

GORAPUR® RELEASE AGENTS

FOR AUTOMOTIVE, FOOTWEAR, FURNITURE AND
OTHER TECHNICAL POLYURETHANE APPLICATIONS

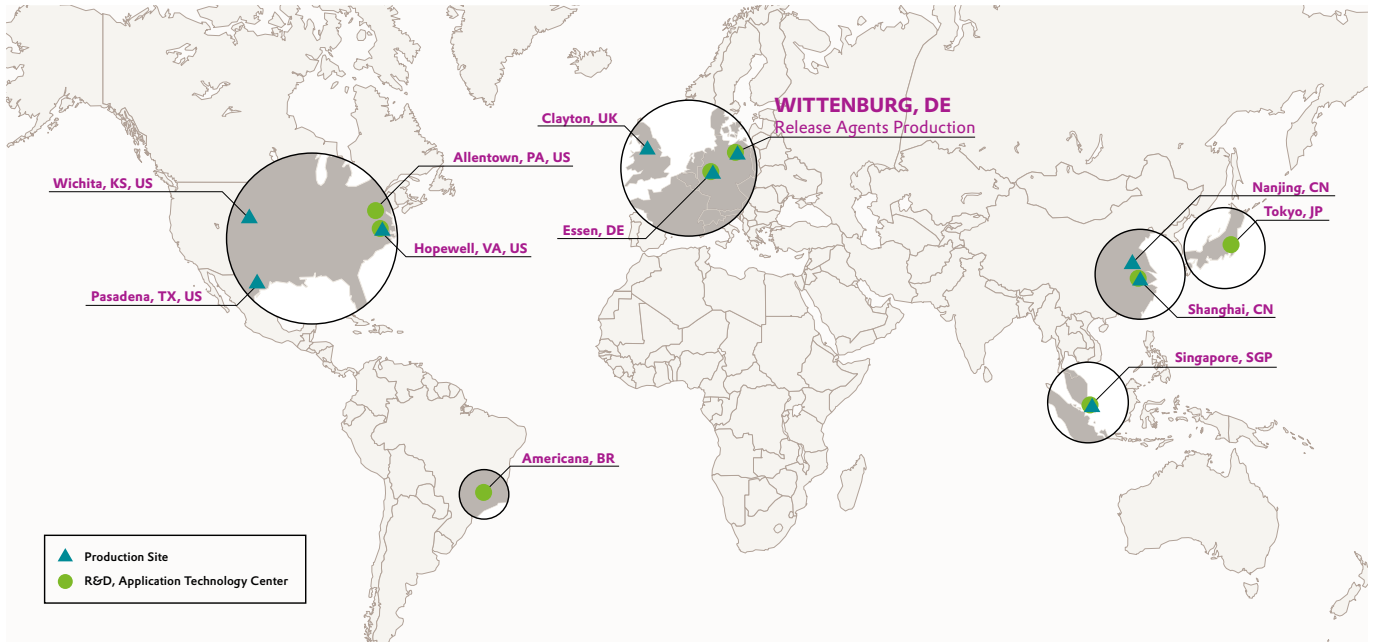


EVONIK – THE RELEASE AGENT SPECIALIST

Evonik is the global leader in polyurethane additives, offering the broadest range of catalysts, surfactants, performance additives, and release agents.

Over several decades, we have developed a large variety of specialized products that generate value for our customers, and a significant number of our release agents can be found in final consumer applications including:

- Automotive
- Footwear
- Furniture
- Technical



CLOSE TO OUR CUSTOMERS – AND ALWAYS CLOSE TO THE SOLUTION

We can only provide our customers with an optimal solution to their problems if we are well acquainted with them, and the challenges they face. That is why we keep in close contact with our customers, offering customized solutions when

required. Our release agents are backed by a global network of support services; we support our customers during all stages of a project, from analysis of their requirements, to the selection or development of a release agent, all the way

through to line trials and scale up. And afterwards we are still there for our customers, at any time – a solid foundation for a trusting and long-lasting business partnership.

GORAPUR® RELEASE AGENTS

In order to meet the increasing requirements of evermore stringent environmental protection regulations, Evonik is constantly developing improved release agents. With our extensive know-how of polyurethane chemistry, we are able to offer our customers a technically and economically perfect release agent solution for all industrial applications and individual requirements. This does not mean that we simply select a basic release agent from our wide product range, but we go a step further, by providing tailor-made release agent systems with the aid of our modern, flexible production technology.

Our release agents can be sprayed with "airless" or air-assisted spray-guns, applied either manually or using robots. Because of the very high efficiency and low usage rates of our products, for optimum performance we recommend the use of fine spray nozzles.

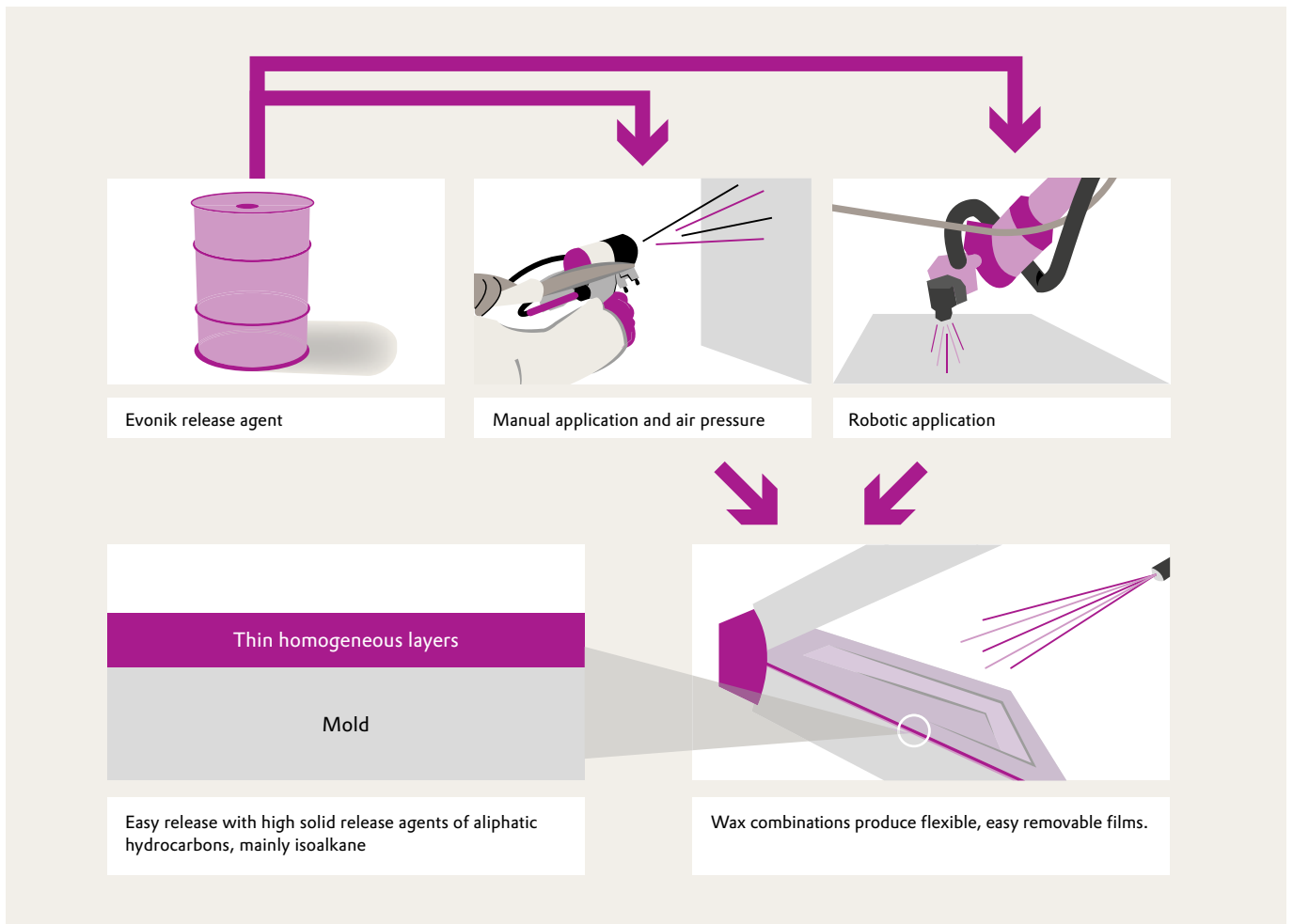
All of our products have excellent release properties ensuring that only very thin films need to be applied.

This guarantees very high levels of cost effectiveness and a low build-up of wax in the molds.

By using special wax combinations to produce flexible films on the mold, these residues do not flake off, are meltable and therefore can be easily removed. The solvents used in the high solid release agents are aliphatic hydrocarbons, mainly isoalkane.

ANTI-SQUEAK AGENTS

We also offer a range of environmentally friendly, water-based anti-squeak agents which help to minimize friction on foam parts; thereby, optimizing seat and furniture covering (with fabric or leather) while ensuring the foam does not squeak during use.



PRODUCT DEVELOPMENT & APPLICATION



SOLVENT FREE RELEASE AGENTS

A substantial number of GORAPUR® products are free of solvents.

- Hygiene levels at the workplace are improved and emissions reduced.
- Products can be stored easily and without danger.

GORAPUR® RELEASE AGENTS CAN BE APPLIED BY AUTOMATED ROBOTS

By automating spraying, it is possible to obtain a number of benefits:

- Homogeneous and extremely fine films of release agent in the mold, thereby reducing consumption.
- Reduced build-up of active substance in the mold.

Our GORAPUR® products help to easily increase productivity and lower costs.

AUTOMOTIVE INDUSTRY

- Seats
- Armrests
- Headrests
- Sun visors
- Sound absorption
- Dashboards
- Steering wheels
- Door panels
- Bumpers
- Air filters



FOOTWEAR INDUSTRY

- Running soles
- Midsoles
- Direct soling (mono and dual density shoes)
- PU Safety boots



FURNITURE INDUSTRY

- Chair cushions
- Armrests
- Furniture parts



TECHNICAL INDUSTRY

- Sound absorbing foams
- Foam carpet underlays
- Bicycle saddles
- CASE parts
- Wood imitation
- Construction
- Woodpanel industry (OSB, MDF, PB)

OTHER AREAS

- Spraying facilities
- Cleaning substances
- Sealing pastes

We can also provide you with any release agent system you may require for other applications.

	PRODUCT TYPE AND FLASHPOINT	APPLICATION AND PERFORMANCE
AUTOMOTIVE INDUSTRY – SEATING APPLICATIONS		
GORAPUR® LK 8779-20 E	High solid, 27 °C	MDI/TDI, 40-80 °C, fast drying time, tin free
GORAPUR® LK 8901-11-3 B	High solid, 56 °C	MDI/TDI, 50-80 °C, providing a fine cell structure
GORAPUR® LK 8901-11-10 H	High solid, 61 °C	MDI/TDI, 55-80 °C, providing a fine cell structure, no flame pictogram
GORAPUR® LK 8443 B	High solid, 56 °C	MDI/TDI, 50-65 °C, providing a fine cell structure, tin free
GORAPUR® LK 8443-4 H	High solid, 61 °C	MDI/TDI, 50-65 °C, providing a fine cell structure, no flame pictogram, tin free
GORAPUR® LK 104-21 B	High solid	Sprayable mold primer, to be applied after cleaning
GORAPUR® LK 104	High solid, 27 °C	Mold sealing paste, to be applied after cleaning process
GORAPUR® LH 5260 W	High solid water-based, dilutable	Anti-squeak agent, available with either a blue or UV dye, Ultra-low VOC
AUTOMOTIVE INDUSTRY – NVH, SOUND ABSORPTION APPLICATIONS		
GORAPUR® LK 8959-3 B	High solid, 56 °C	MDI 50-80 °C open cell structure, tin free
AUTOMOTIVE INDUSTRY – MICROCELLULAR FOAM AND ELASTOMER APPLICATIONS		
GORAPUR® LI 0245-8 H	High solid, > 60 °C	Air Filters, semi-matt surface finish, low VOC, no flame pictogram
GORAPUR® LI 925-1 B	High solid, 56 °C	Air Filters, dashboards matt surface finish, tin free
GORAPUR® LI 2941 W	High solid water-based	Engine cover, dashboards, semi matt surface
FOOTWEAR APPLICATIONS		
GORAPUR® LS 1429 B	High solid, 56 °C	Ester direct soling, mono & dual density, matt surface finish
GORAPUR® LS 1060-58 B	High solid, 56 °C	Ester direct soling, mono & dual density shoe, matt surface, silicone-free
GORAPUR® LS 1060-64 W	Water-based, ready to use	Ester direct soling, mono density shoe, matt surface, silicone-free
GORAPUR® LK 8203-11 W	Water-based, ready to use or dilutable	Ester unit soles, matt surface finish, silicone-free
GORAPUR® LS 1459	Dilutable 100% concentrate	Ester soles & direct soling direct soling of mono density soles, glossy surface finish
GORAPUR® LS 1459-19	Dilutable 100% concentrate	PES/PET unit soles & direct soling of mono density soles, very glossy surface finish
GORAPUR® LS 1040-120 B	High solid, 56 °C	Ether unit soles & direct soling, suitable for low density systems, matt surface finish, tin free
GORAPUR® LS 1047-62 W	Dilutable concentrate, water-based	EVA mid- & outsoles
INSULATION AND CONSTRUCTION – RIGID FOAM APPLICATIONS		
GORAPUR® CL 118 W	Water-based, dilutable concentrate	Insulation boards, PIR/PUR foam formulations, continuous process
GORAPUR® CLP 1610-8 W	Water-based, dilutable concentrate	Insulation boards, phenolic foam formulations, continuous process
GORAPUR® LK 8779-20 E	High solid, 27 °C	Sandwich panels, discontinuous
GORAPUR® LK 104	Paste, 27 °C	Sandwich panels, discontinuous
GORAPUR® HS 6110 B	High solid, 56 °C	Wood imitation, decorative parts
MISCELLANEOUS APPLICATIONS – ELASTOMERS, INTEGRAL SKIN FOAM		
GORAPUR® LS 1646-119 B	High solid, 56 °C	Skate wheels, silky matt surface finish
GORAPUR® LI 0245-29 B	High solid, 56 °C	RIM parts such as door encapsulation, semi matt surface finish

**PRODUCT TYPE
AND FLASHPOINT**

**APPLICATION
AND PERFORMANCE**

MISCELLANEOUS APPLICATIONS – ELASTOMERS, INTEGRAL SKIN FOAM

GORAPUR® LS 1037

Water-based, dilutable concentrate

Rubber chip bounded parts for road construction, e.g. road separating elements, playground parts, silky matt surface finish

GORAPUR® LS 1040-150

Dilutable concentrate

Bicycle saddles, and other integral parts, silky matt surface finish

GORAPUR® LI 925-1 B

High solid, 56 °C

Universal product for integral skin foams such as office furniture, matt surface finish

OUR COMMITMENT AND COMPETENCE

We at Evonik are committed to producing new additives that improve productivity, enhance performance and have a reduced impact of the environment.

Our products are backed by a global network of support services:

- Local sales & technical service personnel, with in depth industry knowledge and understanding of your needs.

- Dedicated R&D centres of excellence.
- Analytical labs, with the capability to conduct automotive specific tests, such as VDA 278.
- Worldwide manufacturing and warehouse capabilities.

We can also cater to special requirements on short-term notice thanks to our impressive development capacity and the flexibility of our production facilities.



SAFETY IS PARAMOUNT AT EVONIK

- We are consistently among the leaders in safety in the chemical industry.
- Among industry leaders in environmental, health and safety (EH&S) performance.
- Every employee is required to understand and adhere to our global EH&S policy. It is a condition of employment.

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

GORAPUR®, KOSMOS®, ORTEGOL®, TEGOAMIN® and TEGOSTAB® are brands of Evonik Degussa GmbH.

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conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

To discuss your polyurethane release agent requirements please visit



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