

CHARACTERIZATION AND POSSIBLE USES OF SEWAGE SLUDGE FROM WASTEWATER TREATMENT PLANTS

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Abstract

The wastewater treatment for potable supplies typically involves coagulation, flocculation, Sedimentation, and filtration processes for removing colloidal as well as suspended solids from raw water. All wastewater treatment plants (WWTP) produce residue known as water treatment sewage sludge during the purification of wastewater. The recycling the sludge in the building and construction industry could be a safe disposal option. The construction industry has a growing market in Morocco, therefore; utilization of sludge from WWTP would also prevent the excessive exploitation of raw materials and pave the way for sustainable development.

This paper aims to characterize the sludge produced a wastewater treatment plant of the Khnéfra city, Morocco is investigated for physical and chemical characteristics and mineralogical composition. It consists of about 60% fine sand in grain size range 150-75 μ . Silica, alumina, ferric oxide and lime constitute the major percentage of mineralogy components present in the sludge. Some heavy metals are also found in the sludge as such Zinc, ion, Cu, Pb..., for the evaluate its possible use as an addition to the construction materials industry

Keywords: sewage sludge, Characterization, Recycling, construction materials