

Global Risk Management

JRS PHARMA MCC Production



Your Global
Excipient Supplier

JRS PHARMA stands for

Security
Reliability
Strategically Focused
Independence

JRS PHARMA
The Global Excipient Maker



FAMILY
A Member of the JRS Group

The Challenge: High Risk Potentials in the Global Pharmaceutical Business



Modern Global Pharmaceutical Businesses Face an Ever-Increasing Number of Complex Risk Potentials:

- Climate Change with Extreme Weather Situations
- Natural Catastrophies
- Epidemics
- Civil Wars
- Earthquakes
- Transportation Shortages
- Resource Availabilities
- Digital and Energy System Instability
- Cyber Crime
- Currency Fluctuations
- Accident, Fire, Explosion Scenarios
- Population Growth

Detecting, and managing these potential risks are a big challenge for today's global businesses - and an essential part of a future-oriented Supply Chain Management Strategy.



The Answer: A Global Risk Management Solution Optimized for Individual Customers' Global Supply Chain Needs



**7 Manufacturing Sites on
3 Continents for MCC**



Microcellulose Weissenborn GmbH & Co. KG, Germany



JRS PHARMA LP, Cedar Rapids I, USA



JRS PHARMA LP, Cedar Rapids II, USA



JRS Pharma OY, Nastola, Finland



JRS Pharma & Gujarat Microwax Private Ltd., India



Rettenmaier Natural Fiber Manufacturing (Changzhou) Co., Ltd., China



Gujarat Microwax Private Ltd., Plant IV, India

High Security Demand for the Supply Chain

MCC (Microcrystalline Cellulose) is a crucial universal product group with high demand and long-term need for permanent availability.

To secure continuous worldwide availability it is necessary to develop a highly effective, practical Risk Management System that protects all critical customer needs and data.

Supply Security Guaranteed by 7 International Dedicated MCC Factories on 3 Continents

The Global JRS PHARMA MCC Manufacturing Network stands for resiliency: 7 MCC Production Sites on 3 Continents follow our Standardized German Production Process Technology.

Proven Partnership in Risk Management

Based on our long term cooperation with global leaders in the pharmaceutical industry, we adapted several systems and concepts for Modern Global Risk Management. JRS PHARMA's worldwide supply network is supported by a comprehensive Supply Chain Management system offering traceability from raw materials through final product delivery.

Risk Assessment for all 7 JRS MCC Production Sites

Following IPEC Guidelines, JRS PHARMA assessed and rated all relevant factors and data for the entire MCC manufacturing network - including Risk / Hazard Potential Matrices and Business Contingency Plans (BCP).

A Strong Business Partner for more than 140 Years

With more than 140 years of history, the "Rettenmaier Family" represents a long-term, future-oriented philosophy, based on economic independence and reliability. The Rettenmaier Company Group is a private, owner-led global Business Partner with more than 3500 employees and 90 production and sales locations all over the world. Our 18 excipient factories and 28 regional JRS sales teams offer specialized expertise in production, sales, and support for pharmaceutical business. The JRS Strategy is based on confidence, stability, reliability, security and high quality approach.

Let's talk about Individual Solutions

Based on specific customer needs, we support international business initiatives with tailor-made solutions in Global Risk Management. Let's talk about your individual, specific company strategy!

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®, EXPLATAB®**
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**
Alginate Acid
- VIVAPHARM® Pectins**

BIOPHARMA SERVICES