# Impact of Selected Organic Matter Destruction Methods on Soil Particle Size Analysis. (S05-malo140704-Poster)

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## Abstract:

Particle size (PS) analysis is needed for soil characterization/classification. During PS analysis, destruction of soil organic matter (OM) is essential, but it is time consuming, labor intensive, costly, and somewhat hazardous. This study compared standard OM destruction pretreatment using hydrogen peroxide (HP) with sodium hypochlorite (SP) and high temperature (450 C) furnace (HTF). Twenty-three soils representing a wide range of textures, OM levels, and salt contents were used. After using SP, an extreme amount of sodium salt was detected in the pretreated soil samples and it influenced soil sedimentation rates. After using HTF, clay levels were significantly lower and sand levels were significantly higher when compared to HP results. When HTF destruction of soil OM was combined with ultrasonic dispersion, the analysis showed significantly better results when compared to HTF alone. Both HTF methods tested had unacceptable results when compared with the standard OM destruction pretreatment using HP. Additional methods for soil OM destruction (e.g., moderate temperature furnace, 350 C, with ultrasonic dispersion before chemical dispersion) are being evaluated.

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