



March 18, 2024

Maine Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017

< Submitted via email to: [rulecomments.dep@maine.gov](mailto:rulecomments.dep@maine.gov) >

**RE: CJ Biomaterials: Comments re: Stewardship Program for Packaging Rule Proposal**

To Whom it May Concern:

On behalf of CJ Biomaterials, a leading producer of a sustainable material solution called polyhydroxyalkanoates, or PHAs, thank you for the opportunity to provide comments on the proposed rules.

CJ Biomaterials is a division of CJ Group, a global lifestyle company with a strong footprint across the United States. CJ Group is the world's leading supplier of fermentation-based bioproducts for animal nutrition, human nutrition, and biomaterials at its thirteen manufacturing facilities worldwide. Leveraging this fermentation process and expertise, CJ Biomaterials is focused on delivering meaningful solutions to the global problem of plastic waste and other sustainability challenges at scale.

Specifically, CJ Biomaterials is working to develop and expand the use of biopolymers to help create a more sustainable future. Our focus is on a specific type of biopolymer called polyhydroxyalkanoates (PHAs). PHAs are uniquely positioned to help address climate change and drive sustainability given that they are both biobased and biodegradable at the end of life.

As a standalone, PHA has strong biodegradability properties and is well suited for processing through industrial composting, home composting, Anaerobic Digestion (AD), and is also soil and marine degradable.

When used together with other biopolymers, PHA can improve the product's mechanical properties including toughness, strength, and durability. In conjunction with other biopolymers, PHAs can accelerate degradation in industrial composting systems and even achieve home compostability in some compounds and applications.



CJ Biomaterials is committed to fundamental principles of product stewardship and we appreciate the state's efforts to bring this program forward. We generally support the regulations proposed but request the Department make a few changes as outlined below. These changes will ensure that the program can effectively manage compostable packaging products including those made with PHA.

### **Definition of Composting**

The definition of 'composting' should allow for both home compostable and industrial compostable products, which are both distinct product types. Industrial compostable products are designed for conditions that encourage hydrolysis as a precursor to biodegradation. In other words, these products are subject to hydrolysis which helps lower the product molecular weight to levels that initiate biodegradation in industrial composting environments. However, home compost conditions generally do not promote hydrolysis prior to the onset of biodegradation. Therefore, home compost conditions favor inherently biodegradable polymers - and microbial activity rather than hydrolysis initiates and completes the biodegradation. Home compostable products can be made with biopolymers such as PHA, starch and cellulose – products made with these materials disintegrate and biodegrade at ambient temperatures in a home compost environment without requiring hydrolysis as a pre-condition.

Home compostable packaging is a valuable solution for specific applications where there are no other alternatives that are not destined for landfill. For example, brands are actively pursuing snack packaging that is home compostable. It is these food-contact and film applications that are most appropriate for home compostability.

A suggested definition for 'composting' that would effectively cover both industrial and home compostable products is "the controlled microbial degradation of source-separated compostable materials to yield a humus-like product".

### **Statewide Recycling Needs Assessment**

The Needs Assessment does not include the same evaluation of compostable packaging that it does for recyclable plastic packaging. The goal of Maine's stewardship program is to have all packaging be readily recyclable, compostable or reusable. This means that compostable packaging plays an important role in this program and accordingly should be included in the Needs Assessment. This evaluation should include a comprehensive look at the state of compostable packaging collection in the state, existing composting infrastructure, and the needed investments and programs to ensure that compostable packaging is collected and processed across Maine.



## **Producer Fees**

### ***Post-consumer recycled material fee***

Compostable packaging, including those made with PHA, is not capable of utilizing post-consumer recycled content as they are made to fully biodegrade in an industrial or home composting system. Further, biopolymers like PHA are made with fully biobased, renewable content. In CJ Biomaterials' case, we make PHA out of organisms using a fermentation process. We believe that exempting compostable products from the fees levied against products that do not meet set post-consumer recycled content thresholds is a logical solution. Without doing so, these fees will lead to further disincentivization of compostable products in the Maine marketplace as businesses look to more affordable alternative materials. Further, it will likely lead to material deselection, when many biobased polymers offer a better climate story than fossil derived products.

### ***Labeling***

We recommend exempting compostable packaging from the fee provisions outlined in the labeling section of the rules. Compostable packaging is a very new and still nascent industry without much existing infrastructure in place. Compostable packaging needs time and funding to develop to full scale. Establishing an immediate fee on compostable packaging, due to the lack of existing acceptance in all counties statewide, will significantly decrease the competitiveness of compostable products and may lead to undesirable substitutes in the marketplace.

Another concern with the proposed fee on products labeled as compostable is that it may disincentivize the proper labeling of products as compostable. Compostable products must be clearly labeled as compostable, or consumers and composters will not know where to dispose of them. By making it economically more difficult for producers to label their products as compostable, there is the potential to increase contamination for both recyclers and composters, as consumers are unable to properly identify and sort their packaging.

We believe the existing framework in the proposed regulations provides a clear incentive to ensure compostable products are collected and processed. We think the inclusion of this specific fee provision does not align with the Department's regulatory approach which otherwise effectively incentivizes the processing and composting of compostable products. This provision should be adjusted to align with the remainder of the program.

Compostable packaging is new and relies on underfunded infrastructure. Compostable products need time and investment in separate organic waste collection and composting



infrastructure to be processed at scale. Ideally, Maine's stewardship program will provide the funding to develop composting infrastructure and encourage acceptance by state composters.

**Requirements for Participating Municipalities**

We recommend adding a provision for composting if the local jurisdiction collects organic waste as part of their collection program. Certified compostable products are certified to international standards to ensure they can break down and be processed by either industrial composting facilities or in a home composting system. Recommended language: "Participating municipalities must provide for the collection and composting of all certified compostable packaging if they currently provide for the collection of organic waste".

Thank you for the opportunity to provide comments. Please let us know if we can provide any further information or assistance as you finalize the regulations.

Sincerely,

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