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Arkema launches Lotader® AX8820, reactive impact modifier for polyphenylene sulphides (PPS)

Lotader® AX8820 copolymer has been designed to complete Arkema's range of impact modifiers, especially for high fluidity PPS enabling easier injection molding.

PPS compounds are high temperature resistance and high stiffness thermoplastics mainly used in demanding applications, such as under-the-hood automotive, E&E and oil&gas.

While the combination of Lotader® and Lotryl® resins has been used successfully to adjust the viscosity of impact-modified PA and polyester compounds, an improved solution was needed for injection molding PPS grades.



Thanks to its lower reactivity, the new Lotader® AX8820 copolymer is the ideal modifier when it comes to impact-modify polyphenylene sulphides while maintaining a fluidity compatible with injection molding. Lotader® AX8820 is a copolymer of ethylene and glycidyl methacrylate (GMA) and contains a medium level of epoxide reactive groups. Its GMA content has been optimized to achieve good impact modification of PPS, while maintaining a higher fluidity than with the existing grades of Lotader® AX modifiers. Its melt viscosity has been increased to better match the rheology of the PPS matrix.

Lotader® AX8820 copolymer completes Arkema's range of reactive terpolymers, Lotader® AX8900 and Lotader® AX8840 resins, already used for the modification of PPS and thermoplastic polyesters (PET/PBT).

	GMA content (w%)	Melt Flow Index (g/10 min) 190 °C, 2.16 kg	Melting point (°C)	Recommendations
Lotader® AX8820	4 - 5	1.5 – 2.5	105 - 110	PPS for injection molding
Lotader® AX8840	6 - 8	4 - 6	104 - 108	PPS for extrusion
Lotader® AX8900	7 - 9	4 - 8	63 - 67	PPS for extrusion

Furthermore, Lotader® AX8820 is currently being tested for additional applications such as crosslinkable polyolefinic compounds, impact modifier of PBT as well as for bitumen modification. Lotader® AX8820 copolymer is now available commercially globally through Arkema's local subsidiary and distribution network.

This new grade completes Arkema's impact modifiers portfolio:

- Lotader® 4700 and Lotader® 4720: general impact modification of polyamides
- Lotader® AX8900: general impact modification of PET and PBT
- Lotryl® 35BA40: high fluidity impact modified PBT
- Lotader®/Lotryl®: impact modification of PA and PBT for injection molding
- Orevac® IM300 for high fluidity impact modification of polyamides

Arkema's range of Lotader® reactive terpolymers and Lotryl® acrylate copolymers offers a wide scope of solutions for the modification of main engineering plastics, including polyamides (PA6, PA6,6 and PA12), thermoplastics polyesters (PET and PBT), bioplastics (PLA) and polyphenylene sulphides (PPS). Lotader® AX8840 and Lotader® AX8900 have been used successfully for many years to provide impact resistance and higher flexibility to PPS compounds, mainly for extrusion applications where the high reactivity of Lotader® AX grades provides an inherently high viscosity to the compounds.

For more information on Lotader® and Lotryl® impact modification solutions, please visit the Lotryl and Lotader web pages.

A global chemical company and France's leading chemicals producer, Arkema is building the future of the chemical industry every day. Deploying a responsible, innovation-based approach, we produce state-of-the-art specialty chemicals that provide customers with practical solutions to such challenges as climate change, access to drinking water, the future of energy, fossil fuel preservation and the need for lighter materials. With operations in more than 50 countries, some 14,000 employees and 13 research centers, Arkema generates annual revenue of €7.5 billion, and holds leadership positions in all its markets with a portfolio of internationally recognized brands.

Contacts

Press - Sybille Chaix

Tel.: + 33 (1) 49 00 70 30

sybille.chaix@arkema.com

Business Manager – Richard Perrinaud

Tel.: + 33 (1) 49 00 74 00

richard.perrinaud@arkema.com