**Long-term compliant and therefore future proof**

**Peroxidic-crosslinked fluoroelastomer from Freudenberg meets the latest regulatory requirements of the process industry**

**Weinheim (Germany), April 17, 2023.**  **Freudenberg Sealing Technologies' peroxidic-crosslinked fluoroelastomer material 75 FKM 239961 now also has received pharma-specific approval according to USP Chapter 87. The result of the in vitro conformity test confirms that the material has no toxic effects on cell cultures. With this advancement, bisphenol crosslinked FKM materials can be replaced in the food industry. The immediately available high-performance material is very resistant to media and temperature, ultrapure and thus one of the company's product highlights at the Interphex trade fair from April 25-27 in New York and at the FoodPro trade fair from July 23-26 in Melbourne.**

Fluororubber (FKM) has become an integral material for the process industry. It is suitable for applications under high temperatures and with aggressive media. These properties are critically important for the food and beverage as well as in the pharmaceutical industries. Those beneficial properties lead to high demand for the material and this in turn to long delivery times. The material from Freudenberg Sealing Technologies meets high purity standards and is strongly resistant to media and temperature. In addition, it scores with its good availability.

**Meeting long-term regulatory requirements**

Thanks to the dedicated work of the material developers, the elastomer also meets all current regulatory requirements of the process industry in the long term. These include, on the one hand, certifications and approvals that ensure that materials that come into contact with food do not transfer harmful substances to the food [EU (Reg.) 1935/2004, FDA § 177.2600 and BfR XXI]. "This uncompromisingly complies with the latest regulations," explains Dr. Martin Scherer, material developer at Freudenberg Sealing Technologies. "This is important because there are constant updates on the cleanliness of food contact materials, especially in Europe." Furthermore, the USP Chapter 87 (in vitro) confirmation required for use in medical and pharmaceutical applications is available, which proves that the material has no toxic effects on cell cultures. The strict hygienic requirements of the food and pharmaceutical industries for the elastomer are met with the certification according to 3-A® Sanitary Standards. In addition, the material does not contain any ingredients of animal origin (ADI free). The USP Class VI (Chapter 88) approval, which is important for use in medical applications, is currently still in progress.

The peroxidic-crosslinked material offers very good resistance to aggressive process media and is toxicologically completely harmless based on the release tests carried out. These outstanding properties compared to commercially available materials and the very wide range of applications at temperatures from -25 °C to +200 °C make it the ideal material for product-contacting applications in the food, beverage, and pharmaceutical industries.

**High-performance material for demanding tasks**

The new FKM is well suited for applications where seals made of other elastomers, such as EPDM or HNBR, are too weak. For example, in processes in the beverage industry involving pure citrus juices, dairy products or aromatic oils, such as orange or hop oil.

In addition, a benchmark study conducted by Freudenberg Sealing Technologies proves the material's high resistance to aggressive cleaning media. In long-term tests with comparable FKM materials in concentrated CIP media (Cleaning in Place), the new FKM was able to convince with its very good chemical resistance. Currently, O-rings and diaphragms for pumps are already being manufactured from this high-performance material; the development and production of customer-specific sealing solutions is planned.

The fluoroplastics and rubbers used by Freudenberg Sealing Technologies belong to the group of polymeric per- and polyfluoroalkyl substances (PFAS). These large, long-chain molecules are classified as safe for humans and nature by expert bodies such as the OECD (Organisation for Economic Co-operation and Development). When used and disposed of properly, there is no risk to human health and the environment.

The material experts at Freudenberg Sealing Technologies follow the legal regulations very closely. All of the company's fluoropolymer suppliers must confirm that they comply with the thresholds for already restricted PFAS chemicals and Freudenberg verifies this information with their own analyses in the laboratory. Together with relevant industry bodies, the company is currently examining the draft of the EU-PFAS restriction published in mid-February. The deadlines for public statements and consultation of the bodies on the new EU legislation run until the beginning of 2024. The restriction is to enter into force in 2025 with a transitional period of 1.5 years; to what extent is still largely unclear.

**Further trade fair highlights: Hygienic Line and radial shaft seals**

At the Interphex trade show from April 25 to 27 in New York (booth 1127) and at FoodPro from July 23 to 26 in Melbourne (booth W15), Freudenberg Sealing Technologies will present a comprehensive product portfolio that is specially tailored to the high purity requirements of the process industry in addition to the 75 FKM 239961: These include the seals of the Hygienic Line, such as the Hygienic Usit®, the Hygienic Forseal, dead space-free radial seals, the Radiamatic® HTS II 9539 VL or aseptic O-rings. Particularly noteworthy is the Hygienic Pressure Seal, which prevents dead spaces due to its particularly flat contact surface to the process medium. This offer is complemented by the radial oil seals Radiamatic® HTS II, Simmerring BlueSeal or Simmerring® B2PT made of high-performance materials such as PTFE and Fluoroprene® XP, which are suitable for applications in contact with aggressive media and high temperatures.

***Image:*** *FST\_Interphex2023\_img\_ENG.jpg / ©Freudenberg Sealing Technologies 2023*

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**About Freudenberg Sealing Technologies**

Freudenberg Sealing Technologies is a longstanding technology expert and market leader for sophisticated and novel applications in sealing technology and electric mobility solutions worldwide. With its unique materials and technology expertise, the company is a proven supplier for demanding products and applications, as well as a development and service partner to customers in the automotive industries and in general industries. In 2022, Freudenberg Sealing Technologies generated sales of about 2.45 billion euros and employed approximately 13,500 people. More information at [www.fst.com](http://www.fst.com).

The company is part of the global Freudenberg Group which has four business areas: Seals and Vibration Control Technology, Nonwovens and Filtration, Household Products as well as Specialties and Others. In 2022 the Group generated sales of more than 11.7 billion euros and employed more than 51,000 associates in around 60 countries. More information is available at [www.freudenberg.com](http://www.freudenberg.com).

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