### Task:

**Application field:** Chemistry / Plastics  
**Material:** Hair tinting lotion, chemical based  
**Feed size:** 0-3 mm (particle shape like plates)  
**Feed quantity:** 5 g  
**Material specification(s):** crystalline, soft  
**Customer requirement(s):** < 40 µm, for integration into gels  
**Subsequent analysis:** not defined

### Solution:

**Selected instrument(s):** PM 100 CM Planetary Ball Mill  
**Configuration(s):**  
- Grinding jar 50 ml, stainless steel  
- 10 Grinding balls Ø 10 mm stainless steel  
**Parameter(s):** Revolution speed 300 min\(^{-1}\)  
**Time:** 30 s  
**Achieved result(s):** < 20 µm particle size determination by microscope  
**Remark(s):** A higher revolution speed and longer grinding time produce agglomerations of the material inside the jar.  
**Recommendation:** For fine grinding of different chemical tinting lotions the Planetary Ball Mill PM 100 CM is suitable under the above mentioned conditions.