



# FAVOR<sup>®</sup>

Our superabsorbents for modern hygiene products

For the diapers of the world:  
FAVOR<sup>®</sup> superabsorbents





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## Profile



There's more to this product than meets the eye: Superabsorbents can absorb and hold up to 500 times their own weight in liquids.

## FAVOR<sup>®</sup> superabsorbents – Effective and attractive

They are little granules that make a big difference, and at our Baby Care business line, everything revolves around them. Worldwide, some 600 employees of Evonik Industries AG are involved with this high-tech product. Used in disposable diapers, our FAVOR<sup>®</sup> brand superabsorbents make sure babies' bottoms stay dry.



Once liquids have been captured, the superabsorbents won't release them - even under pressure, for example if the baby is sitting on the diaper.



## We are one of the world's largest producers of superabsorbents.

In terms of chemistry, superabsorbents are water-insoluble, cross-linked polymers. When they come into contact with liquids such as urine, the granules turn into a gel that traps high quantities of fluid and won't easily release it, even under pressure.

As part of a globally active company, we are well positioned. The Baby Care business line is headquartered in Krefeld, Germany, which is also the primary production site for the European market. Additional important production facilities in Germany can be found in Rheinmuenster (superabsorbents) and Marl (acrylic acid). But we also have a strong presence in the United States,

with production facilities in Greensboro, North Carolina (superabsorbents) and Garyville, Louisiana (superabsorbents) as well as Deer Park, Texas (acrylic acid). Laboratories for research and application technology are located in Krefeld and Greensboro.

### Top performance with top-quality products

We have been manufacturing superabsorbents for more than two decades – with tremendous success. Our FAVOR® brand superabsorbents are top sellers in the global marketplace. The fact that today's diapers are more than 50% thinner than those manufactured in the



Superabsorbents are manufactured not only in Germany, but also in the USA. The business line runs laboratories for research, development and application technology in Greensboro, USA (left) and in Krefeld, Germany (right).

1980s – 40 grams today, compared with more than 100 grams back then – is one of the achievements resulting from the progress we have made in the development of our products. Just a few grams of superabsorbents are sufficient to “lock up” a child’s urine. Our range of products includes many different superabsorbents – tailor-made solutions for our customers. For example, our superabsorbents are also used in feminine hygiene and adult incontinence products.

But our researchers are not content to rest on their laurels. They want more. Their goal is to make ultra-thin hygiene products, thereby ensuring even more wearing comfort, less packaging and less

waste. To that end, they are constantly working to improve the absorbent qualities of the granules. Our scientists strive to improve the distribution of liquids in consumer products, in keeping with the demands of our customers, and are also looking at alternative raw materials, new cross-linking systems and improved processing techniques.

#### Optimal solutions for our customers

Not that we spend all our time locked away in our laboratories, concentrating on theory. We help our customers set up their own quality control laboratories. Or if they prefer, our customers can carry out practical tests on their finished

products such as diapers or sanitary napkins at our laboratories. The business line also stands ready to provide valuable data and expert knowledge at our application technology laboratories and pilot production facilities.

In addition, we perform comparative tests of diapers for our customers in our technical laboratories, providing precise evaluations of the absorbent core, the construction and the overall design of the diaper, and demonstrating potential ways to further optimize products. So as you can see, in terms of quality, innovation and service, when it comes to superabsorbents, FAVOR® is the brand of choice.

**A-1 quality**



From the raw materials we procure to the production methods we employ to ensure that babies' bottoms stay dry, quality makes the decisive difference when it comes to our FAVOR® brand superabsorbents.

# Superabsorbents of the purest quality

"Are you lonesome tonight?" Elvis Presley asked in his hit single in January of 1961 – and made it to Number One on the US pop charts. About the same time, the first disposable diapers hit the market. In those days they were made of cellulose and contained no superabsorbents. The little granules that make such a big difference by keeping diapers dry weren't introduced until 1987. Even back then, our FAVOR® brand superabsorbents were setting the pace. Today they occupy a leading position on the world marketplace – with good reason.



Ongoing quality control guarantees first-class product quality.



**We demand the most throughout the entire production chain – from raw materials to finished premium products.**

The technicians at our production plant in Krefeld, Germany, are satisfied with the results they are measuring. Their computers register that the acrylic acid being produced at the same moment in the Chemical Park in Marl, Germany – 70 kilometers away – is of the purest quality. The scientists monitor the production vats at the far-off chemical plant in real time via computer. They check the characteristics of the acid and supervise various parameters to ensure that the acid, which will arrive in Krefeld a few hours later, is of the best possible quality and purity. The acrylic acid – the most important raw material for the FAVOR® brand superabsorbents manufactured by the global market leader – must be perfect. So the

finished product works flawlessly, and keeps babies' bottoms safely dry.

Quality, quality, quality: some 600 employees of the Baby Care business line around the world are committed to it. You may not be able to tell by looking at the little granules, but extreme care is taken to ensure that the superabsorbents are produced in the best possible quality. And they are getting better from year to year.

**Top quality – the world over**

The same high standards of quality and purity are valid at all of the business line's production plants around the world. Not only in Marl and Deer Park, USA, where



In the control room (center) technicians monitor each individual step of the production process, including the delivery of acrylic acid (top right).



the basic raw material acrylic acid is made in adherence with strict quality controls, but also in our production facilities and laboratories in Europe and the USA. Our employees are constantly working to improve our superabsorbents, which are already today capable of absorbing and storing up to 500 times their own weight in liquid – and that number is increasing.

To make certain that our quality standards will continue to be met in the future, and that our customers can rely on the capabilities of our superabsorbents, the business line maintains its own laboratories for research and development, where we work closely with customers to produce new and optimized superabsorbents, as well as

application technology laboratories that test virtually every disposable diaper on the market. Analytical laboratories perform on-going quality checks, and a laboratory for toxicology and ecology inspects all the raw materials used as well as the finished products and new prototypes to ensure they are safe for humans and the environment.

**As our success grows, so does our responsibility**

And our own internal standards are another expression of our dedication to quality and product safety. The Baby Care business line has set a “Code of Practice” that commits us to using only the safest, certified raw materials. What’s more, we

don’t simply rely on the specifications provided by our suppliers. We analyze samples of all our ingredients in our in-house laboratories.

When the superabsorbents leave our production plant, they are still subject to the high standards of the business line. We don’t allow our products to be forwarded by just anyone. We work exclusively with selected transport companies possessing specially trained personnel. All drivers and logistics experts are schooled in the handling of superabsorbents – whether the product is being sent by truck, train or ship. Simply put, superabsorbents from Evonik are brand-name products. They remind us of another Elvis hit: “The wonder of you.”

## Market and innovation leader



As a leading manufacturer with an extensive in-house research and development department, the Baby Care business line develops the most important component in modern disposable diapers.

## Thinner diapers than ever before

It won't be long before grandmothers will be asking themselves, "Why isn't the baby wearing a diaper?" But in all probability, the baby will indeed be wearing a diaper. The diapers of tomorrow will be as small and thin as a normal pair of underwear. While the diapers of the 1990s were stuffed with thick layers of cellulose, and stocking up on them in the supermarket was something only drivers of SUV's could manage, today's new disposable diapers come in convenient, small packages. And in the future, a week's supply might even fit in a woman's hand-bag. Researchers at our Baby Care business line create the "motor" that drives these developments.



Diapers, feminine hygiene and incontinence products containing FAVOR® superabsorbents offer security and discreet protection.



## We stand for new ideas and pioneering products.

How thin will tomorrow's diapers be? Will adults soon be able to wear incontinence products that don't "put on weight"? In our laboratories, a team of researchers and application technicians is working on new, improved superabsorbents and developing tomorrow's trends today – working closely with leading manufacturers of baby diapers and hygiene products. Research on demand, as it were.

Our tailor-made superabsorbents are among the best in the world. The product range includes a wide selection of FAVOR® brand superabsorbent polymers with different basic characteristics (absorption, retention, absorption under pressure, permeability), as well as additional

products specially developed for individual customers.

### Research for innovative solutions

But as a manufacturer with its own in-house research department, the business line also cooperates with its customers to set new standards and develop even better superabsorbents. We are working on superabsorbents that can store even more liquid, making it possible to create thinner diapers. For diaper manufacturers, that means a drastic reduction in the raw materials needed, which in turn results in a reduced number of production steps and saves on production and transportation costs. The ultimate



A stopwatch is used to measure the speed with which the diaper absorbs liquid. Just one of many tests our scientists perform to make superabsorbents even more efficient and effective.

Using various testing methods, laboratory employees determine how well the superabsorbents in hygiene products are doing their job. Baby and adult mannequins simulate lifelike conditions.

goal of our research effort is to produce superabsorbents that make it possible to create diapers and incontinence products that look no different than normal underwear and are considerably more comfortable to wear than products on the market today.

Innovations like these already have far-reaching consequences for our customers. In many cases, it is possible for them to simplify their manufacturing processes, and fewer raw materials are needed. Thinner finished products require less storage space, are easier to handle, and reduce transportation costs. They take up less space on store shelves, and increase the sales ratio per unit area. So improved superabsorbents benefit not only our customers, but their customers as well – in other words, the retail industry. Thin,

thinner, the thinnest possible – that's what we're working toward.

#### Customer benefit is the focus of our work

And to get there, we work closely with our customers. We don't keep our expertise to ourselves. We think alongside our customers. We understand every aspect of diapers, and we think of them as "systems." That's why the Baby Care business line maintains both research laboratories and application technology laboratories that examine, test and evaluate most of the diapers available on the global marketplace. How much liquid can the diaper absorb? How does it respond to pressure? How permeable is the "system"? We find the answers to a multitude of questions, and apply the data in our research and

development effort. On the basis of the information we gather, we are able to provide detailed consultation and find ways to improve both product quality and processing techniques to the benefit of our customers.

After all, we see ourselves not merely as a manufacturer of superabsorbents. We are experts who know precisely how diapers work and how they can be improved upon. For example, we find ways to better incorporate superabsorbents into diapers in order to optimize the distribution of liquids, or ways to improve the interplay between superabsorbents, cellulose and other diaper components, or ways to incorporate new functions and product features into diapers and hygiene products. Our overriding objective: To develop the ideal superabsorbents for the diapers our customers produce.

## Round-the-clock service



We cooperate closely with our customers to create the best solutions.

# Timely assistance everywhere, the world over

“The customer comes first” – that’s our motto. Individual consulting and service are important to us. Whether you have questions about our products or need help setting up a production plant, our experts are there for you, 24 hours a day, seven days a week – anywhere in the world.



Comprehensive service and the know-how gained through many years of experience in manufacturing superabsorbents are our particular strengths.

## Round-the-clock service



**We are there,  
wherever our  
customers need us.**

Responding to customer wishes quickly is something our production planners and logistics experts do every day. Planning ahead to meet customer demand is indispensable. Experienced employees who are familiar with our customers' manufacturing processes make sure the various types of superabsorbents that will be needed are produced well ahead of time, and that ample quantities are on hand so our customers never have to interrupt their own production processes or fall behind when demand for diapers experiences an unexpected spike.

Customs officers on strike in France, a demonstration blocking the Brenner Pass in Italy, a strike among truck drivers in Brazil, the Atlantic hurricane season – it takes more than disturbances like these to catch our logistics experts unawares.

### **Reliable and punctual transport**

Our employees see to it that our top-quality superabsorbents are transported exclusively by certified shipping companies



Efficient logistics and warehouse management are the backbone of our processes and procedures.

Our customers expect their products to be delivered in the desired quantity and quality and “just in time.” That means the products must be stored and transported safely and reliably. That’s why we cooperate with competent, trustworthy logistics partners all over the world.

and experienced drivers, so they arrive on time and in optimal condition. Alternative routes and means of transport are always available to ensure a reliable and timely supply for our customers, no matter where they are in the world. And we always take environmental concerns into consideration. The guiding principle of our logistics department is, “As environmentally friendly as possible.”

And when it comes to manufacturing hygiene products, we also see ourselves as a

service provider. After all, we know better than anyone what our superabsorbents are capable of. That’s why our experts can also be found at our customers’ plants, helping them optimize their production processes on-site.

#### **Many years of know-how and individual consulting**

We are also professionals in the area of analyzing the many diapers available on the global marketplace. We test them in our

application technology laboratories and we pay special attention to the products that contain our superabsorbents. Is it possible to improve the way the superabsorbents are embedded in the diapers? Is the liquid being absorbed effectively and stored evenly? Are the product goals being met? A lot of questions for which our experts always find the answers. From research and development, to production and transport, to on-site consultation – the services we provide assure the best benefits for each and every one of our customers.

## Safety has many aspects



Our products work safely and perform perfectly. That means twice the comfort for babies and their parents, who can get in a good night's sleep.

# Hygiene is an emotional issue

"Skin as soft as a baby's bottom." So smooth and silky. But also very delicate. We place a premium on safety and quality, to make sure babies' skin is protected.



Superabsorbents make the liquid in the diaper "disappear."

## Safety has many aspects



## We make an important contribution to sustainable development.

Superabsorbents not only have to work as perfectly as possible, they also have to fulfill the highest demands in terms of safety and quality. That's why we subject our raw materials and products to safety checks with strict criteria. Only those ingredients that have successfully passed numerous internationally recognized testing procedures are used. The security requirements we impose on our products far exceed the current legal stipulations. We have set out these requirements in a

"Code of Practice" that is applied from the very outset in the development and manufacture of each and every product.

### Highest safety standards, worldwide

But safety involves much more: The business line is also committed to responsible care. Among other things, that means our production facilities around the world comply with the highest safety standards. All of our plants have been certified according



Hand-in-hand with Mother Nature. We see our leading position on the marketplace as an obligation to take responsibility for the environment.

The safety of our superabsorbents is our supreme priority.

to ISO 9001 (quality standard) and 14001 (environmental standard), i.e. our processes, products, and services are continuously evaluated by independent auditors.

Everything we do is guided by the principle of sustainable development, which means we aim to design our business process and our products in responsible ways that exhibit our commitment to the well-being of future generations. Indeed, superabsorbents are an excellent example

of a "sustainable" product. Their use helps save on packaging and waste. And hygiene articles containing superabsorbents help promote good health and improve the quality of life.

**FAVOR' superabsorbents improve the quality of life**

For us, safety also entails allowing customers a glimpse behind the scenes. Diaper manufacturers apply their own strict

tests and employ a rating system to make sure that their specifications are followed precisely. They evaluate not only the production process but also the qualifications, skills and ongoing training of employees, as well as the documentation system in general. In addition, the Baby Care business line has a special department dedicated to environmental, safety, health and quality issues that conducts ongoing internal audits. The bottom line: We place a premium on safety, in every sense of the word!

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