1. General Information

**Type of application**
 Pharma / Medical, Natural product, Drug Delivery Bioorganic molecules, Pharmaceutical

**Type of application**
 Spray drying, Drug encapsulation

**Applied device**
 BUCHI Mini Spray Dryer B-191

**Recommended device**
 BUCHI Mini Spray Dryer B-290

2. Sample preparation

**Sample concentration**
 0.5 g Allopurinol and 2.5 g of EC in 100ml DCM (Drug/coating material 1:5), EC-g-PNIPAM synthesized with 8 g/100mL of NIPAM

**Solvent**
 DCM

**Carrier , Filmogen**
 Ethylcellulose, Poly(N-isopropylacrylamide) (PNIPAM) thermo-sensitive polymer

3. Spray drying parameters

**Inlet temperature**
 40°C

**Outlet temperature**
 34 - 35°C

**Pump rate**
 7 - 8 ml/min

**Gas spray flow**
 600 Nl/h

**Drying gas flow**
 44 - 45 mbar

**Nozzle diameter**
 0.7 mm

4. Results

**Particle size**
 8.9 micron (EC) and 7.8 micron (ECGPN8) microparticles, narrow distributino

**Morphology**
 spherical shape with a rugged surface, others partially or totally collapsed. ECGPN8 porous structure

**Yield**
 -

**Encapsulation efficiency**
 -

5. Additional Information

**Remarks**
 Thermo-sensitive microparticles were prepared by the spray-drying method, an efficient and rapid tool for the preparation of microparticles

**Reference**

The given process parameters are used as starting values for process optimization and give an indication if the material can be spray dried or not.

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