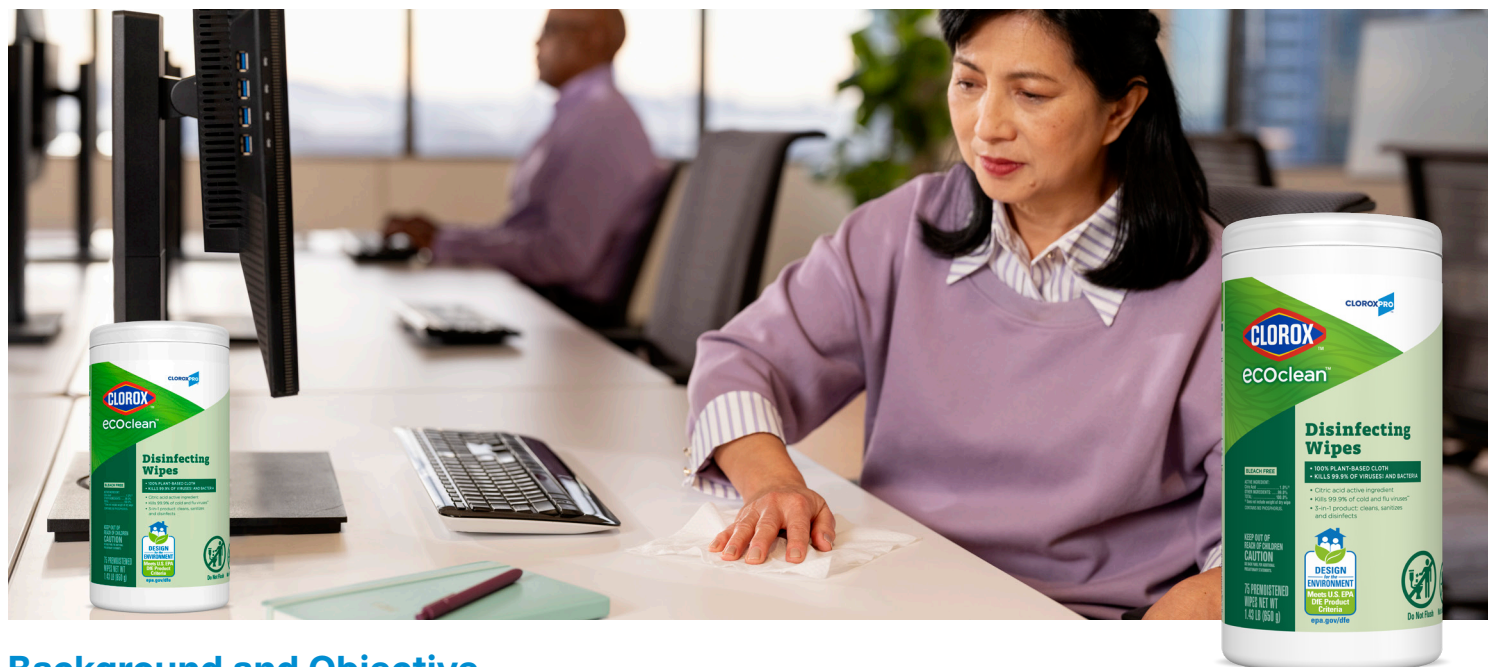


Clorox EcoClean Disinfecting Wipes Substrate Biodegradability



Background and Objective

Conventional disinfecting wipes are made with a combination of plastic and plant-based fibers. While there is some plant-based material in conventional wipes, these cannot be composted anywhere and regardless, commercial facilities do not accept disinfecting wipes. 100% plant-based disinfecting wipes substrates can be an option to reduce plastic waste, as they can be compostable in backyard and home composting but still face the challenge in commercial facilities where they are discarded with the standard trash. Previous research did not provide definitive data as to whether plant-based disinfecting wipes substrates will biodegrade in the anaerobic conditions typical of landfills, which are different from home and commercial composting conditions. Landfills tend to be anaerobic (no oxygen) and do not typically contain bacteria capable of degrading materials. By contrast, compost heaps are frequently churned to allow oxygen in the system and contain beneficial microbes to help break down materials. In this study we wanted to determine if a plant-based disinfecting wipe substrate would biodegrade in anaerobic environments mimicking landfill conditions, thus providing commercial facilities the confidence and knowledge that they can reduce plastic waste by choosing plant-based disinfecting wipes.

Methods

We followed ASTM D5511 testing guidelines for anaerobic degradation. This method mimics the environment common in landfills. For this testing, we placed Clorox EcoClean Disinfecting Wipes substrate in an anaerobic reactor for 15 days. The percent of biodegradation was determined by measuring the gas production from the reactor, which indicates the breakdown of the wipe. If the substrate biodegrades more than 70% within the 15-day test period it is considered fully biodegradable under this method.

Testing results demonstrated that Clorox EcoClean Disinfecting Wipes substrate is considered fully biodegradable under anaerobic conditions

Discussion and Conclusions

Testing results demonstrated that under the ASTM D5511 testing guidelines for anaerobic biodegradability, the substrate for Clorox EcoClean Disinfecting Wipes is considered fully biodegradable. Traditional plastics tested under the same method typically show 0% biodegradability in the same time frame.

References:

1. ASTM D5511 Standard Test Method for Determining Anaerobic Biodegradation of Plastic Materials Under High-Solids Anaerobic-Digestion Conditions <https://store.astm.org/d5511-18.html>

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