Would you expect minerals to be biodegradable?

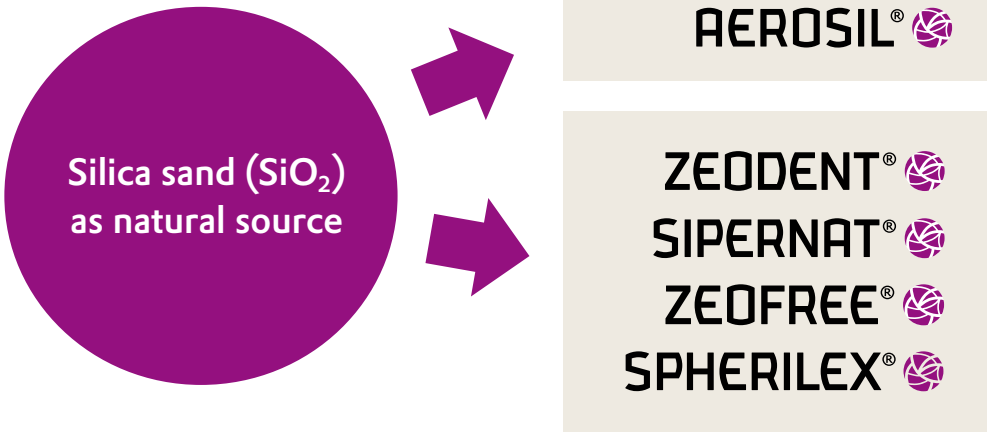
Evonik Silica – part of the natural geological cycle of silica

Evonik Silica is produced since decades and aims to provide sustainable and resource efficient raw materials for various applications. This is following the positive trend towards sustainable and biodegradable ingredients over the past few years. As silica experts, we are often asked whether Evonik Silica is biodegradable to meet this market trend.

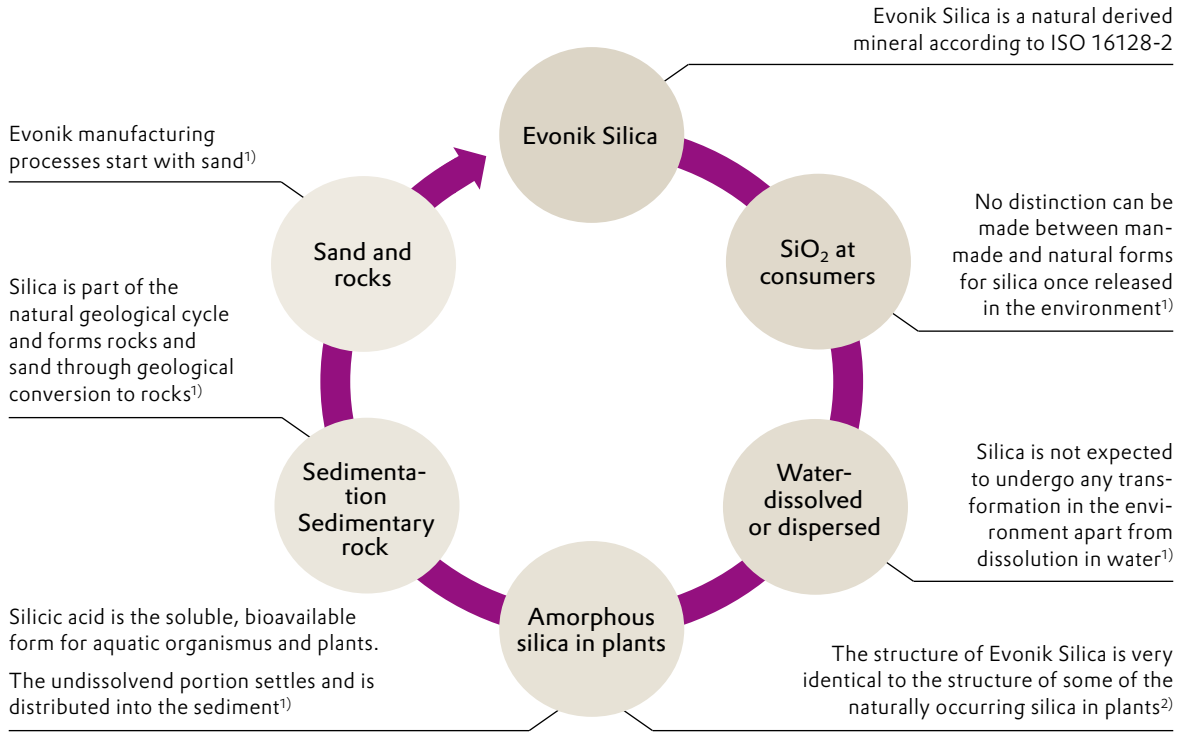
Think of the following: Would you expect minerals such as silica to be biodegradable?

Biodegradable products or materials are naturally broken down by biological agents, such as bacteria and/or fungi. For any mineral, also for silica biodegradation is not applicable. This does not have any negative impact but is natural. Evonik Silica and sand are part of the natural geological circle of silicon dioxide (SiO_2) in the nature.

Evonik uses either precipitation methods or flame processes to manufacture tailor-made, amorphous silica of high and constant quality for a broad range of applications and it all starts with the natural source sand! Hence, Evonik Silica is a natural derived mineral ingredient according to ISO 16128. When Evonik Silica is released from consumer products like Personal Care, Oral Care, Food etc. into the environment, it is not distinguishable from naturally occurring silica in minerals or plants. Evonik Silica integrates again into the natural cycle of silica and at the end, it sediments as sand and forms rocks.



Evonik Silica is part of the geological circle of silicon dioxide (SiO_2).



Source:
1) European Centre for Ecotoxicology and Toxicology of Chemicals, JACC report No. 51, Synthetic Amorphous Silica (CAS No. 7631-86-9), September 2006
2) Carole C. Perry (2003) Silicification: The Processes by Which Organismus Capture and Mineralize Silica, Reviews in Mineralogy and Geochemistry, 54 (1) 291-327

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