



Application Note

Mini Spray Dryer B-290

Naproxen

1. General Information

Type of application	Pharma / Medical, Organic molecule, Aroma, Drug delivery, Pharmaceutical, Oral administration
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	Naproxen/Cyclodextrin 1:2 molar ratio, 24 h stirring
Solvent	25% ammonium hydroxide in Water
Carrier , Filmogen	Beta-Cyclodextrin

3. Spray drying parameters

Inlet temperature	130°C
Outlet temperature	88°C
Pump rate	3.3 ml/min
Gas spray flow	-
Drying gas flow	-
Nozzle diameter	-

4. Results

Particle size	-
Morphology	-
Yield	-
Encapsulation efficiency	-

5. Additional Information

Remarks	Naproxen is one of the most efficient nonsteroidal anti-inflammatory drugs and is widely used for the treatment of osteoarthritis, rheumatoid arthritis and acute pain in musculoskeletal disorders.
Reference	A Comparative Study of Naproxen – Beta Cyclodextrin Complexes Prepared by Conventional Methods and using Supercritical CO ₂ . J. Inclusion phenomena Macrocyclic Chem., Vol. 44, No. 1-4, p. 117-121 (2002)

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.