

# JRS PHARMA MCC Microcrystalline Cellulose

Wide Range of Premium Quality MCC Binders  
for Specific Formulation Needs



## JRS PHARMA – The Global MCC Manufacturing Network

7 JRS PHARMA MCC Manufacturing Sites in 5 Countries  
Standardized Premium Processes  
High Product Quality – All Over the World

*JRS PHARMA –  
Leading in MCC Excellence*

**JRS PHARMA**  
*The Global Excipient Maker*



**FAMILY**  
A Member of the JRS Group



## JRS PHARMA - The Global MCC Manufacturing Network, Leading in MCC Excellence

### German MCC Technology - Produced in Seven JRS MCC Factories All Around the Globe

JRS PHARMA is one of the largest manufacturers of MCC binder products in the world. The core of our knowledge stems from 25 years of proven in-house developed JRS MCC production processes. That gives us the 100 % control and excellence of the process, the product and a consistent quality.

In 2018, the JRS Microcrystalline Cellulose Production Network expanded into Asia and opened a new state-of-the-art production site in Changzhou, China. An additional site in India started production in 2019. Both facilities stand for excellence in modern MCC Production Technology.

Advanced MCC Binders need a highly detailed and consistent production process. JRS refined and innovated the MCC production processes with advanced, specially designed equipment. The JRS PHARMA manufacturing strategy is based on sustainability, reliability and safety. All of our seven JRS PHARMA MCC Manufacturing Sites follow premium processes and fulfill high quality standards – all over the world. This includes utilizing the same premium quality raw materials.

Our Regional Manufacturing Plant Concept allows faster regional access and ensures optimized supply chain security. JRS PHARMA serves the global and regional markets with proven, branded and certified MCC Quality Products.

The JRS Process Know-How is backed by more than 25 years of experience in MCC production and innovation. The goal of JRS PHARMA is to serve the increasing demand in all markets with consistent high quality products.

### The Secure and Reliable MCC Premium Partnership

JRS PHARMA offers a perfect High Level Partnership for pharmaceutical industries all over the world – combining all synergies and advantages of a global manufacturing concept – based on standardized, regional production facilities:

- Reliable premium quality level
- Excellence in MCC know-how
- Industry-leading supply security
- Fast transportation times
- Regional manufacturing to minimize duty, currency conversion and freight costs
- Regional time zone customer service around the world
- Multiple state-of-the-art manufacturing sites across 3 continents guarantee supply chain security and business continuity, offering ultimate risk mitigation



# VIVAPUR®

The High Quality MCC  
with Reduced Carbon Footprint

# EMCOCEL®

The Classic Premium MCC

Additional Wide Range of Special  
MCC Grades for Dedicated Needs

High Functionality Excipients:  
The Next Generation

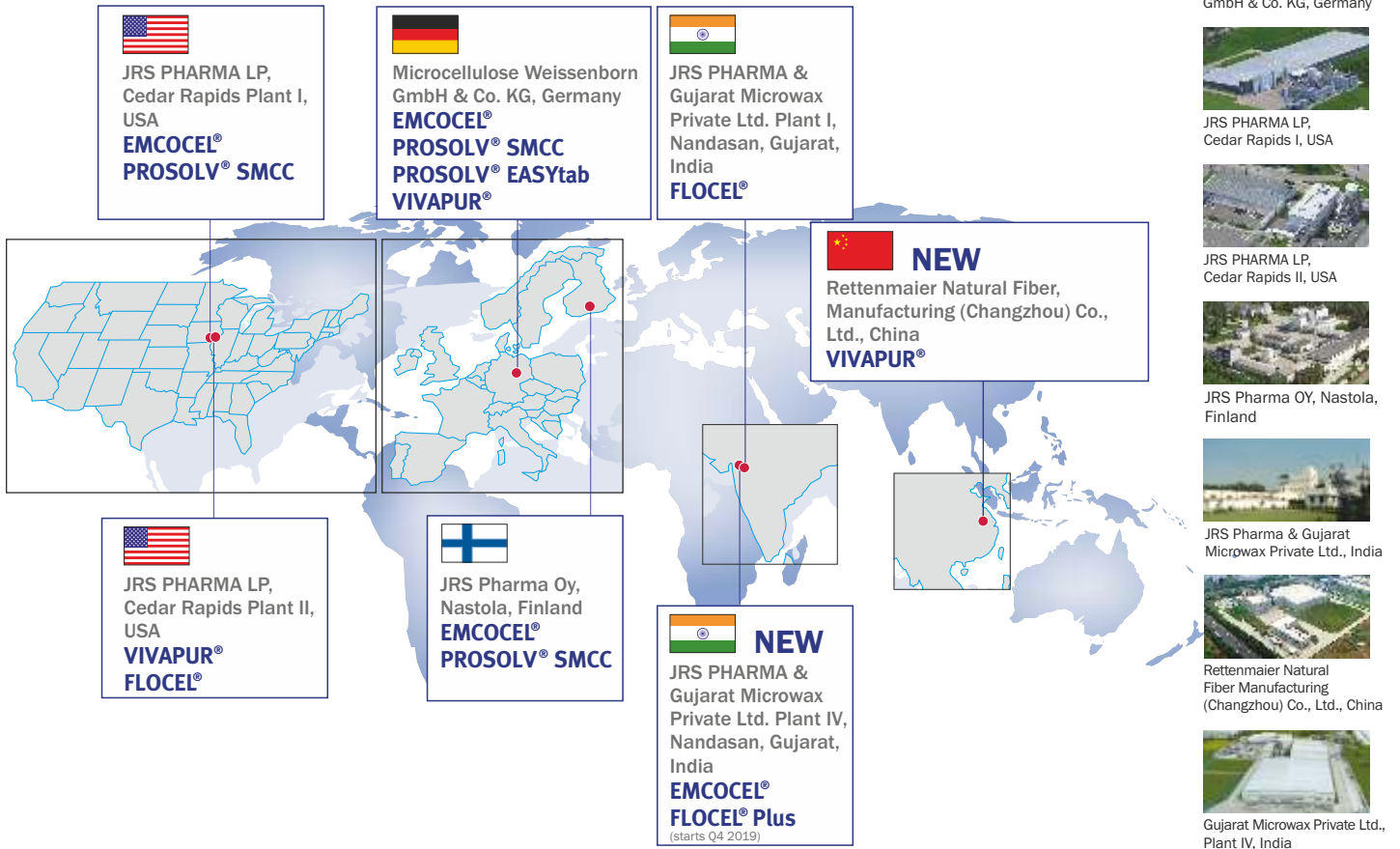
# PROSOLV® EASYtab

Ready-to-Use, High Functionality  
Excipient Composite

# PROSOLV® SMCC

Silicified Microcrystalline Cellulose

## JRS PHARMA – The Global MCC Manufacturing Network



## JRS PHARMA - System and Technology Partner, Added Value Solution Provider

### Expert Technical Support and Application Service

JRS PHARMA's portfolio of tableting excipients is the most comprehensive in the market. This includes not only classic ingredients but also innovative high functionality excipients. Still the backbone of this portfolio are the **VIVAPUR®** and **EMCOCEL®** MCCs.

The compliance with compendial monographs and additional internal specifications, such as high degree of brightness, is tested by our local quality control labs. Beyond that the JRS PHARMA Technical Competence Centers (TCC) carry out regularly functionality testing of our excipients in terms of tableting performance. Here at JRS PHARMA, we are always one step ahead – our two TCCs (Technical Competence Centers), in Germany and the USA, plus five regional application labs allow us to give customers just-in-time technical support and advice. This translates into more production efficiency and shorter time to market for our customers. Make use of the leading JRS PHARMA MCC Excellence!

### JRS PHARMA Makes Business Life Much Easier and More Secure

As a dedicated global solution provider, JRS PHARMA meets all needs for excellent support and service:

- Technical Support
- Worldwide Logistics and Warehousing
- Certified Quality and Regulatory Management





## JRS PHARMA – Global Concept and Local Presence – Your Strategic "Glocal" MCC Manufacturing Source

*"Hightech MCC Binders need a highly detailed and consistent production process.*

*We refined and innovated the MCC production process and designed advanced special equipment. In-house by the central process and engineering department of JRS in Germany.*

*That gives us the 100 % control and excellence of the process, the product and a consistent quality.*

*I would like to invite you to use our world-wide MCC Manufacturing Network as your strategic global and regional MCC source. A win-win partnership in secure MCC supply – embedded in the global JRS supply network concept.*

*Future-oriented we expand our excipient business globally to fulfill our customers needs all around the globe.*

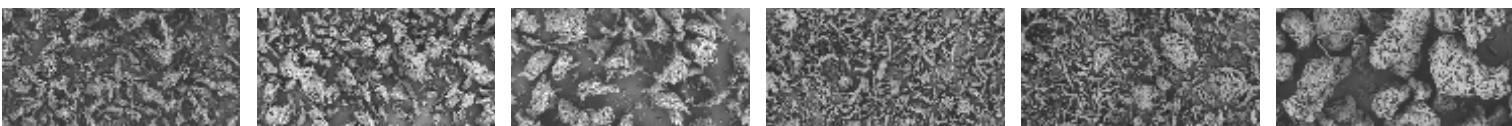
*You are most welcome in the JRS PHARMA Excipients Family !"*



**Josef Otto Rettenmaier**  
CEO of the Global JRS Company Group



Josef Otto Rettenmaier, CEO JRS



## The Globally Active JRS Company Group

- JRS PHARMA is part of the JRS Company Group J. RETTENMAIER & SÖHNE, Germany
- With over 140 years of experience, the JRS Group is a privately owner-led company with more than 3.500 employees and 90 sales and production facilities
- The Rettenmaier Family stands for a long-term, future-oriented philosophy, based on economical independency
- The JRS manufacturing strategy is founded on stability, reliability and security
- All JRS Business Units follow our unique 'Green' philosophy. Originating from sustainable JRS Cellulose and Plant Fiber Technology

## The Global Excipient Maker

### Global Network

#### GMP Manufacturing and Service Sites

- Excipients
- Coatings
- Biopharma Services
- JRS Sales Companies  
(Additionally, dedicated representatives in almost every country.)
- Technical Competence Centers
- Application Labs



#### HIGH FUNCTIONALITY EXCIPIENTS

- PROSOLV® SMCC**  
Silicified Microcrystalline Cellulose
- PROSOLV® EASYtab SP**  
Microcrystalline Cellulose, Colloidal Silicon Dioxide, Sodium Starch Glycolate, Sodium Stearyl Fumarate
- PROSOLV® EASYtab NUTRA**  
All-in-one Composite for Nutraceutical Applications
- PROSOLV® ODT G2**  
Microcrystalline Cellulose, Colloidal Silicon Dioxide, Mannitol, Fructose, Crospovidone

#### DISINTEGRANTS

- VIVASTAR®, EXPLOTAB®**  
Sodium Starch Glycolate, Sodium Carboxymethyl Starch
- VIVASOL®**  
Croscarmellose Sodium
- EMCOSOY®**  
Soy Polysaccharides
- VIVAPHARM® Crospovidone**  
Polyvinylpyrrolidone, crosslinked

#### COATINGS

- VIVACOAT®**  
Ready-to-Use Coating System
- VIVACOAT® protect**  
Ready-to-Use High Functional Coating System
- VIVAPHARM® HPMC**  
Hypromellose
- VIVAPHARM® PVA**  
Polyvinyl Alcohol

#### BINDERS

- VIVAPUR®, EMCOCEL®**  
Microcrystalline Cellulose
- EMDEX®**  
Dextrates
- VIVAPHARM® Povidones**  
Povidone and Copovidone

#### LUBRICANTS

- PRUV®**  
Sodium Stearyl Fumarate
- LUBRITAB®**  
Hydrogenated Vegetable Oil, Hydrogenated Oil
- LUBRI-PREZ™**  
Magnesium Stearate

#### CARRIERS

- VIVAPUR® MCC SPHERES**  
Microcrystalline Cellulose Pellets
- VIVAPHARM® Sugar Spheres**  
Sugar Pellets, Non-GMO

#### FUNCTIONAL FILLERS

- ARBOCEL®**  
Powdered Cellulose
- EMCOMPRESS®**  
Calcium Phosphates
- COMPACTROL®**  
Calcium Sulfate Dihydrate

#### THICKENERS • STABILIZERS • GELLING AGENTS

- VIVAPUR® MCG**  
Microcrystalline Cellulose and Carboxymethylcellulose Sodium
- VIVAPHARM® Alginates**  
Calcium Alginate
- VIVAPHARM® Alginates**  
Sodium Alginate
- VIVAPHARM® Alginates**  
Alginic Acid
- VIVAPHARM® Pectins**

#### BIOPHARMA SERVICES

- CELONIC**  
BEYOND BIOMANUFACTURING
  - ProJect**  
Pharmaceutics
- Members of the JRS PHARMA Family