Press release

Evonik drives safety for EVs with TEGO® Therm fire-resistant coatings for battery housings

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Main press contact
Fabian Schwane
Head of Market Communications
Coating Additives
Phone + 49 172 2133935
fabian.schwane@evonik.com

Alternative press contact
Antje Hansen
Head of Market Communications
Specialty Additives
Phone +49 201 177 2764
antje.hansen@evonik.com

- TEGO® Therm with superior thermal insulation and fire resistance mitigates the risk of thermal runaway in EV batteries.
- Technology provides improved safety while meeting reliable mechanical properties and flame-retardant standards, particularly UL 94 V-0 classification.
- Easy spray application ensures complete and efficient coverage of the entire battery housing.

Essen, Germany. Evonik is expanding its TEGO® Therm product range to provide heat protection and fire-resistant coatings for electric vehicle (EV) battery housings and covers. In the rapidly growing EV market, safety standards for lithium-ion batteries are becoming increasingly stringent. Coatings based on Evonik's TEGO® Therm products are a robust solution to the industry's demand for effective thermal insulation barriers, which are essential for preventing thermal runaway in EV batteries.

Dr. Benjamin Schaeffner, Global Head of Market Segment Industrial and Transportation Coatings at Evonik Coating Additives: “With the electric mobility sector accelerating, the safety of lithium-ion batteries in EVs has never been more crucial. TEGO® Therm is our response to the industry's call for reliable thermal barriers that not only meet but surpass the stringent safety standards of today."

The TEGO® Therm toolbox includes a variety of components, each meticulously engineered to enhance the performance of thermal insulation and fire-resistant coatings. Among these, TEGO® Therm HPG 4000 granules boast a microporous silica core, which provides superior low thermal conductivity, high hydrophobicity, and reduced flammability. TEGO® Therm HPG 6806, a finer silica-based granule, not only excels in insulation but also strengthens mechanical performance and ensures smooth, even surfaces of insulation coatings. The waterborne polysiloxane hybrid binder, TEGO® Therm L 300, further

Evonik Industries AG
Rellinghauser Straße 1-11
45128 Essen
Germany
Phone +49 201 177-01
www.evonik.com

Supervisory Board
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Registered Office is Essen
Register Court Essen Local Court
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enhances the thermal stability and fire resistance of protective coatings.

Coatings based on this range of products meet the UL 94 V-0 fire safety standards, providing a new level of protection for EV batteries. The versatility of TEGO® Therm allows for spray application on complex three-dimensional substrates, ensuring complete and efficient fire resistance of the coverage of every contour of the battery housing.

“The synergy between TEGO® Therm binder and granules is at the core of our solution. It minimizes heat transfer and effectively inhibits the spread of fires, offering crucial additional time for emergency response”, said Dr. Niko Haberkorn, Global Head of Business Development for the Market Segment Industrial & Transportation Coatings at Evonik Coating Additives. “Moreover, our products ensure high mechanical resistance, maintaining structural integrity in high-temperature scenarios.”

Evonik's commitment to safety and innovation is demonstrated by rigorous testing. When subjected to a propylene flame with more than 1000 °C, TEGO® Therm-based coatings protected the substrate effectively, with the temperature on the back of substrate remaining moderate, even with a thin dry film thickness. These results underscore the effectiveness of TEGO® Therm in insulating against intense heat and highlight its suitability for applications where space is at a premium.

The expansion of TEGO® Therm products represents a significant advancement in EV battery safety. As the electric mobility market continues to expand, Evonik's commitment to providing cutting-edge, reliable, and efficient coating solutions will play a pivotal role in shaping a safer and more sustainable future for the automotive industry.

Evonik’s Coating Additives business line provides a broad range of specialty additives for the coatings and inks sector. The business has decades of expertise in pioneering products

for a range of coatings markets, including decorative coatings, industrial coatings, automotive coatings, and printing inks.

For more information about Evonik Coating Additives and the innovation project, please visit: www.coating-additives.com

Company information
Evonik is one of the world leaders in specialty chemicals. The company is active in more than 100 countries around the world and generated sales of €15.3 billion and an operating profit (adjusted EBITDA) of €1.66 billion in 2023. Evonik goes far beyond chemistry to create innovative, profitable, and sustainable solutions for customers. More than 33,000 employees work together for a common purpose: We want to improve life today and tomorrow.

About Specialty Additives
The Specialty Additives division combines the businesses of versatile additives and high-performance crosslinkers. They make end products more valuable, more durable, save more energy and simply better. As formulation experts in fast growing markets such as coatings, mobility, infrastructure and consumer goods, Specialty Additives combines a small amount with a big effect. With its 3,500 employees the division generated sales of €3.52 billion in 2023.

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