

PRESS RELEASE

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K 2022 Trade Fair for Plastics and Rubber

WACKER Presents Biomethanol-Based Solid and Liquid Silicone Rubber Grades at K 2022

Munich, July 14, 2022 – At the 22nd international trade fair for plastics and rubber K 2022 WACKER will unveil industrial-grade silicone rubber compounds whose precursors are derived from plant-based raw materials. Several biomethanol-based product lines under the ELASTOSIL® eco umbrella will be launched, including one liquid and six solid silicone rubber grades, as well as selected SILMIX® silicone rubber compounds. The use of biomethanol in silicone production helps preserve fossil resources. The K 2022 tradeshow will take place in Düsseldorf, Germany, October 19 – 26.

The chemical industry is committed to continuously reducing its use of fossil raw materials. One strategy here is to replace these with identical materials from renewable resources – an option best implemented using the mass balance approach. This method allows manufacturers to process raw materials from fossil-based and renewable sources at the same time, later assigning them to specific products according to the proportions in which they were used. In this way, the mass balance approach ensures that the “bio-based” label is applied only to those products that can be verified as being based on renewable raw materials.

The most important raw materials for silicone manufacturing are silicon and methanol. Methanol is first converted to methyl chloride and then reacted with elemental silicon via the Müller-Rochow process to form a mixture of various methylchlorosilanes – materials that play an important role in the subsequent production process.

In 2018, production at WACKER began using methanol generated both from petrochemical as well as from plant-based resources. The amount of the latter, which is known as biomethanol, is mass balanced. The method that WACKER employs for these mass-balancing processes is certified at regular intervals by TÜV Nord in accordance with the REDcert² standard. This ensures that the amount of eco products sold always corresponds to the amount of biomethanol that goes into the process.

The mass balance approach can also be applied to ready-to-use silicone products. In addition to silicone rubber, these products contain pigments and other organic additives – additives that can likewise be offset through the use of corresponding amounts of biomethanol. And speaking of biomethanol: the REDcert² standard requires manufacturers to obtain this raw material from renewable resources. The biomethanol that WACKER uses in these processes is derived exclusively from plant residues suitable neither for food production nor as animal feed.

ELASTOSIL® eco Portfolio

WACKER already offers a range of eco-grade silicones. These include silicone fluids, defoaming agents, fabric softeners, silicone release agents and silicone sealants.

The ELASTOSIL® eco family now presents its youngest members: biomethanol-based versions of several silicone rubber compounds will be available beginning in the fall. The first liquid silicone rubber to leave the starting gate is ELASTOSIL® eco LR 5040. The eco version of this extremely tear-resistant, non-postcuring grade will be available for order in six different hardness values. Customers will also have a choice between two lines of solid silicone rubber: peroxide-curing, general-purpose ELASTOSIL® eco R 401 (hardness: Shore A 40) and addition-curing, exceptionally tear-resistant ELASTOSIL® eco R plus 4020 solid silicone (Shore A 40).

In addition, WACKER will also be offering biomethanol-based silicone rubber compounds upon request. An ENGEL injection molding machine will be located at the company's booth during the K 2022 tradeshow to demonstrate how to process the solid silicone rubber compound SILMIX® eco R plus TS 40002 (mold: NEXUS; component design: LÉKUÉ; hall 6, booth A10).

"We can now offer our customers eco versions of two multipurpose solid silicone rubber grades and one non-postcuring liquid silicone rubber for exceptionally sensitive applications," says Martin Bortenschlager, head of the Engineering Silicones business team EMEA & LATAM. Responsible for the Europe, Middle East, Africa and Latin America regions, the manager has for some time been

noticing increasing interest in resource-efficient, i.e. sustainably manufactured products. The silicone expert can also imagine expanding the current eco portfolio. "Our first step was to demonstrate that we are capable of offering resource-efficient versions of rubber products and of silicone compounds formulated to customer specifications. But that is just the beginning. We can also convert other products over to biomethanol at any time upon request."

Making the switch to the new eco product line is straightforward, incidentally. Because methanol and biomethanol are chemically identical, there is no difference between ELASTOSIL® and ELASTOSIL® eco products, as Bortenschlager points out. "If you want to switch to ELASTOSIL® eco you can do so whenever you like without having to run a complex, expensive series of tests. The properties of our biomethanol-based silicones are the same as those of fossil-based products, which means the processing techniques involved are identical, too."

Visit WACKER at K 2022 in Hall 6 at Booth A10.



Lemon press made of SILMIX® eco R plus TS 40002 (design: LÉKUÉ). The food-grade compound consists of a biomethanol-based silicone rubber. The WACKER Group will give live demonstrations of how this silicone can be processed on an ENGEL injection-molding machine during the K 2022 plastics tradeshow. (photo: WACKER)

Note:

This photo is available for download at:
<http://www.wacker.com/pressreleases>

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The Company in Brief:

WACKER is a global chemical company with some 14,400 employees and annual sales of around €6.21 billion (2021). WACKER has a global network of 26 production sites, 23 technical competence centers and 52 sales offices.

WACKER SILICONES

Silicone fluids, emulsions, rubber grades and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS

Polyvinyl acetates and vinyl acetate copolymers and terpolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions

WACKER BIOSOLUTIONS

Biotech products such as cyclodextrins, cysteine and biologics, as well as fine chemicals and PVAc solid resins

WACKER POLYSILICON

Polysilicon for the semiconductor and photovoltaic industries