

Press release

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Breakthrough in the activation of methane

Grillo-Werke AG successfully converts methane into methanesulfonic acid (MSA)

The functionalization of methane to a high-value chemical has been achieved by Germany's chemical company Grillo after years of intensive research. The new process leads to high-purity methanesulfonic acid (MSA) by direct sulfonation of methane with sulfur trioxide. Start of large-scale production is planned for 2019.

Methane is the main component of natural gas and is, thus far, primarily being burned for heat and energy. Industry and science has been searching intensively for a material utilization of methane. Besides direct sulfonation, which has now been achieved by Grillo, research focuses on direct oxidation of methane to methanol and oxidative coupling to ethylene.

Grillo's Chemicals Division has solved the challenge of methane's limited reactivity thanks to a tailored reaction environment and specific activators. The process has been continuously optimized and now achieves almost full conversion at mild reaction conditions.

The process called Grillo-Methane-Sulfonation is highly cost-competitive. It is based on natural gas and sulfur trioxide (SO₃) as feedstocks and is free of environmentally problematic intermediate and by-products.

Methanesulfonic acid is a modern, green product. It is a very strong acid that is not oxidative; it is readily biodegradable and toxicologically unproblematic. MSA is being used in the electroplating, electronics, industrial cleaning and pharmaceutical industries. It experiences strong overall growth, and at a significant scale, potential applications for MSA are virtually endless.

Grillo-Werke AG: 'Progress as a Tradition'

Grillo, with its headquarters in Duisburg Germany, was founded in 1842 and is today's European market leader in the processing of zinc and sulfur. The family-owned company is active worldwide and employs around 1,600 employees working in four divisions: Chemicals, Zinc Oxide, Metal, and RHEINZINK.

The product portfolio comprises sulfur chemicals, acids, sodium and zinc sulfates as well as zinc oxide. Furthermore, Grillo produces strips, wires, anodes and extrusion products based on zinc, die-casting alloys for various applications as well as titanium zinc for roofing and façade claddings. All products are being produced in modern facilities and with continuous product and process improvements under strict safety and environmental standards.

Driven by Grillo's guiding principle 'Progress as a Tradition', the company attaches great importance to vocational and continuous training as well as the professional development of its employees.

Press contact: Mrs. Andrea Luy
Telephone +49 203 5557-372
luy@grillo.de

Industry contact: methane-activation@grillo.de

Photos: www.grillo.de