

Solvay and Medacta Complete Unique Study Comparing Carbon Footprint of Single-Use and Reusable Surgical Instruments

Groundbreaking life cycle analysis of a single-use and reusable surgical instrument kit shows they share a comparable carbon footprint

Alpharetta, Ga., March 2, 2016 – Solvay Specialty Polymers, a leading global supplier of high-performance thermoplastics, reported today the results of a major study challenging perceptions that single-use medical instruments have a negative environmental impact vs. reusable instruments. Conducted in conjunction with Medacta International, a leading manufacturer of orthopaedic implants, neurosurgical systems and instrumentation, and Swiss Climate, an independent sustainability consultant, the report signals a significant cradle-to-grave life cycle analysis to measure the environmental impact of high-performance polymers in healthcare applications.

“As industry-leading innovators and collaborators, both Solvay and Medacta have been at the forefront of the trend toward single-use medical instrumentation. Despite the tremendous promise of the single-use concept for reducing the frequency of hospital acquired infections, concerns over increased waste have led to the perception that single-use instrumentation is less environmentally friendly than traditional systems,” said Bianca Shemper, sustainability manager for Solvay Specialty Polymers. “With Medacta’s help, we methodically explored those concerns to determine whether the alleged environmental impact of a single-use instrument kit outweighed its clear potential benefits. Partnerships like this emphasize Solvay’s commitment to taking a leadership role in sustainable chemistry and environmental responsibility to help our customers foster environmentally friendly yet highly competitive new solutions.”

Applying the ISO 14044 standard for life cycle analysis, the group focused its study on the cumulative environmental impact of a surgical instrument kit for knee replacement manufactured by Medacta. The kit is available with either all-metal reusable instruments (GMK®) or with single-use instruments (GMK® Efficiency) injection molded from several high-performance medical grade polymers from Solvay. The analysis encompassed the complete cradle-to-grave life cycle of both kit options, including their raw materials, production, use and disposal, as well as post-use management, reuse and recovery.

Overall, the life cycle analysis of Medacta’s surgery kit demonstrated that the carbon footprint of GMK® Efficiency single-use instrumentation is neutral when compared to the average CO₂ equivalent annual emission of a hospital using conventional metal re-usable instrumentation. These findings counter existing industry perceptions about the negative environmental impact of single-use instrumentation, and reinforce the viability of metal-to-plastic conversion for these applications. Further, the findings allowed Medacta to apply Swiss Climate’s respected CO₂ Neutral stamp to its GMK® Efficiency single-use surgical instrument kit for knee replacement.

Additional input from Swiss Climate found that GMK® Efficiency single-use instrumentation eliminates the need for repeated washing and sterilization, which can save up to 115 gallons (435 liters) of water for each surgical knee procedure.

“Medacta has always been committed to providing solutions that are optimally safe and effective, delivering economic sustainability with highly innovative products, while respecting the environment,” said Francesco Siccardi, executive vice president of Medacta International. “Medacta’s latest innovation, GMK® Efficiency single use instruments, is the ultimate evidence of this constant commitment.”

“Despite the debate over environmental impact, demand for single-use instruments is growing quickly due, in part, to their potential for reducing hospital acquired infections,” said Dane Waund, global healthcare market manager for Solvay Specialty Polymers. “To help customers more familiar with metal fabrication consider making this important transition, Solvay is committed to partnering with industry leaders like Medacta to evaluate the potential environmental impact of alternative solutions, and to usher in a new generation of safer and more innovative medical instrumentation.”

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About Medacta International

Medacta International is a world-leading manufacturer of orthopaedic implants, neurosurgical systems and instrumentation. Medacta’s revolutionary approach and responsible innovation have resulted in standard of care breakthroughs in hip replacement with the AMIS® system and total knee replacement with MyKnee® patient matched technology. Over the last 10 years, Medacta has grown dramatically by taking a holistic approach and placing value on all aspects of the care experience from design to training to sustainability. Medacta is headquartered in Castel San Pietro, Switzerland, and operates in 30 countries. For more information, visit www.medacta.com.

About Solvay

Solvay Specialty Polymers manufactures over 1500 products across 35 brands of high-performance polymers – fluoropolymers, fluoroelastomers, fluorinated fluids, semi-aromatic polyamides, sulfone polymers, aromatic ultra-high performance polymers, high-barrier polymers and cross-linked high-performance compounds – for use in Aerospace, Alternative Energy, Automotive, Healthcare, Membranes, Oil and Gas, Packaging, Plumbing, Semiconductors, Wire & Cable, and other industries. Learn more at www.solvayspecialtypolymers.com.

An international chemical and advanced materials company, **SOLVAY** assists its customers in innovating, developing and delivering high-value, sustainable products and solutions which consume less energy and reduce CO₂ emissions, optimize the use of resources and improve the quality of life. Solvay serves diversified global end markets, including automotive and aerospace, consumer goods and healthcare, energy and environment, electricity and electronics, building and construction as well as industrial applications. Solvay is headquartered in Brussels with about 30,000 employees spread across 53 countries. In 2014, the company posted pro forma net sales of close to € 12 billion, 90% of which was generated from activities where it ranks among the world’s top 3 players. Solvay SA (**SOLB.BE**) is listed on Euronext in Brussels and Paris (Bloomberg: **SOLB.BB** - Reuters: **SOLB.BR**).

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A groundbreaking life cycle study performed by Solvay Specialty Polymers and Medacta International found that the carbon footprint of single-use instrumentation fabricated from high-performance polymers is neutral when compared to the average CO₂ equivalent annual emission of a hospital using conventional metal re-usable instrumentation. These findings counter existing industry perceptions about the negative environmental impact of single-use instrumentation, and reinforce the viability of metal-to-plastic conversion for these applications. Photo courtesy of Solvay Specialty Polymers.