

PRESS RELEASE

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SABIC, PDI Collaborate on Stress Cracking Study for Medical Device Plastics to Help Protect Patients from Infection

SABIC, a global leader in thermoplastic technology, and PDI, a leader in infection prevention products and solutions for the healthcare industry, today announced the results of a joint study on the environmental stress cracking resistance (ESCR) of SABIC's materials used for medical device enclosures. The two companies evaluated how well SABIC's industry-leading thermoplastics withstand repeated exposure to PDI's Super **Sani-Cloth**[®] wipes¹, one of the leading surface disinfectants widely used in the healthcare environment to help prevent healthcare-associated infections (HAIs). The study revealed that several of SABIC's product technologies – including LEXAN™ EXL polycarbonate (PC) resin, XYLEX™ (PC/polyester blend) resin and VALOX™ polybutylene terephthalate (PBT) resin – deliver improved compatibility with PDI's leading hospital-grade disinfectant. These and other products in SABIC's robust portfolio of chemically resistant healthcare materials give manufacturers new options for designing medical equipment that maintains outstanding performance, while also addressing the disinfection demands of today's healthcare environment.

PDI and SABIC collaborated to establish a testing procedure following ASTM D543 guidelines, and applied more stringent compatibility criteria compared to other benchmarks often used in the industry. SABIC has published the study findings in its updated and expanded brochure, [Resistance + Durability: Chemical Resistance Performance Testing for Healthcare Materials](#). Also featured in the brochure is a new section, "Designing for ESCR," which describes why following best practices in injection molding processing and designs can be instrumental in reducing molded-in stress, a key contributor to ESCR performance.

"Combatting HAIs is greatly important for hospitals, but if materials are not appropriately selected for the healthcare environment, the frequent application of cleaning chemicals can cause device enclosures to crack prematurely, which can lead to increased maintenance costs for healthcare providers," said Cathleen Hess, Healthcare business leader for SABIC. "SABIC and PDI are committed to supporting the healthcare industry with information about compatibility between medical enclosure materials and commonly used disinfectants. Our joint study highlights the complex issue of environmental stress cracking, and provides valuable insights to help our customers make informed material selection decisions."

According to the Centers for Disease Control and Prevention (CDC), "Although significant progress has been made in preventing some infection types, there is much more work to be done. On any given day, about one in 25 hospital patients has at least one healthcare-associated infection."² The World Health Organization (WHO) reported: "Hundreds of millions of patients are affected by health care-associated infections worldwide each year, leading to significant mortality and financial losses for health systems."³

"With heightened emphasis on infection control in healthcare environments, medical devices are regularly subjected to repeated contact with hospital-grade disinfectants and, as a result, require exceptionally strong materials that are less vulnerable to environmental stress cracking," said Cheryl Moran, senior director of Portfolio Management, PDI Infection Prevention. "By guiding manufacturers towards plastics that are better

suitable for the specific disinfecting requirements of each medical device, our study benefits both medical device manufacturers and healthcare providers, ultimately benefiting the patient, who can be protected from potential adverse events resulting from damaged or improperly disinfected equipment. Continuing our collaboration with SABIC and medical equipment manufacturers will enable even further insights as additional technologies emerge.”

Evaluating ESCR

Environmental stress cracking is a complex problem that calls for in-depth knowledge of disinfectant and polymer chemistries and their compatibility, as well as part design and molding considerations. It is influenced by each aspect of the application development process, including, but not limited to, polymer morphology, chemical type and concentration, frequency of cleaning and residual stress in molded components. The new SABIC/PDI study evaluated the compatibility of select SABIC materials with PDI’s Super **Sani-Cloth**[®] wipes containing an alcohol/quaternary ammonium compound (QAC)-based disinfectant. This intermediate-level disinfectant provides broad-spectrum efficacy with a two-minute contact time.

Each medical device application requires a tailored approach to optimizing performance in today’s hospital environment. SABIC’s application and process development engineers are available to assist customers throughout the material selection, application development and molding process.

SABIC’s extensive portfolio of chemical resistant healthcare materials is available worldwide.

¹ Manufactured and distributed in the U.S.

² Healthcare-associated Infections (HAI) Progress Report. CDC website. <http://www.cdc.gov/hai/surveillance/progress-report/index.html>. Updated March 3, 2016.

³ Health care-associated infections fact sheet. World Health Organization. http://www.who.int/gpsc/country_work/gpsc_ccisc_fact_sheet_en.pdf.

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Sani-Cloth[®] is a registered trademark of PDI.

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NOTES TO EDITORS

- High-resolution photos are available upon request
- SABIC should be written in every instance in all uppercase

ABOUT SABIC

SABIC is a global leader in diversified chemicals headquartered in Riyadh, Saudi Arabia. We manufacture on a global scale in the Americas, Europe, Middle East and Asia Pacific, making distinctly different kinds of products: chemicals, commodity and high performance plastics, agri-nutrients and metals.

We support our customers by identifying and developing opportunities in key end markets such as construction, medical devices, packaging, agri-nutrients, electrical and electronics, transportation and clean energy.

SABIC recorded a net profit of SR 18.77 billion (US\$ 5 billion) in 2015. Sales revenues for 2015 totalled SR 148.09 billion (US\$ 39.49 billion). Total assets stood at SR 328.22 billion (US\$ 87.53 billion) at the end of 2015.

SABIC has more than 40,000 employees worldwide and operates in more than 50 countries. Fostering innovation and a spirit of ingenuity, we have 10,960 global patent filings, and have significant research resources with innovation hubs in five key geographies – USA, Europe, Middle East, South East Asia and North East Asia.

The Saudi Arabian government owns 70 percent of SABIC shares with the remaining 30 percent publicly traded on the Saudi stock exchange.

At SABIC, we combine a rich track record of doing what others said couldn't be done with a deep understanding of our customers. But our true impact is as a collaborative partner who can help our customers achieve their ambitions by finding solutions to their challenges. We call this 'Chemistry that matters™'.

ABOUT PDI

PDI offers a broad range of evidence-based, market leading Interventional Care, Environment of Care, and Patient Care solutions, all designed to help reduce preventable infections, control healthcare costs, and ultimately help save lives. It's all part of PDI's passion to *Be The Difference®*, every day. To learn more, visit pdihc.com.

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PHOTO & CAPTION



PHOTO DESCRIPTION: Medical devices are repeatedly exposed to strong cleaning disinfectants to help minimize the risk of infections. SABIC and PDI are sharing the results of a collaborative joint study which evaluated the chemical compatibility performance of several SABIC materials used for medical device enclosures with repeated exposure to PDI's Super **Sani-Cloth**[®] wipes¹, one of the leading surface disinfectants widely used in the healthcare environment to help prevent healthcare-associated infections (HAIs).

¹ Manufactured and distributed in the U.S.

Sani-Cloth[®] is a registered trademark of PDI.