

ADDITIVE SOLUTIONS FOR PU FOOTWEAR APPLICATIONS

Catalysts, Surfactants & Performance Additives



CATALYSTS

By leveraging decades of industry experience, close customer relations, and advanced R&D capabilities, Evonik strongly supports the footwear industry. We continuously introduce new catalyst solutions to follow market trends and customers' needs like very low density soles or increased systems sustainability.



Catalysts

PRODUCT	PERFORMANCE
DABCO® Crystalline	Industry standard gel catalyst (triethylenediamine solid).
DABCO® EG	Industry standard gel catalyst for MEG extended systems.
DABCO® 25 S	Industry standard gel catalyst for BDO extended systems.
DABCO® 1027	Co-catalyst for faster demolding and improved flowability of MEG extended systems. Low impact on foam physical properties.
DABCO® 1028	Co-catalyst for faster demolding and improved flowability of BDO extended systems. Enhanced back-end cure. Low impact on foam physical properties.
DABCO® 1029	Delay action co-catalyst for delayed cream time/wider processing latitude. Almost no impact on foam physical properties.
DABCO® XD 102	Balanced catalyst to improve foam flowability and skin quality, especially in low density applications.
KOSMOS®	Various tin and bismuth-based strong gel catalysts for polyether based systems are available upon request.

SURFACTANTS

Surfactants are a versatile tool in shoe manufacturing. By increasing process stability and enhancing the physical properties of shoe soles, they are essential to the reliable production of the best possible product. Our selection of surfactants have a proven track record of improving the foam skin's aesthetic and haptic properties, the homogeneity of the foam, and physical properties such as flexibility. Decades of polyurethane industry experience, close customer relations, and a broad portfolio ensure that Evonik offers the best surfactant for any shoe sole system. Underpinned by a global network for product development, production, and customer support, Evonik TEGOSTAB® and DABCO® surfactants are key to mastering both today's and tomorrow's formulation and manufacturing challenges.



RELEASE AGENTS

Various external release agents from the GORAPUR® range of products are available upon request.

Surfactants					
PRODUCT	PERFORMANCE	SYSTEM	DENSITY		
			low	medium	high
TEGOSTAB® B 8993	Very potent cell regulator providing fine, uniform cell structure; improves the compatibility of the raw materials and enhances the tensile strength, elongation at break and Ross-Flex properties.	universal	•	••	•••
DABCO® DC 193	Industry standard, potent cell regulator providing uniform cell structure and good surface quality.	universal		•••	•••
TEGOSTAB® B 8960	Medium potency cell regulator providing excellent skin, less peeling and reduced pinholes.	polyester	••	•••	
TEGOSTAB® B 8905	Potent cell regulator providing fine and uniform cell structure; improves tensile strength and Ross-Flex properties.	polyether	•	•••	•••
TEGOSTAB® B 8930	Medium potency cell regulator reducing pinholes and generally improving optical appearance of the surface.	polyether	••	•••	•
TEGOSTAB® B 8946 PF	Surfactant providing a slightly coarser, open cell-structure improving dimensional stability.	universal	•••	•••	
TEGOSTAB® B 8957	Surfactant for cell opening effect in very low density formulations.	universal	•••	•	
DABCO® LK 221 (E)	Silicone free surfactant providing finer cells and better skin when used in standard densities or dual density applications, e.g. in safety shoes or athletic shoes with inserts. This product also acts as adhesion promoter for PU/TPU material.	polyester	••	••	••

Increasing suitability • • • • •

PERFORMANCE ADDITIVES

Today's industry challenges require access to the broadest possible additive toolbox available to enhance the polyurethane's intrinsic qualities. With the ORTEGOL® series of products, Evonik provides high-performance additives to formulators and manufacturers, helping them to meet some of the toughest industry requirements. The ORTEGOL® product line contains cell-opening additives helping to achieve lower densities, adhesion promoters that enable the most challenging designs and material combinations, abrasion reducing additives for enhancing durability, and anti-static agents for improving electrical conductivity foams.



Performance Additives

CELL OPENERS

PERFORMANCE

TEGOSTAB® B 8948

Mild organic cell opener reducing shrinkage in medium to low density foams.

GORAPUR® IMR 852

Potent silicone based cell opener reducing shrinkage in low density foams.

ABRASION REDUCER

PERFORMANCE

ORTEGOL® AB

Silicone based abrasion reducer for medium to high density application; easy to blend into the system.

ANTI-STATIC AGENTS

PERFORMANCE

ORTEGOL® AST

Very efficient anti-static agent suitable for polyether system to meet ISO 20345. Can be pre-blended into the system or dosed via separate stream in the mixing head.

ORTEGOL® AST 8

Very efficient non reactive anti-static agent for polyester system to meet ISO 20345 and ESD anti-static demands of safety shoes soles and sock liners without impacting physical properties.

ANTI-HYDROLYSIS AGENTS

PERFORMANCE

ORTEGOL® SE 201

Carbodiimide-based anti-hydrolysis additive for polyester-based systems and TPU resins.

ADHESION PROMOTERS

PERFORMANCE

DABCO® LK 221 (E)

Organic adhesion promoter especially for PU/TPU or PU/PVC adhesion with cell regulating properties.

ORTEGOL® EM 2

Silicone free adhesion promoter for PU/TPU material.

For more detailed information or to obtain a brochure which addresses a specific area of interest, please visit our website.



www.evonik.com/pu-contacts

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