

ZIM Cooperative Project “BioSolidEncap”:

Methodology and Product Development of Injectable Biomineralization to Encapsulate Pollutants and to Stabilize Industrial Dumps and Tailings

Sub-Project carried out by Sensatec Bioservices Köln GmbH: **Development of a Biotechnology Product for the Encapsulation of Pollutants and a Simultaneous Stabilization of Mining-Specific Dumps through Biomineralization**

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The aim of this product development is to provide customers with a biomineralization product that combines two features at once: On the one hand, there is the biologically induced process that has a stabilizing effect on mining dumps and tailings to avoid landslides or even complete failure of the side slopes. On the other hand, pollutants like heavy metals, sulfates and acids of biological origin (acid mine drainage) are being encapsulated and therefore kept within the dump. Thus, resulting in a product that provides customers with several advantages. Because of the dual effect of stabilization of dumps and concurrent encapsulation of pollutants, the application of the product is cost-effective. The process development will be supported by large-scale experiments and numeric modelling of the project partner CAU, Kiel. In addition to the principle of mechanism of biomineralization, the customer will be provided with reliable means to apply our geotechnological product.

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