



Advanced biomedical solutions to improve lives

NUTRITION • HEALTH • SUSTAINABLE LIVING



DSM

BRIGHT SCIENCE. BRIGHTER LIVING.

Beyond Science to Solutions

DSM is the global leader in biomedical solutions, trusted by our partners to shape the future of biomedical materials and regenerative medical devices. Our innovative solutions are focused on enhancing patient outcomes.

DSM has been building successful partnerships with medical device and pharmaceutical companies for more than 30 years, benefiting 3.5M+ patients annually. Our team of 400+ biomedical specialists is constantly turning ideas into innovative materials and devices of the highest quality that address the unmet healthcare needs of today and tomorrow.



Every second, a patient receives a medical device containing a DSM biomedical material.

At DSM, we offer the most advanced healing solutions based on clinical needs and supported by scientific evidence. From the latest developments in synthetic biomaterials to stem-cell driven regeneration, we collaborate with our partners to develop products

that make a difference for medical professionals and their patients. We lead in the areas of passive, active and regenerative healing technologies.

For DSM, the definition of quality includes a thorough understanding of the rigorous requirements for medical devices and the assurance that our materials will help our partners develop devices of the highest caliber. DSM incorporates in-depth quality checks into our processes throughout product development and has state-of-the-art facilities that include dedicated application labs, world-class analytical departments, cGMP compliant manufacturing facilities and works with biocompatibility assessment facilities and non-clinical laboratories. From our

role as a materials provider to a full service medical device partner, DSM's broad portfolio adds value at all levels of the biomedical solutions continuum.

400+ specialists

- Quality Engineers
- Process Engineers
- Custom Tool Designers
- Chemical Engineers (organic and analytical)
- Biomedical Engineers
- Yarn and Textile Engineers
- Polymer and Material Scientists
- Lean Manufacturing Experts

Partner with DSM from concept to commercialization

We go further than providing biomedical materials to our customers. We offer a broad range of services to our global partners - from concept to commercialization, having the expertise and capabilities to quickly deliver innovative and high-quality solutions. Together with our partners, DSM finds new ways to address today's most complex medical challenges through research and development, pre-clinical and clinical testing and regulatory review, commercial scale-up, manufacturing, fulfillment, sales training and marketing support.

From conceptualization and ideation to commercial support, DSM provides full product cycle support to meet and exceed partner specifications. We have extensive Master Files to aid in navigating the regulatory process and our high-quality materials comply with all applicable international standards and regulatory requirements. DSM aims to shorten time to market and make our solutions accessible to healthcare professionals and their patients as quickly as possible.



**1,650
biomedical
patents**



**45 regulatory
clearances and
counting**

Advancing biomedical materials

Developing the most beneficial biomedical solutions is about looking to the future and finding new ways to address unmet needs. DSM is always planning for and investing in future applications, new technologies and better ways to produce and apply technology.

Our partners know that to us, scientific innovation means producing the most advanced biomedical materials in the world. Our medical device and material manufacturing technologies, along with our expertise and drive for innovation, will continue to provide solutions that improve clinical success. We are going beyond science to solutions to help people lead longer, healthier and more active lives.

High-quality solutions across multiple medical specialties

With the broadest portfolio of advanced healing solutions, DSM advances care across specialties, including orthopedics, cardiovascular, diabetes management, neurology, ophthalmology, dental, soft tissue repair, wound repair, plastic and reconstructive surgery, and women's health.



Orthopedics

DSM has a strong history in the orthopedic industry, contributing to the creation of many devices such as orthopedic sutures with Dyneema Purity® fiber, bone graft substitutes with our collagen and bioceramics and our unique centrifugation technology for concentration of blood and bone marrow aspirate. Whether biostable, bioresorbable or bioactive products, our materials and devices set the industry standard in performance, contributing to the clinical efficacy of orthopedic solutions.

Cardiovascular

DSM serves the extensive and diverse cardiovascular field with a broad range of innovative materials and technologies. Our collagen, polyurethanes, coatings and Dyneema Purity® fibers are used in the design of a variety of cardiovascular devices such as vascular closure devices, heart valves, stents, balloon catheters, cardiac rhythm, and cardiac assist devices.

Diabetes management

Our polyurethanes and coatings are used in glucose monitoring sensors to accurately measure diabetic patients blood sugar level for better management of hypo and hyperglycemia.

Neurology

From our bio durable biomedical polyurethanes to our resorbable regenerative collagens, polymers and ECMs, our technologies support a wide range of neurologic applications.

Ophthalmology

Contact lenses made with our silicone hydrogels help provide comfort while improving the vision of millions of people worldwide. Our long-term experience in silicone hydrogel manufacturing and process optimizations enable our ophthalmic partners to meet market demands and provide innovative solutions.

Dental

Our resorbable synthetic and natural membranes and ceramics support healthy tissue growth and prevent encroachment of soft tissue into protective spaces around dental implants.

Wound repair & hemostasis

Our regenerative materials platforms support regulatory approved and cleared products used in treatment of tissue wounds and to enhance hemostasis in vascular puncture closure applications.

Soft tissue repair

DSM's robust regenerative materials toolkit offers new options for soft tissue repair in the fields of wound care, hernia repair and plastic and reconstructive surgery. Technologies such as our extracellular matrices, collagen and biostable polymers are used in a variety of applications to encourage healing in difficult clinical settings. We provide material and device solutions to our partners that enhance surgical outcomes and improve patient satisfaction.

Plastic and reconstructive surgery

We provide a robust regenerative materials toolkit that affords cosmetic and reconstructive surgeons new options to enhance their surgical outcomes and improve patient satisfaction.

Women's health

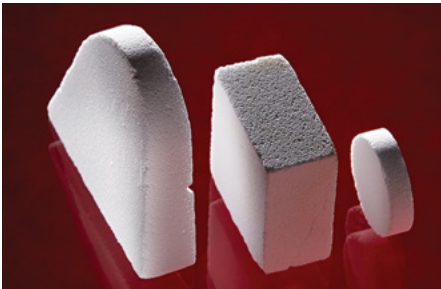
DSM has developed soft polyurethanes for contraceptive drug delivery devices such as intra vaginal rings. These polyurethanes can be used as excipient for other drug delivery applications.



Customized solutions help solve complex medical challenges

DSM is a trusted partner in the medical device and pharmaceutical industries, providing customized solutions that set the standard in biomedical products. Whether you are looking for a unique biomaterial or a finished medical device, you can trust in DSM.

Technology Platforms



Bioceramics

Technology specialized for formulating and manufacturing resorbable bioceramic scaffolds with a tunable range of biological, mechanical, and handling properties



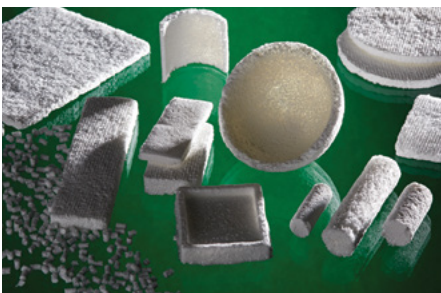
Extracellular Matrix (ECM)

Proprietary OPTRIX™ tissue-cleaning process applied to various porcine materials to create biologically-friendly soft tissue repair scaffolds, reinforcing meshes, and barrier membranes



Polymer processing

Product design, development, and manufacture of medical devices made from synthetic resorbable polymers, biocomposites, PEEK and polyurethanes



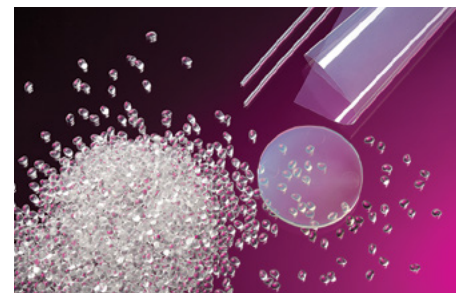
Collagen

Commercially ready and custom formulated collagen for specialized applications to enhance the physical and biological benefits of scaffolds and biologic carriers



Mechanical devices

Compact and efficient devices to prepare, deliver, and process biomaterials and tissue, including our proprietary cell-concentrating centrifuges



Polyurethanes

Broad portfolio of patented materials with enhanced biostability and biocompatibility, extensive FDA master files, and long proven clinical history

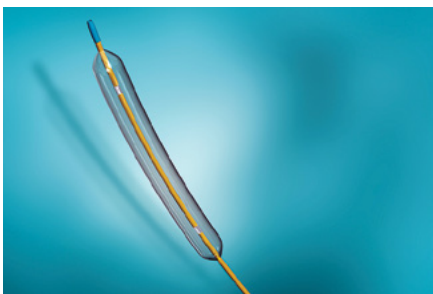


Emerging Technologies



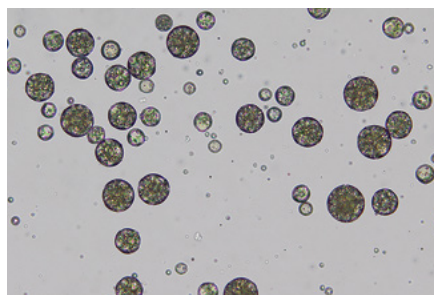
Ultra-high molecular weight polyethylenes

Setting the standard for medical-grade UHMWPE for medical device application in orthopedics and cardiovascular requiring low profile, high strength, and durability. Clinically proven in chronic implants for over 15 years.



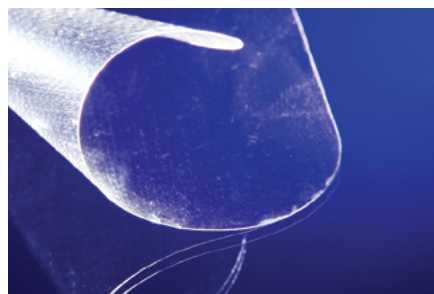
Hydrophilic coating solutions

Coating technologies that reduce the insertion force and allow them to traverse the vasculature more easily, reducing abrasion between the device surface and the soft tissue



Polyesteramide technology

Bioresorbable injectable and/or implantable drug delivery platforms and tunable technology to deliver both small and large molecules



Adhesive technology

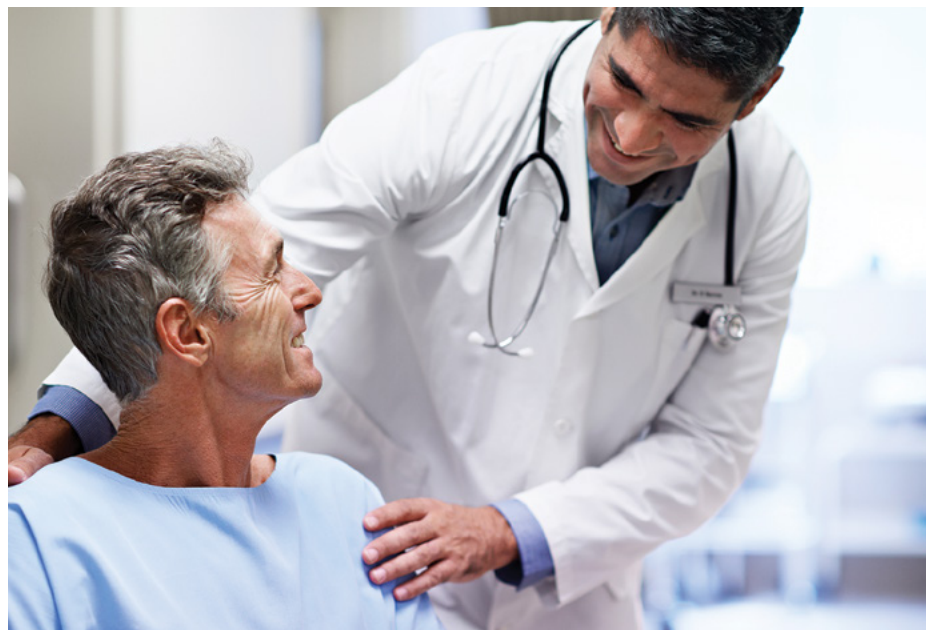
Adhesive biomaterials in protective coatings and adhesive films that mimic the proteins of marine mussels and adhere in wet environments in much the same way



Silicone hydrogel technology

Silicone hydrogel manufacturing and materials innovation, including new chemistries, the production of reactive hydrogel precursors, and manufacturing process optimizations

Patients are at the center of everything we do



About DSM Biomedical

DSM is the world's leading biomedical partner with over 30 years of experience, offering the broadest portfolio of advanced healing solutions and expertise. From concept to commercialization, DSM is a full service partner, turning ideas into high-quality solutions from biomedical materials to finished devices. In 50 countries and 6 continents, benefitting 3.5M+ patients annually, the breadth of DSM's global network is unmatched. Learn more at www.dsm.com/medical.

Every day, we work to successfully address current issues and growing trends in healthcare to enhance the lives of patients worldwide by being our customers' partner to reduce costs, improve long-term outcomes and meet the increased demand for medical services for our aging population who expect to live more active lifestyles.

Within an increasingly complex healthcare landscape, we seek ways to develop products that contribute to accelerated healing with less trauma and faster recovery – helping our partners improve healing and enhance patient outcomes.

DSM – Bright Science. Brighter Living.™

Royal DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in life sciences and materials sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders simultaneously. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. More information can be found at www.dsm.com.

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