

# Trash Compaction and Processing System Trash Models and Evolved Gas Analysis of Trash Components

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**As part of the NASA Next Space Technologies for Exploration Partnerships (NextSTEP) Trash Compaction and Processing System (TCPS) program, the Generation 2 (Gen 2) Heat Melt Compactor (HMC) tests a variety of trash models (nominal, high liquid, and high cloth) in order to evaluate the technical risk associated with processing spacecraft trash. The trash components used in the trash models not only impacts the final solid trash disk quality, but also the water and gas effluent compositions. In order to better design an auxiliary system to treat the effluent streams, both the input trash components and the effluent must be characterized. Evolved gas analysis (EGA) methods are used to characterize the input trash components. The EGA results will be used to determine various HMC operational parameters, as well as to determine the optimal operation for the TCPS system.**

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