



## PGSS: THE INNOVATIVE SOLUTION TO POWDER PRODUCTION



Many of the products of the chemical and pharmaceutical industry as well as those of the food industry can only be used and therefore sold once they have undergone pulverizing and manufacturing processes. Normally, classical methods such as crystallisation, drying, grinding, and sieving are applied. However, where very small particle sizes are required, or highly viscous substances such as polymers have to be reduced to microns,

the limits of traditional processes are quickly reached. In such cases, the solution can be found in modern high-pressure processes.

The innovative PGSS process (Particles from Gas Saturated Solutions) was developed at the Chair for Process Technology (VTP) (Prof. Weidner) of the University of Bochum in cooperation with the University of Maribor (Prof. Knez).

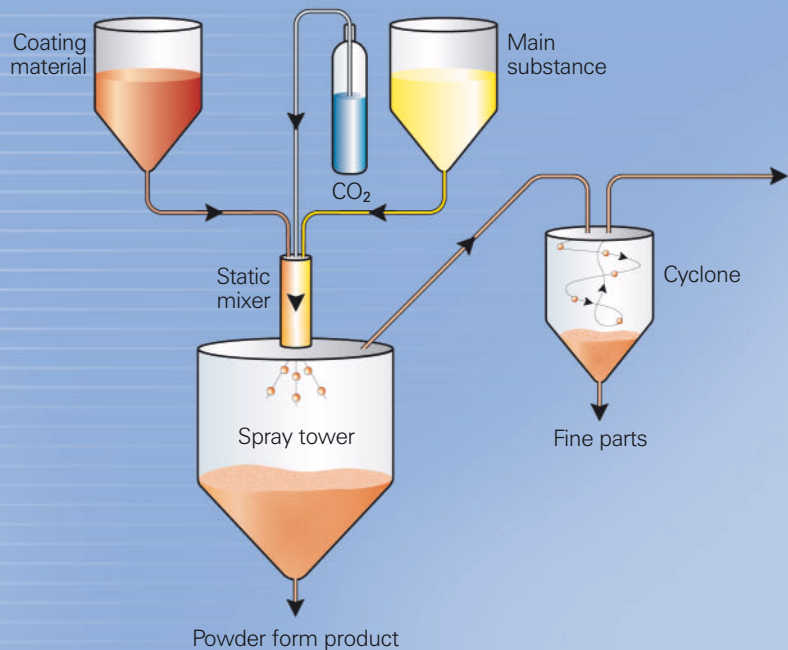


## PATENTED PGSS TECHNOLOGY



COPRIS™, a joint venture between Raps, Natex, Yara and the VTP chair, is launching the patented PGSS process on the market, which allows the pulverization of substances with low melting points or high viscosity. Where other technologies are unable to pulverize substances such as adhesives or butter, it is often possible to create such products in powder form by means of the PGSS process.

Apart from creating powdered basic products, the PGSS process also allows the production of liquid-filled microcapsules. The objective is not just to protect the products, but rather to open up new possibilities for the controlled release of their active constituents. It is possible to achieve temperature-controlled release by, for instance, choosing a coating material with an appropriate melting point. The applications of encapsulated aromas such as cherry liquor in chocolate are manifold and allow the introduction of new innovative products.



**PGSS**  
TECHNOLOGY

**natex**

**Raps**  
Industry Service

**VTP**

**YARA**

**COPRIS™**  
POWDER TECHNOLOGY

**YARA INDUSTRIAL BV**  
MAASSLUISSEDIJK 103  
P.O. BOX 58, 3130 AB  
VLAARDINGEN, THE NETHERLANDS  
T +31 10 2322 214  
F +31 10 2322 250  
WWW.YARA.COM

**YARA INDUSTRIAL GMBH**  
SPRUDELSTRASSE 3  
D-53557 BAD HÖNNINGEN  
GERMANY  
T +49 2635 961-0  
F +49 2635 961-140  
WWW.YARA.DE