

## BIOMATERIALS

CREATE TOMORROW'S HEALTHCARE SOLUTIONS WITH CORBION





# We help you develop innovative solutions that improve patients' lives

Are you creating future-facing medical or pharmaceutical products? At Corbion, we want to help you make a real difference in patients' lives, whether you're developing advanced medical devices or new formulations for pharmaceuticals. With our capabilities and comprehensive portfolio of resorbable polymers, we can help deliver your vision.

Comprising polymers that naturally degrade and then dissolve in the human body, before being entirely resorbed, Corbion's PURASORB® range is ideal for applications from biodegradable medical devices to controlled drug delivery.

To develop high-value, patient-friendly solutions, you need a reliable partner. Corbion is perfectly equipped to be that partner, bringing an in-depth knowledge of chemistry, a flexible (yet dependable) supply chain, and industry experience that gives you what you need for healthcare innovation success. Our collaborative, co-creative mindset and quality expertise make us the partner of choice for developers and businesses of all sizes, across the globe. With 45 years' experience across the sector, we have the specialized know-how that can accelerate your solutions' route to market.

#### The PURASORB® portfolio is flexible to your requirements

Encompassing diverse cutting-edge, resorbable polymers, the PURASORB® range has been specifically created for use across the medical and pharmaceutical industries.

Based on lactide, glycolide and caprolactone monomers, our polymers are readily available, cover numerous formulation and product design strategies, and comply with stringent industry regulations. Plus, our quality experience ensures that your development and commercialization processes are streamlined.

Our portfolio is also fully customizable to your requirements. Corbion can provide polymers selected to meet your exact performance requirements, helping you retain your competitive edge. We support **quality-by-design** strategies, identifying critical excipient attributes, so your customers can confidently declare that their products are both safe and effective.

#### Your go-to development and scale-up partner

If you are bringing your own proprietary technology to market, Corbion also offers co-development and scale-up/ commercialization capabilities.

We want to help our partners bring to market new technologies that improve lives - sometimes even save lives. With decades of experience in the industry, we know how to support your new innovations. We have a deep understanding of various chemistries and polymerization technologies - and with our regulatory expertise, we can bring your solutions to GMP-standard.

With multiple production sites and a ICHQ7-compliant quality system, Corbion can help quickly scale up your polymer technology and, together, we can streamline your product's route-to-market.



### From implants to injectables

For more than 45 years, we have been honing our expertise in polymer development and supplying customers with the latest polymer innovations. Our advanced portfolio is suited to these biomedical applications:



#### Orthopedics

Develop resorbable orthopedic devices and implants with excellent biocompatibility and biodegradability, with our PURASORB® polymers. Ideal for addressing a wide range of musculoskeletal issues in areas like sports medicine, trauma and spinal surgery, they also meet a diverse range of design and processing criteria.



#### Drug delivery

Our PURASORB® range is the ideal solution for your next drug delivery innovation – so your active ingredient is released in a predicted pattern over a set time period. Our polymers ensure that the in vivo performance of your new system is effective, and that precisely the right amount of a drug is delivered to the patient – at the right time.



#### **Tissue regeneration**

Meticulously designed PURASORB® polymers are always fit for purpose. In tissue regeneration scaffolds, they solidly support the natural healing process. And it's not just good news for the patient. Our material can be processed by a number of techniques from extrusion, compression molding and injection molding to electrospinning and 3D printing. It's compatible with different sterilization methods too.



#### Cosmetic

The demand for cosmetic treatments, and particularly surgery-free procedures, shows no signs of abating. Our innovative polymer technology enables the creation of minimally invasive cosmetic injections and fillers. Resorbable polymers can lift sections of the face, for example, with no surgery and without the need for a hospital stay.



#### Wound management

Our biodegradable PURASORB® polymers promote natural healing via safe and effective surgical and other fiber-based products. They can be used in synthetic resorbable mono- and multi-filaments (sutures and medical textiles), while processing options include extrusion, fiber-spinning, braiding and coating.

### Our comprehensive portfolio

Our broad portfolio of off-the-shelf and readily available bioresorbable PURASORB® polymers is designed for a large variety of processing techniques and allows for maximum flexibility with *in vivo* performance.

Polymers	Copolymers	Properties
Poly(L-lactide)	L-lactide/D-lactide copolymers	Linear, branched or block-copolymer
Poly(D-lactide)	L-lactide/DL-lactide copolymers	• Degradation time from 0.5 months to >24 months
Poly(DL-lactide)	L-lactide/Glycolide copolymers	• IV from 0.2 to 6.0+ dl/g*
Polyglycolide	DL-lactide/Glycolide copolymers	• Ultra-low content in monomer and/or residual
Poly( <b>ɛ</b> -caprolactone)	L-lactide/ $\epsilon$ -caprolactone copolymers	catalyst available
	Polyethylene Glycol copolymers	

\*This is dependent on the polymer family

### Why work with Corbion?



#### We're a partner you can trust

With more than 45 years working in the biomaterials sector, Corbion is the most experienced polymer supplier in the industry. We have a responsive and multidisciplinary team of experts, as well as numerous case studies showcasing our expertise in delivering the highest quality polymer solutions for a wide range of businesses and academic institutions.

#### **Regulatory compliance**

Any potential risk in our processes is strictly managed. With our industry expertise, ICHQ7-quality system and ISO-9001:2015 certified production plants, our customers can rest assured that all Corbion polymers are GMP-grade and compliant to the highest standards – making your route to market smooth and hassle-free.

#### Secure supply chain

You can count on our polymers to be of consistently high-quality and readily available. They are sourced via a dependable supply chain with multiple production sites, providing flexibility and allowing us to adapt our portfolio to meet your exact requirements. We understand the unique challenges our customers face; you can always be sure that our solution is reliable.

#### **Application expertise**

Our decades of experience enable us to provide unparalleled application expertise and processing support to ensure your formulation requirements are met. The customizable range of resorbable polymers we offer can be applied across applications from controlled drug delivery systems to cosmetic procedures and orthopedic devices.

#### We care

Our co-creative ethos and preference for collaborative, open dialogs are testament to our passion for tangibly improving patients' lives. We empower scientists to accelerate the delivery of important innovations to hospitals and medical facilities across the globe. Working together, we can create new biomedical technologies that transform tomorrow's healthcare solutions.



#### We never compromise on quality

At Corbion, we keep quality in mind at all times. We implement stringent quality controls from the beginning of our partnership and provide a full risk and data analysis for every project. We guarantee a level of consistency that aligns with your pre-defined standards, and we work closely with you to integrate a **quality-by-design** strategy early in the product development process.

#### **Co-creating future innovations**

Passionate about creating tomorrow's healthcare solutions? So are we. At Corbion, we want to work collaboratively and cohesively with our partners to solve unmet needs for both patients and the healthcare systems that support them. Blending our expertise with your ideas and experience, we can develop truly ground-breaking biomedical solutions.

#### We preserve what matters

We champion preservation in all its forms – preserving food and food production, health, and our planet. Using science, we look for new ways to reduce the burden on healthcare systems – ensuring the long-term health of both patients and the planet they live on. We have adopted a targeted approach to reducing our negative impact on the environment. By focusing on Sustainable Development Goals 2 (Zero hunger), 3 (Good health and wellbeing) and 12 (Responsible consumption and production), we work to make a real, tangible difference in preserving our planet. Rest assured that you are partnering with a business that takes sustainability seriously. Together, we can use science and nature's ingenuity to transform patients' lives for the better.



Learn more about how leveraging our resorbable polymer technology can make your vision a reality. Tell us about your goals and your requirements. Talk with a member of our expert team or request a free PURASORB® sample today to get started.

corbion.com/biomaterials



### Let us know how we can help you



#### Corbion Headquarters Corbion Production Location Corbion Sales Office Corbion Innovation Center

corbion.com/contact

#### About Corbion

Corbion is the global market leader in lactic acid and its derivatives, and a leading supplier of emulsifiers, functional enzyme blends, minerals, vitamins, and algae ingredients. We use our unique expertise in fermentation and other processes to deliver sustainable solutions for the preservation of food and food production, health, and our planet. For over 100 years, we have been uncompromising in our commitment to safety, quality, innovation and performance. Drawing on our deep application and product knowledge, we work side-by-side with customers to make our cutting-edge technologies work for them. Our solutions help differentiate products in markets such as food, home & personal care, animal nutrition, pharmaceuticals, medical devices, and bioplastics.



Interested in solutions for Biomaterials? Go to corbion.com/biomaterials

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