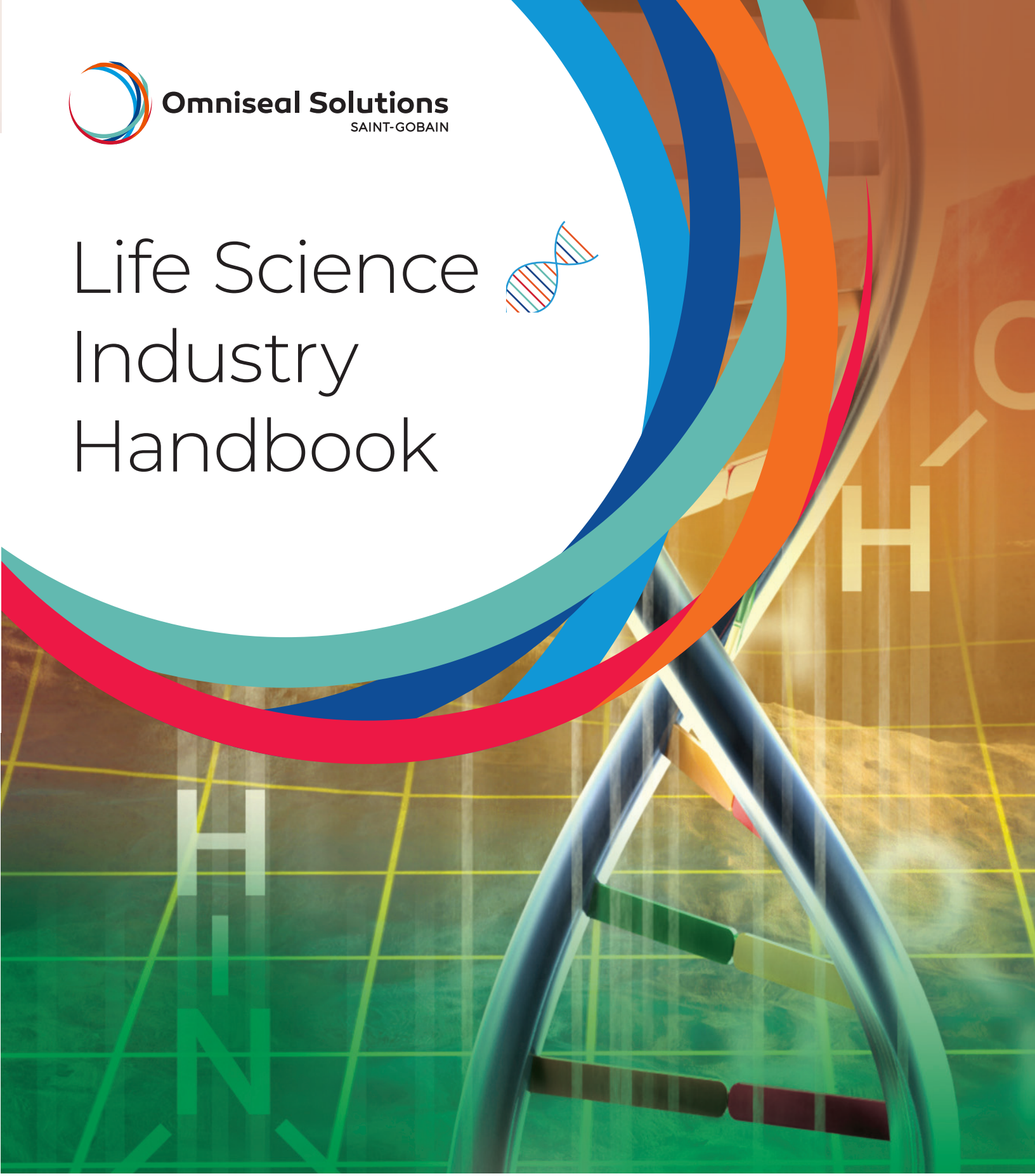
Omniseal Solutions
SAINT-GOBAIN

Life Science Industry Handbook



Beyond the boundaries of POSSIBLE

SAINT-GOBAIN

Life Science Sealing & Friction Control Materials

Code No.	Base Material	Color	Temperature Range °F	Temperature Range °C
Fluoroloy® Sealing Materials				
A01	PTFE	White	-450°F to +500°F	-268°C to +260°C
A02	PTFE	White	-450°F to +600°F	-268°C to +316°C
A06	PCTFE	White	-435°F to +400°F	-259°C to +204°C
A12	PTFE	Dull Gold	-450°F to +550°F	-268°C to +288°C
A17	UHMW	White	-450°F to +180°F	-268°C to +82°C
A20	FEP	Clear	-320°F to +400°F	-196°C to +204°C
A22	PEEK	Tan	-100°F to +600°F	-73°C to +316°C
A23	UHMWPE	Clear	-250°F to +200°F	-156°C to +93°C
A29	PTFE	Black	-400°F to +550°F	-240°C to +288°C
A40	PTFE	Beige	-400°F to +550°F	-240°C to +288°C
A45	PTFE	Brown	-400°F to +550°F	-240°C to +288°C
A46	PTFE	White	-400°F to +550°F	-240°C to +288°C
A47	PTFE	White	-400°F to +550°F	-240°C to +288°C
A66	PFA	Clear	-320°F to +500°F	-196°C to +260°C
A79	PTFE	White	-400°F to +550°F	-240°C to +288°C
Rulon® Bearing, Sealing and Structural Materials				
Rulon® J	PTFE	Dull Gold	-450°F to +550°F	-268°C to +288°C
Rulon® 123	PTFE	Black	-400°F to +550°F	-240°C to +288°C
Rulon® 1337	PTFE	Beige	-400°F to +550°F	-240°C to +288°C
Rulon® 641	PTFE	White	-400°F to +550°F	-240°C to +288°C
Rulon® 1439	PTFE	White	-400°F to +550°F	-240°C to +288°C

Extend Your Performance & Life Requirements

- Precision custom sealing
- Minimally invasive designs
- Extend maintenance cycles
- Protect electronics
- Validation & simulation testing

Tailor-Made Designs, Materials & Manufacturing

- Wear & friction control
- Lightweight and self-lubricious options
- Sterilization & chemical resistance
- Cost-efficient manufacturing options

GOING BEYOND WITH SEALING & MATERIAL SOLUTIONS

Rulon® Polymer Cup Seals

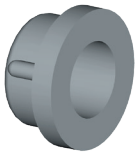
Portable oxygen concentrator

Nebulizer

Omniseal® Spring-Energized Seals

Surgical tools

HPLC/UHPLC



Rulon® Wear Components

Surgical tools

In Vitro Diagnostics

Meldin® Bearings

Surgical tools

Endodontics (obtruation)

Omniseal® Lip Seals

Pharmaceutical Mixer

Home Medical Equipment – Respiratory

Surgical Tools

Proven in the Past...

For more than 50 years, Omniseal Solutions has been a trusted manufacturing partner to the medical, surgical, dental, analytical and pharmaceutical markets.

Our commitment to innovation and sustainable solutions drive our ongoing effort to better serve our customers.

... Prepared for the Future

Purity and Cleanliness

From material selection to clean room operations, Omniseal Solutions offers the technology and infrastructure to support today's Life Science customer. Our extensive material catalog includes 22 materials that are FDA compliant or USP Class VI certified, such as PEEK, PTFE, PCTFE, UHMW-PE and PFA based compounds. Our Garden Grove, California facility has Class 100 and 10K clean rooms to control contamination.

KEY APPLICATIONS	
Analytical equipment	In Vitro diagnostic equipment
Pharmaceutical processing	Surgical and dental tools

Critical Sealing

Our seals are designed to provide the precise level of sealing required by the application. In the Life Science industry, proper sealing can protect integral components and result in substantial cost savings for the end user by extending maintenance cycles and increasing the overall life of the application.

KEY APPLICATIONS	
Surgical robotics & in vitro diagnostics	Analytical equipment
	Home medical equipment, oxygen concentrator

Friction Control

Omniseal Solutions offers two material grades, Rulon® and Meldin®, that address the need for structural components and bearings in dynamic applications. These material grades have been formulated for low wear and thermal stability. When it comes to friction and sealing, our Omniseal® spring-energized and lip seals can be optimized for low and high PV applications, respectively.

KEY APPLICATIONS	
Home medical equipment – respiratory	Dental drills
Surgical tools	Surgical robotics & in vitro diagnostics

Chemical Compatibility

Many applications in the Life Science industry deal with extreme chemical environments requiring chemical sterilization and cleaning in place (CIP) techniques. Whether the media is alkaline, acidic or a unique solvent, Omniseal Solutions offers a material compound to meet your specific chemical needs as well as providing hundreds of unique compounds, including 22 that are FDA or USP Class VI compliant.

KEY APPLICATIONS	
Pharmaceutical processing	Analytical equipment
	Surgical tools

CRITICAL PARTS PROTECTING CORE LIFE SCIENCE SYSTEMS

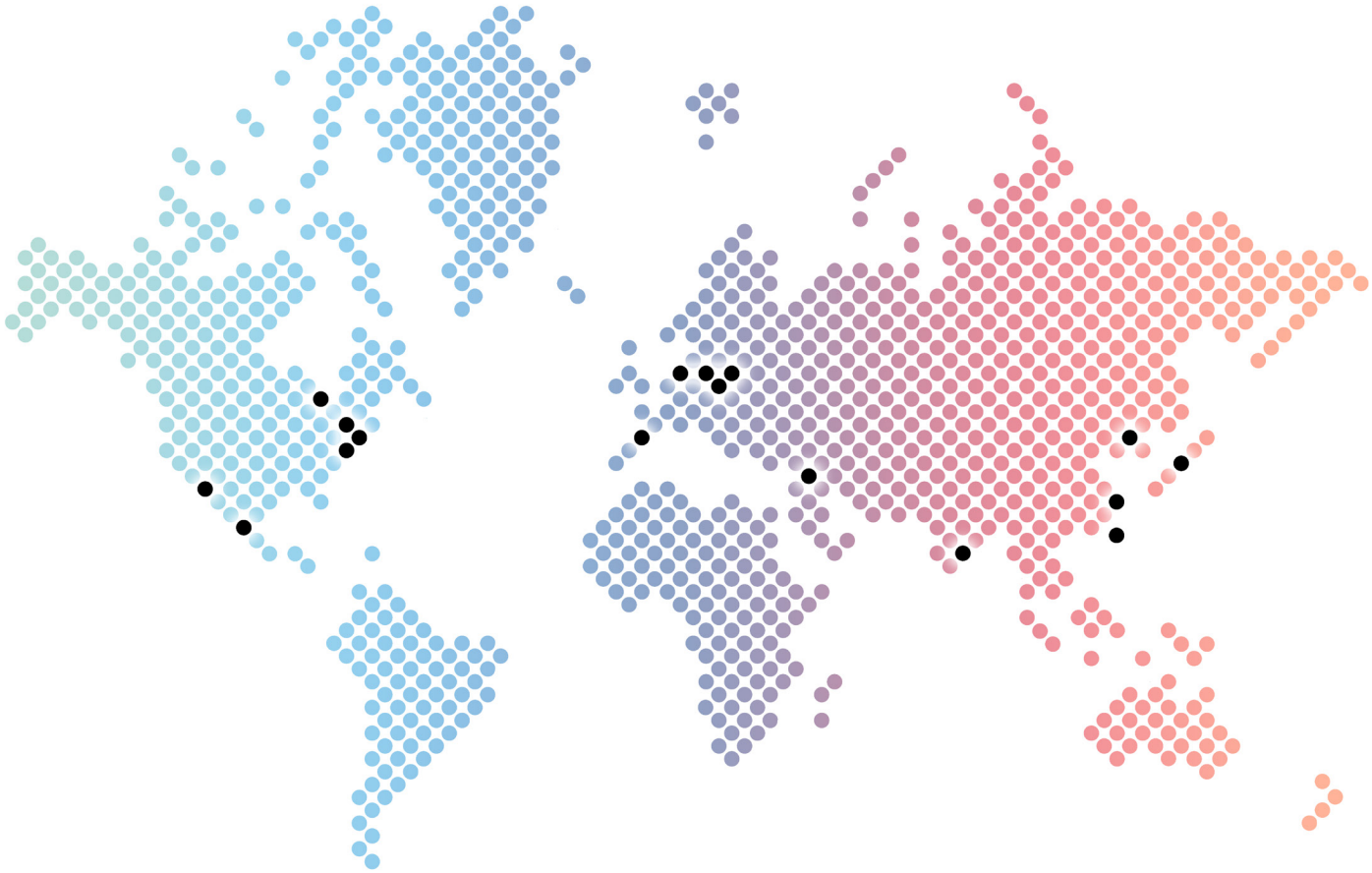
Omniseal Solutions™ has a rich history servicing the unique challenges of the Life Science market. With a focus on customer collaboration and new product development, we provide the support and technical expertise to meet just about any challenge.

Our Core Competencies:

- Design engineering
- Precision fabrication
- Material formulation
- Customer collaboration
- Purity and cleanliness
- Critical sealing
- Friction control
- Weight reduction
- Lower cost of ownership for end users
- Custom Shapes and Sizes (Miniaturization)

Solutions		Main Features
OMNISEAL® POLYMERS	High-Performance Spring-Energized Seals	· Temperatures from -210°C to +316°C (-346°F to +600°F) · Pressure: Vacuum up to 3,448 bar (50,000 psi) · Low and controlled friction · Broad chemical resistance
	High-Performance PTFE Rotary Shaft Seals	· Temperatures from -53°C to +232°C (-65°F to +450°F) · Shaft speed in excess of 36 m/s (7,000 fpm) · Pressures up to 35 bar (508 psi)
RULON® FLUOROPOLYMERS	High-Performance Fluoropolymer Compounds	· Temperatures from -268°C to +316°C (-450°F to +600°F) · Low friction, high wear life and broad chemical resistance
MELDIN® POLYIMIDES	High-Performance Thermoset Polyimide Materials	· Temperatures from cryogenic through +316°C (+600°F), intermittently up to +482°C (+900°F) · Superior strength and rigidity combined with self-lubrication properties
HYCOMP™ COMPOSITES	High-Performance Composite Components	· High Temperature capabilities up to +350°C (+662°F) · Very low coefficient of thermal expansion · Good thermal oxidative stability · Lightweight & high wear resistance

ONE GLOBAL TEAM... A DEDICATED CUSTOMER FOCUS



GLOBAL & LOCAL PRESENCE

With 17 manufacturing facilities in 10 different countries, Omniseal Solutions™ is a diverse group that is committed to being customer centric.

Contact our team of experts for more information. We have local resources to support you!

- **Americas:** Garden Grove, CA, USA; Bristol, RI, USA; Orange, CT, USA; Cleveland, OH, USA; Northboro, MA; Saltillo, MX
- **Europe:** Kontich, Belgium; Mechelen, Belgium; Vimercate, IT; La Rioja, Spain; Kolo, Poland; Willich, Germany
- **Asia:** Shanghai, China; Bangalore & Chennai, India; Suwa & Tokyo, Japan; Seoul & Incheon, South Korea; Taipei, Taiwan

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