

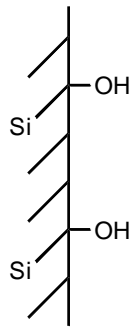
## AKTISIL MAM

### TECHNICAL DATA SHEET – Field of application: ELASTOMERS

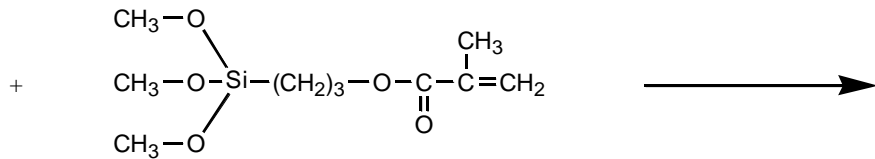
1. Description	2. Applications	3. Benefits
<p><b>AKTISIL MAM</b> is an activated SILLITIN V 88, produced by modifying the surface with 3-Methacryloxypropyltrimethoxy silane. The by-products split off during the treatment reaction are largely removed during the production process which firmly attaches the silane to the filler surface. This helps minimize undesirable side effects, as they are potentially encountered with in-situ mixing (direct addition of silane to the compound).</p> <p>During vulcanization the methacryl groups of the <b>AKTISIL MAM</b> react in the presence of radicals with the polymer.</p> <p><b>Characteristics:</b> Appearance: free-flowing powder Brightness Y DIN 53 163: 83 Brightness Z DIN 53 163: 85 Volatile matter at 105 °C: 0.2 % Density: 2.6 g/cm<sup>3</sup> Particle size distribution d<sub>50</sub>: 4.0 µm d<sub>97</sub>: 18.0 µm Oil absorption: 45 g/100 g</p> <p><b>Packaging:</b> Paper bags à 25 kg PE bags ≤ 25 kg EVA bags ≤ 20 kg Big Bags 550 - 900 kg</p> <p><b>Shelf life:</b> At least 2 years if stored properly under dry conditions.</p>	<p>In elastomer applications <b>AKTISIL MAM</b> can be used as a functional filler either on its own or in combination with other non-reinforcing or reinforcing fillers. The best effect is achieved in radical cured systems (peroxide, high energy radiation).</p> <p>It can be used whenever high tensile strength and high modulus, combined with a very low tensile and compression set, are as important as excellent processing and rheological properties. It is particularly suitable for white and very bright compounds.</p> <p>These properties are an ideal combination, particularly for white or bright molded products with extremely high requirements in terms of tensile and compression set.</p> <p><b>Fields of application:</b></p> <ul style="list-style-type: none"><li>• molded products and seals</li><li>• roller coverings</li><li>• silicone rubber products</li><li>• condenser seals (IIR resin-crosslinked)</li></ul> <p><b>Methods of processing:</b> Any process commonly used in the rubber industry, particularly for molded products and calender products</p> <p><b>Elastomers:</b> Radical cured elastomers such as CM, CSM, EPM, EPDM, EVM, HNBR, pre-crosslinked or resin-crosslinked IIR;Q.</p> <p><b>Metering:</b> EPM, EPDM: 50 - 250 phr EVM: 50 - 250 phr CM: 50 - 250 phr HNBR: 30 - 150 phr Pre-crosslinked IIR: 50 - 150 phr Q: 50 - 150 phr</p>	<p>The excellent properties of the base material SILLITIN V 88 are retained:</p> <ul style="list-style-type: none"><li>• good, fast incorporation</li><li>• very good dispersion behavior</li><li>• very good rheological properties</li><li>• excellent surfaces</li><li>• good extrusion properties</li><li>• good heat conductivity</li><li>• no negative influence on curing rate</li><li>• very low tensile and compression set</li><li>• high electric insulation resistance</li><li>• good aging properties</li><li>• high chemical resistance</li><li>• matting effect</li></ul> <p><b>AKTISIL MAM</b> also provides the following benefits compared with the base SILLITIN V 88:</p> <ul style="list-style-type: none"><li>• increased tensile strength</li><li>• maximum tensile strength combined with a higher level of filling</li><li>• increase in modulus</li><li>• reduced tensile and compression set</li><li>• reduced abrasion</li><li>• improved resistance to liquids</li><li>• electric insulation resistance remains high and constant after storage in water</li></ul>

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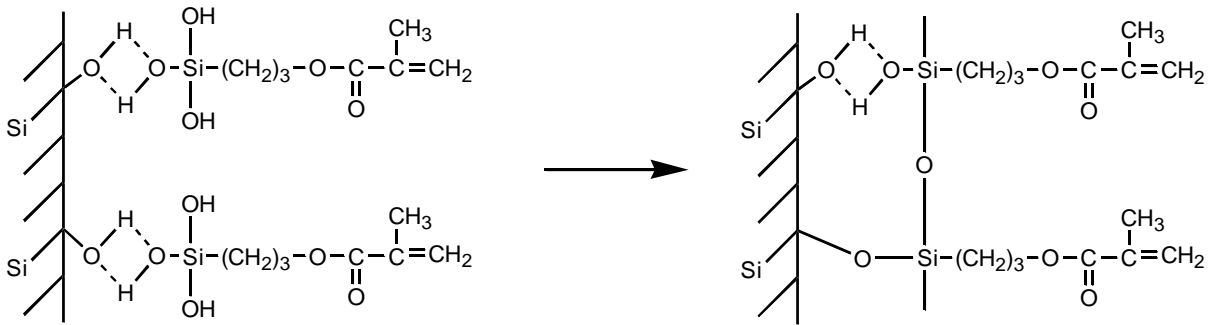
#### 4. Reactions at HOFFMANN MINERAL (model)



SILLITIN

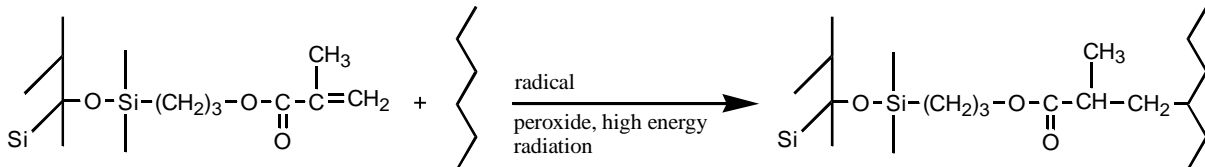


3-Methacryloxypropyltrimethoxy silane



AKTISIL MAM

#### 5. Possible reactions during vulcanization at user's plant (model)



AKTISIL MAM

Rubber polymer