ASSAY REPORT

Determination of Biodegradability in a Closed System - Sample No. 14695-1/2023.0 ID:174460

This report cancels and replaces the report - Sample No. 14695-1/2023.0

Commercial Proposal: PC3812/2022

Publication date: 05/31/2023

ACCOUNT IDENTIFICATION	
Client: MEGH INDÚSTRIA E COMÉRCIO LTDA	**CNPJ/CPF:** 57.109.241/0001-90
Contact: Ricardo Garcia	**Phone:** (11) 2065-5555
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SAMPLE No.: 14695-1/2023.1 – MEGHWAX MPW 430 M		
Type of Sample: Raw Material		
Receipt Date: 02/22/2023		
Chemical Composition: Polyolefin wax - 100%		
Batch: 68478	**Manufacturing Date:** 03/10/2022	**Expiration Date:** 03/10/2024
Analysis Starte: 03/10/2023	**Analysis End:** 03/27/2023	
Sample Quantity: 305G	**Quantity of Packages Received:** 1	
Sample Responsibility: Contractor		

ANALYTICAL RESULTS

The sample presented 100% biodegradability, reaching 60% of CO_2 evolution, from the moment in which 10% of CO_2 evolution was observed, and did not exceed the maximum period of 17 days.

METHODOLOGY

The Ready Biodegradability test 301 B (OECD, 1997) is a respirometric evaluation method, utilized for non-volatile substances, and evaluates CO_2 evolution. The test has a maximum duration of 28 days and may have its termination earlier if the sample has a 100% Biodegradability level. Three treatments are employed: white, sample and inhibition. The limit of 60% of CO_2 evolution is necessary for easily biodegradable classification if achieved in 10 days, counted from the day in which 10% of CO_2 is obtained. This test was conducted to determine the sample degradation, in a nutrient solution, by a mixed culture of microorganisms derived from the environment. The test is conducted at a controlled temperature of 20 – 25ºC. The treatments consisted of white (inoculum only), sample and inhibition. The sample biodegradation was verified through the analysis of CO_2 release among the utilized treatments by $Ba(OH)_2$ capture and determined by titration with HCl. The test is based on the study of the metabolization of one sample by a mixed culture of microorganisms from the environment. The percentage of released carbon dioxide (CO_2), in relation to the expected theoretical CO_2 total, informs if the sample is biodegradable over a period of time.

SPECIFICATIONS

The minimum limit of 60% of CO_2 evolution is necessary for Biodegradable classification if achieved in 10 days, counted from the day in which 10% of CO_2 is obtained, during 28 incubation days.

If 100% Biodegradation is achieved before the 28-day period, the test may be terminated.

INTERPRETATIONS

OECD – Guideline for testing of Chemicals – 301B CO_2 Evolution Test - Ready Biodegradability - 1992.

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