

Arkema announces a new breakthrough range of renewable PVDF grades for lithium-ion batteries

Arkema announces a major innovation with the launch of its new sustainable Kynar® PVDF range. These new grades will claim 100% renewable attributed carbon derived from crude tall oil bio-feedstock, according to a mass balance approach.

Kynar® CTO PVDF grades using the mass balance approach under the ISCC+ certification process will be produced firstly in Arkema's Pierre-Bénite plant in France for its European customers, focusing initially on grades specifically targeted for the lithium-ion battery market.

This patent pending technology allows a climate change impact reduction of almost 20% of the Kynar® PVDF binder (expressed in kg eq. CO₂/kg, according to the ISO14040 standard) while reducing dependence on upstream crude oil consumption. The crude tall oil used in upstream feedstock production is a residue of the Kraft process of wood pulp manufacture. The new Kynar® CTO grades are certified to be compliant with industry leading responsible forestry standards. They do not result in deforestation, and there is no direct competition with food crops.

"Arkema has been a leader in advanced bio-circular polymers for many years," stated Anthony Bonnet, global R&D director for fluoropolymers. "Now, we are taking a huge step forward to make fluoropolymer grades using bio-sourced carbon only. It's a remarkable innovation that we proudly share with our customers across the world. There is a real demand for more sustainable solutions and we are happy to play a leading role."

In a second phase, the production of this range of sustainable PVDF grades will be extended to each of Arkema's global PVDF manufacturing sites and will be made available to all traditional PVDF markets and applications.

Furthermore, Arkema has already announced a project in the United States to produce PVDF grades using fluorine derived as a co-product from the agrochemical industry, thus requiring no dedicated fluorspar mining. These grades are expected to be commercialized by mid 2022.

Kynar® CTO grades will be offered as functionally identical alternatives to Arkema's flagship binder grades, Kynar® HSV900 and Kynar® HSV1810.

Building on its unique set of expertise in materials science, Arkema offers a portfolio of first-class technologies to address ever-growing demand for new and sustainable materials. With the ambition to become in 2024 a pure player in Specialty Materials, the Group is structured into 3 complementary, resilient and highly innovative segments dedicated to Specialty Materials -Adhesive solutions, Advanced Materials, and Coating Solutions- accounting for some 82% of Group sales, and a well-positioned and competitive Intermediates segment. Arkema offers cutting-edge technological solutions to meet the challenges of, among other things, new energies, access to water, recycling, urbanization and mobility, and fosters a permanent dialogue with all its stakeholders. The Group reported sales of around €8 billion in 2020, and operates in some 55 countries with 20,600 employees worldwide. www.arkema.com

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