

Focus on sustainability

- **LANXESS at the Tire Technology Expo 2023 in Hanover, hall 20, stand 4003**
- **Central theme: “Sustainable tire production”**
- **Silicone-free release agents for clean processes**
- **Recycling old tires through devulcanization**

Cologne, March 16, 2023 – LANXESS will be presenting new products and solutions for sustainable tire production at the Tire Technology Expo 2023 in Hanover from March 21 to 23. Under the slogan “Quality sustains,” the Rhein Chemie business unit of the specialty chemicals company will show how it helps tire manufacturers to reduce their environmental footprint during production as well as that of the end product. The portfolio for sustainable tire chemistry enables clean, efficient workflows to be implemented in the various process steps. In keeping with the circular economy, LANXESS also offers solutions for recycling old tires and feeding them back into the production process.

Antidegradant soon available in a sustainable variant

In order to meet the sustainability targets of the tire manufacturers – namely, to produce completely “green” tires by 2050 – LANXESS offers a suitable antidegradant for rubber compounds. Over 50 percent of the contents of the additive with the trade name Vulkanox HS are based on sustainable raw materials. These have been independently certified according to the mass balancing method in advance. In the case of Vulkanox HS, certification according to ISCC PLUS (International Sustainability & Carbon Certification) demonstrates that the criteria for reliable balancing are met and correctly applied. The facility at the production plant in Brunsbüttel, where Rhein Chemie makes the antidegradant, will be certified by the end of 2023. This means that tire manufacturers can use Vulkanox HS, which corresponds fully to its conventional counterpart in terms of its properties, without fresh approval.

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Antidegradants are chemicals that protect the vulcanizates from harmful external influences. They counteract degradation processes that are caused by oxygen or heat and change the properties of the vulcanizates. Over time, processes such as depolymerization, fatigue, embrittlement, cracking, and even decomposition can occur, resulting in fundamental damage to the tire.

Clean and efficient: silicone-free release agents offer advantages

In order to ensure a smooth molding process during tire production, release agents need to be used. The process, which essentially consists of molding the unvulcanized tire in the press, vulcanization, and the subsequent demolding, is impaired less and is cleaner overall if silicon-free release agents are used. This means that manufacturers of “seal” and “silent” tires are not burdened by the silicones that are unfavorable for them in the first place, either. After all, in order to ensure adhesion of sealing layers, noise-reducing foam and internal tire pressure monitoring sensors, silicone residues from the release agent would have to be completely removed after demolding. In practice, that entails meticulous cleaning of the inner tire surfaces using a laser or chemicals. For the processors, water-based, silicone-free release agents from LANXESS are thus a contribution to greater cost effectiveness and sustainability.

Recycling old tires through devulcanization

LANXESS offers a rubber agent for devulcanization in the form of Aktiplast 79 which enables efficient recycling of sulfur-crosslinked waste rubber, such as tires or shoe soles. The chemical prevents broken cross-links from reforming by reacting with the radicals that were created. The product is suitable for natural and synthetic rubber as well as corresponding mixtures. Using Aktiplast 79 improves the quality of the recycled rubber such that more recycled material can be added to a fresh compound without impairing the properties of the end product.

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The recommended procedure is to finely grind the rubber regenerate and to add Aktiplast 79 during the milling process. This ensures that Aktiplast 79 is absorbed by the reclaim at high temperature, which enables better devulcanization.

Comprehensive portfolio for tire production

The Rhein Chemie business unit of LANXESS is the world's largest provider of rubber chemicals and system solutions for the rubber-processing industry. Its range of products comprises an extensive selection of additives that are used in tire mixtures in particular. These include vulcanizing agents and rubber additives in pre-dispersed and other delivery forms, processing accelerators, anti-reversion agents, zinc oxide, antidegradants, and mastication agents. The range of release agents comprises granulated batch-off products, interior spray solutions for single and multiple mold release, and bladder coatings. Outside, finishing, and tire marking paints complete the portfolio.

You can find LANXESS at booth 4003 in hall 20. You can find out more about products and solutions for the rubber industry at rch.lanxess.com.

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Tire Technology Expo 2023: With its extensive range of chemicals for rubber processing, the Rhein Chemie business unit of LANXESS assists tire manufacturers with sustainable tire production.

Photo: LANXESS



With Vulkanox HS, LANXESS is offering an antidegradant with contents of which more than 50 percent are based on sustainable raw materials. It has the same properties as its conventional counterpart. ISCC PLUS certification allows tire manufacturers to use it without fresh approval.

Photo: LANXESS

LANXESS is a leading specialty chemicals company with sales of EUR 8.1 billion in 2022. The company currently has about 13,100 employees in 33 countries. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives and consumer protection products. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

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Information for editors:

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You can find further information concerning LANXESS chemistry at <http://lanxess.com/en/Media/Stories>.

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