

CESS™ FOR THE PRODUCTION OF NANOPARTICLES

nanoform

small is powerful

About Nanoform

Nanoform Finland Ltd has developed a proprietary technology called Controlled Expansion of Supercritical Solutions (CESS™) that allows nanonization of drug particles. Implementing CESS™ offers new technological and business advantages for the pharmaceutical industry.

The CESS™ technology

The patented CESS™ technology is based on supercritical CO₂. The drug solution is expanded through a controlled process to produce pure drug nanoparticles.

The process is more controlled than conventional supercritical technologies, and it produces smaller and more uniformly sized particles. Besides the particle size, also crystal polymorphism and morphology can be controlled. Several active pharmaceutical ingredients have been successfully nanonized using our technology. We have produced particles ranging from 10 nm to 2 µm from both test molecules as well as proprietary APIs.

The reduction of particle size increases the active surface area of API and thus also the dissolution rate and bioavailability of the drug – a feature evident especially with APIs from BCS class II with poor water solubility.



- Key features of the technology
1. Nanoparticles are made directly from solution using supercritical CO₂.

2. Low micron sized particles can also be produced.

3. Crystalline and amorphous material can be created.

4. The polymorphic form is controlled.

5. The particle size and shape can be tuned.

6. No excipients are used in the process.

7. The technology is scalable and patent protected.

