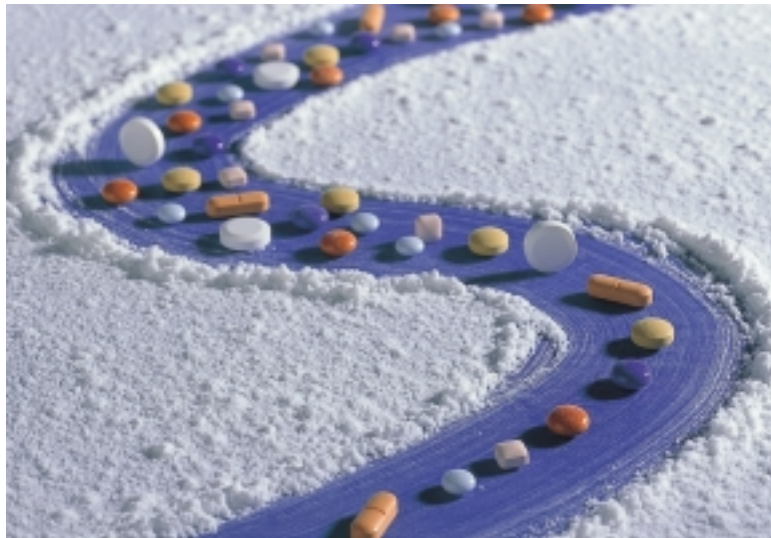


# **SANACEL<sup>®</sup> PHARMA**

**High Quality Powdered Cellulose**

*Product and application information*



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# SANACEL<sup>®</sup>

# PHARMA

Technical Application

SCP-059-E

## **Processing of compressed products and tablets**

Very fine fibre materials e.g. cellulose can be used for a number of tasks that can normally be done using complicated mixtures. By using SANACEL<sup>®</sup> PHARMA it is possible to simplify recipes, reduce production time and also increase the required standards.

## **The function of SANACEL<sup>®</sup> PHARMA in compressed products and tablets**

### **SANACEL<sup>®</sup> PHARMA as a rapid dissolution agent:**

Traditional water soluble dissolution agents have the disadvantage of being less workable if active components or ingredients are also water soluble. There is a direct relationship between the hydrophilic character and the dissolution time, that is a measure for the effectiveness of the dissolution agent. Although SANACEL<sup>®</sup> PHARMA is oil and water insoluble it has hydrophilic characteristics because of the numerous hydroxyl groups. Because of this SANACEL<sup>®</sup> PHARMA may be used as a rapid dissolution agent for oil or water based compressed products.

We advise a doses of between 10 and 20 %, although a considerable improvement in the reaction time can be achieved if a dissolution agent in the composition of 10 - 15 % SANACEL<sup>®</sup> PHARMA and 10 - 15 % starch is used. The synergy effects which increase the characteristics of the individual components are evident.

### **SANACEL<sup>®</sup> PHARMA as binding agent:**

A binding agent is successful if only adding the ingredients results in hard and abrasion resistant compressed products that easily dissolve in water.

Native or granulated starch is the traditional standard. The high water content at the centre of the starch grain is hard to dry and can be disadvantageous for ingredients that are hygroscopic or react sensitive to dampness. The fine structure of SANACEL<sup>®</sup> PHARMA does not have this advantage. At the same time the air can evaporate easily during compressing. The same fibre structure enables it to dissolve quicker in water because the liquids penetrate quicker into the product.

Tablets produced using SANACEL<sup>®</sup> PHARMA are harder than tablets produced using only starch. The same level of compression can of course be produced using less pressure.

### **SANACEL® PHARMA as anti-caking agent and lubricant:**

The powder form raw materials should flow freely when they are placed in the die plate in order to avoid that the dosing unit does not bugged up. The punch should easily slide into the die hole. Lubricant characteristics are especially important for anti-caking agents.

During production SANACEL® PHARMA has the characteristic of being anti-caking, flow aid and lubricant. The lubricant effect could be increased in the tests by adding 1,0 % SiO<sub>2</sub> or up to 2 % Talcum. A better binding of the compressed material as well as a small increase in the compressing density could be achieved by adding 1 % paraffin oil.

### **SANACEL® PHARMA as filler:**

SANACEL® PHARMA is inert and stabile with other recipe components. This means that SANACEL® PHARMA can be used with critical ingredients. Flavours, ingredients and other additives are not effected. The characteristics of SANACEL® PHARMA are also not altered. Considerable advantages can be achieved compared to using traditional starch.

### **SANACEL® PHARMA as carrier for active components:**

As mentioned previously SANACEL® PHARMA is inert. The fine fibre structure produces micro capillaries that can bind liquids. Active components and all types of flavours can easily be bound to the fibres so that they are encapsulated within the compressed product. The tablet can slowly release the active components because the process is completely reversible. One example is the binding of orange oil with SANACEL® PHARMA in a lemonade tablet. The loss of flavour through the capillaries is minimal, on the other hand this oil combined with SANACEL® PHARMA serves as hydrophobic dissolution agent which has a better solubility in water. This synergy effect can not be achieved using traditional water soluble material and is therefore an important advantage that SANACEL® PHARMA can offer.

### **Product:**

For the application as compressing aid we recommend our fine powdered qualities:

- **SANACEL® PHARMA 90**
- **SANACEL® PHARMA 150**

### **Note:**

SANACEL® PHARMA meets the requirements of the world-wide applicable pharmacopeias:  
USP 24 NF 19  
PhEur 2000  
JP