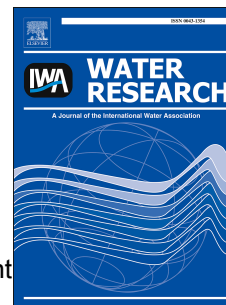


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Vivianite as the main phosphate mineral in digested sewage sludge and its role for phosphate recovery

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Keywords

Vivianite, Sewage Sludge, Phosphate Recovery, Mössbauer Spectroscopy, XRD

Abstract

Phosphate recovery from sewage sludge is essential in a circular economy. Currently, the main focus
in centralized municipal wastewater treatment plants (MWWTPs) lies on struvite recovery routes, land
application of sludge or on technologies that rely on sludge incineration. These routes have several
disadvantages. Our study shows that the mineral vivianite, $\text{Fe}_2(\text{PO}_4)_3 \cdot 8\text{H}_2\text{O}$, is present in digested
sludge and can be the major form of phosphate in the sludge. Thus, we suggest vivianite can be the

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