Stabilization of the urban sludge from sewage plants using carbide lime waste

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ABSTRACT

The objective of this work is to promote carbide lime waste (CLW), rejected in nature to reduce the pathogens in urban wastewater sludge. We have engaged in this research project, which is notably based on an integrative approach to CLW in urban sludge stabilization. Due to their intrinsic physical and chemical properties, CLW showed excellent and attractive results for urban wastewater sludge stabilization of Bordj Bou Arreridj city. The obtained results show that the stabilization of sludge is most efficient with high level of CLW percentage. The best elimination of pathogenic microorganisms and dryness is obtained for a 50% CLW dose for various microorganisms such as fecal D Streptococcus, fecal coliform, total mesophilic flora and sulfate-reducing clostridium bacteria. Therefore, the valuing of CLW efficiency in the laboratory showed that their valorization could be extended to the sludge stabilization field.

Keywords: Valorization; Carbide lime waste; Pathogenic microorganisms; Sludge treatment