

ASSAY REPORT

Determination of Biodegradability in a Closed System - Sample No. 14691-1/2023.0 ID:174456

Commercial Proposal: PC3812/2022

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ACCOUNT IDENTIFICATION	
Client: MEGH INDÚSTRIA E COMÉRCIO LTDA	CNPJ/CPF: 57.109.241/0001-90
Contact: Ricardo Garcia	Phone: (11) 2065-5555
Address: AVENIDA PRESIDENTE WILSON, 4930 – VILA INDEPENDÊNCIA - SÃO PAULO / SP - ZIPCODE: 04220-001– BRAZIL	

SAMPLE No.: 14691-1/2023.0 – MEGHWAX MPO 216 M		
Type of Sample: Raw Material		
Receipt Date: 02/22/2023		
Chemical Composition: Oxidized polyethylene wax - 100%		
Batch: 71865	Manufacturing Date: 01/23/2022	Expiration Date: 01/23/2024
Analysis Start: 03/10/2023	Analysis End: 03/30/2023	
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 20 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 – 25°C. 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.