SensorMed's Surgical Safety Device Uses Solvay's Polysulfone for High Heat Resistance and Light Dispersion Cable

SensorMed

SensorMed [1] has introduced a disposable version of its CableCap™ laparoscopic safety device, which is designed to eliminate the risk of fire caused by high-intensity surgical light cables in operating rooms. The CableCap device is injection molded of Udel® polysulfone (PSU) resin from Solvay Specialty Polymers USA, LLC [2], for high heat resistance, strength, and excellent light dispersion.

The CableCap inserts directly into the distal end of surgical light cables, and should be used at any point during minimally invasive surgery when surgical cables are not attached to scopes.

The simple, one-piece oblong device, which has already received 510(k) clearance from the U.S. Food & Drug Administration (FDA) is designed with four molded-in fins for optimal light and heat dispersion. The CableCap inserts directly into the distal end of surgical light cables, and should be used at any point during minimally invasive surgery when surgical cables are not attached to scopes. CableCap effectively diffuses the energy generated by the light cables, making them cool to the touch and preventing the risk of burns and fires associated with these instruments.

Surgical light cables, which are part of the illumination system used during laparoscopic and endoscopic surgical procedures, can produce heat readings of approximately 450°F (232°C) at their distal ends when hooked up to a standard 300-watt surgical light source, according to SensorMed. Dangers include an exposed cable coming in contact with patient drapes or other fuel sources such as alcohol-based skin prep agents, which can result in serious skin burns or O.R. fires. According to published literature and data from the FDA and AORN (Association of periOperative Registered Nurses), surgical light cables is one of the main sources for the hundreds of operating room fires that occur each year, the company said.

After an extensive material testing evaluation, SensorMed opted for Udel PSU over a range of other thermoplastics due to its combination of thermal and light dispersion properties, according to William Milam, VP of Engineering at SensorMed. The material's transparent amber color offers an optimum balance in terms of light dispersion and heat absorption. A more translucent material would result in a brighter light that would potentially distract surgeons, while an opaque-colored device would retain too much heat. Udel PSU also withstands EtO gas sterilization and is compliant with ISO 10993-1 for limited exposure, non-implantable applications.

About SensorMed
SensorMed, based in Knoxville, Tenn., is an innovative designer and developer of medical devices. The company's focus is on safety products for the operating room. SensorMed's objective is to design and develop instruments that assist physicians and other medical professionals in their efforts to provide the highest quality healthcare for their patients.

About Solvay Specialty Polymers
Solvay Specialty Polymers manufactures more products with more performance than any other polymer company in the world. The company supplies over 1500 products across 33 brands of high-performance polymers – fluoropolymers, fluoroelastomers, fluorinated fluids, semi-aromatic polyamides, sulfone polymers, aromatic ultra polymers, high-barrier polymers and cross-linked high-performance compounds – for use in Aerospace, Alternative Energy, Automotive, Healthcare, Membranes, Oil & Gas, Packaging, Plumbing, Semiconductors, Wire & Cable, and other markets.

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Links:
[1] http://www.sensormed.com/
[2] http://www.solvayspecialtypolymers.com/