONO MILL PULVERISETTE 6 CLASSIC LINE

main disk speed: 650 rpm

80 ml grinding bowl made of zirconium oxide (ZrO<sub>2</sub>)  
+ 5x 20 mm Ø ZrO<sub>2</sub> balls

Material attributes:	sample E00268-007-9
Feed quantity:	25 g
Feed Size:	< 1 mm
Additive:	none
Grinding time:	15 min
Final fineness:	d50 < 4,5 µm
Comments:	After 15 minutes of dry grinding, the sample use to fill the complete volume of the bowl. Also a bit of ground sample becomes pushed out of the bowl after opening the tape (which has been placed between lid and bowl).  Therefore, we recommend using a 250ml bowl for grinding this sample too (like it used to be necessary with the second type of activated carbon – see result 2).



## PLANETARY MONO MILL PULVERISETTE 6 CLASSIC LINE

main disk speed: 650 rpm

250 ml grinding bowl made of zirconium oxide (ZrO<sub>2</sub>)

+ 15x 20 mm Ø ZrO<sub>2</sub> balls

Material attributes: sample E00268-007-10

Feed quantity: 25 g

Feed Size: < 0,3 mm

Additive: +100 ml IPA

Grinding time: 30 min

Final fineness: d<sub>50</sub> < 4,1 µm

Comments: We also wanted to show the grinding result when sample gets ground in suspension. Therefore, we used the much finer sample #2.

For achieving a proper grinding result in suspension, it is necessary adding as much solvent until a motor oil like viscosity has been achieved. Therefore, we added 100ml of isopropyl alcohol (IPA) to the sample.

To avoid overpressure, we ground the sample in steps of 5 minutes, followed by a programmed pausing time of 10 minutes. After several cycles, the outside temperature of the bowl should be checked (remain below 70°C); grinding time or programmed pausing time might be readjusted afterwards.

After 15 minutes of grinding, we achieved a d<sub>50</sub> of < 7,25µm (see meas. no. 51285 on separate page). After totally 30 minutes of grinding, a d<sub>50</sub> < 4,06µm has been achieved.

For a better endfineness, a longer grinding time is still possible. Also the usage of smaller balls (e.g. 45x 15mm Ø) is plausible for a faster grinding result.

Carbon's surface slip might cause higher abrasion compared to standard materials like sand.