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## The application of multiphase DEM for the prediction of fat, oil and grease (FOG) deposition in sewer pipe lines (Article)

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### Abstract

Fat oil and grease (FOG) deposition into sewer pipes can block the pipes and restrict the wastewater flow causing backflows and sanitary sewer overflows (SSOs). Understanding the wastewater flow and transport of FOG particles is a key step for predicting the particles deposition and blockage formation. ANSYS FLUENT was used for simulating the flow of FOG particles and its deposition onto the sewer pipe. The multiphase Eulerian-Lagrangian model with discrete Phase method (DPM) was utilized for developing the CFD model. The kinetic parameters and physical values are based on previous experimental work and literature. The CFD Eulerian-DEM multiphase model has shown a good potential for simulating the wastewater flow and demonstrated the applicability of CFD to simulate and track the transport and deposition of FOG particles into the sewer pipe walls. © 2017 PENERBIT AKADEMI BARU - All rights reserved.

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