

DARNEL ®

## Biodegradable Straws and Stirrers





# Biodegradable Straws and Stirrers

They keep their shape when in contact with liquids

100% recyclable

Biodegrade in natural environments

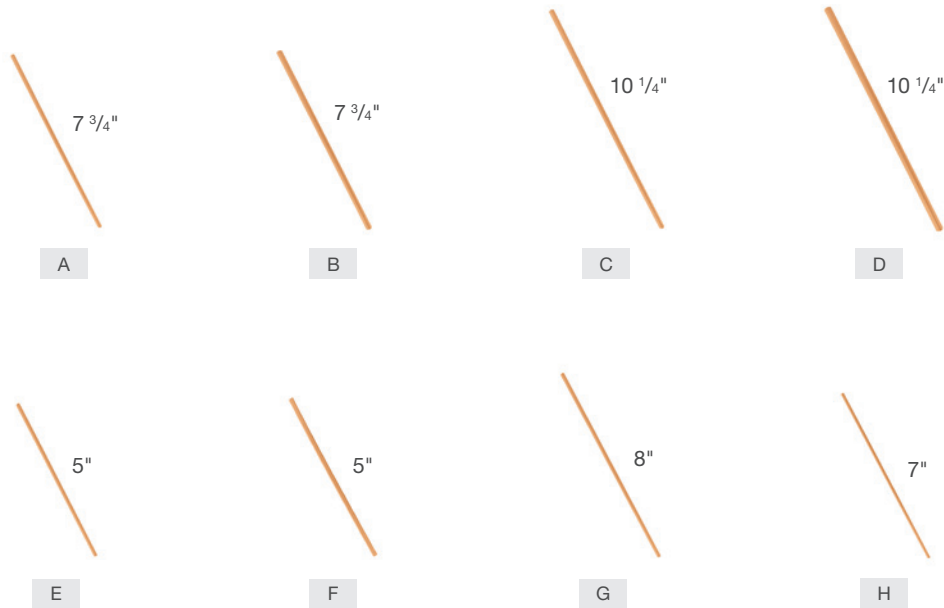
Low cost



Manufactured to biodegrade in biologically active landfills. If disposed of incorrectly, they also biodegrade in terrestrial or marine environments.



# Biodegradable Straws and Stirrers



Item #	Description	Case
A	● DAB2190775PC11003 7 3/4" Jumbo Wrapped Straws	Case x 5,000 units / Retail case x 500 units
	● DAB2190775NC11003 7 3/4" Jumbo Unwrapped Straws	Case x 5,000 units / Retail case x 500 units
B	● DAB2940775NC11004 7 3/4" Giant Unwrapped Straws	Case x 7,500 units / Retail case x 300 units
C	● DAB2191025NC11006 10 1/4" Jumbo Unwrapped Straw	Case x 2,000 units / Retail case x 500 units
	● DAB2191025PC11006 10 1/4" Jumbo Wrapped Straws	Case x 2,000 units / Retail case x 500 units
D	● DAB2941025PC11007 10 1/4" Giant Wrapped Straws	Case x 1,200 units / Retail case x 300 units
E	● DAB1080500NC11008 5" Unwrapped Stirrers	Case x 10,000 units / Retail case x 1,000 units
F	● DAB0000500NC11008 5" Double Barrel Unwrapped Stirrers	Case x 10,000 units / Retail case x 1,000 units
G	● DAB1520800NC11003 8" Cocktail Unwrapped Stirrers	Case x 5,000 units / Retail case x 500 units
H	● DAB1080700NC11008 7" Hot Drink Unwrapped Stirrers	Case x 10,000 units / Retail case x 1,000 units

**MATERIAL**

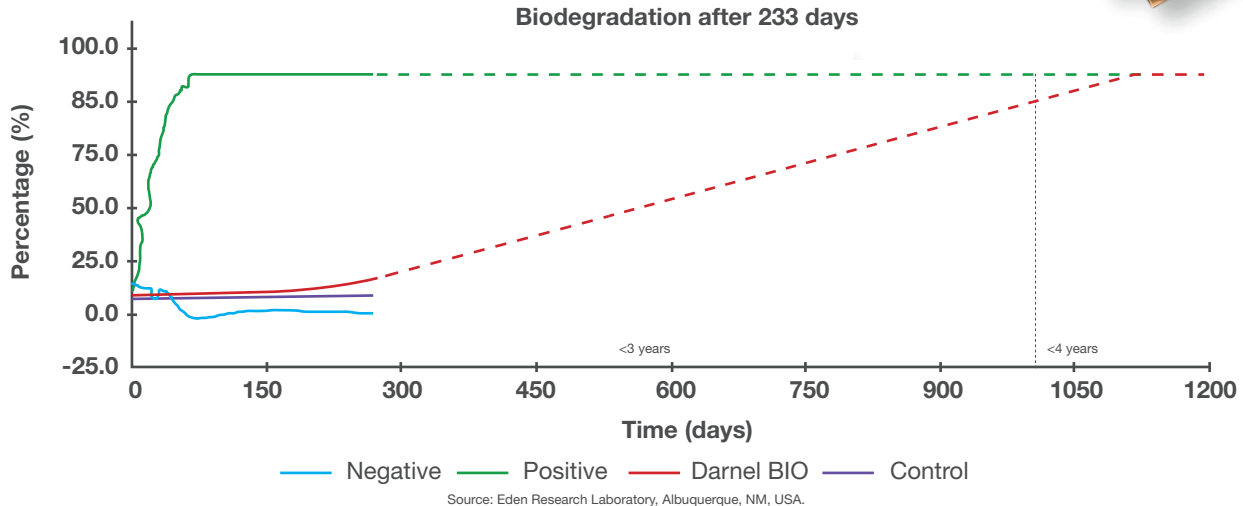
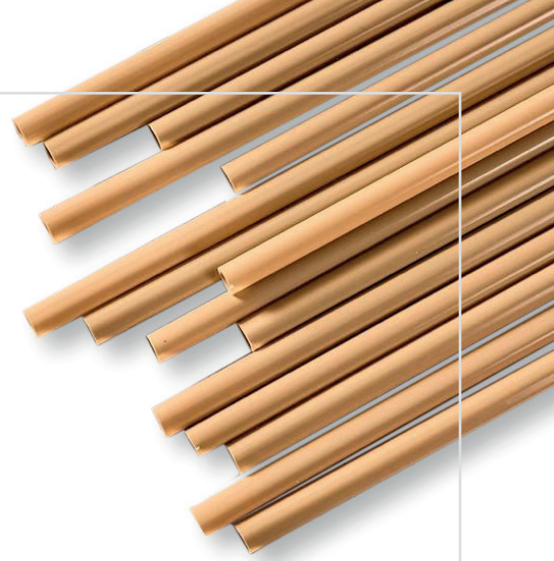
Polypropylene (PP) formulated for biodegradation according to ASTM D5511. Material suitable for food contact.

Color:





# Biodegradable Straws and Stirrers



Over the past two years, Darnel has independently formulated and tested a **new line of products designed to enhance biodegradation.**



Tests conducted at the Eden Research Laboratory in Albuquerque, NM, USA. They have confirmed a biodegradation of more than 20% in 244 days and are expected to biodegrade 85% in less than 4 years.



This independent laboratory used the ASTM D5511 test method to demonstrate biodegradation in biologically active landfills.



The FTC USA (Federal Trade Commission) Green Guides have indicated the acceptance and use of ASTM D5511 when describing biodegradable products.



Products formulated similarly to Darnel BIO have also demonstrated efficacy and performance under a variety of conditions including, but not limited to, the following test methods:

- **ASTM D5338:** Aerobic biodegradation under industrial composting conditions.
- **ASTM D5988:** Aerobic biodegradation in soil (simulates waste environment).
- **ASTM D6691:** Aerobic biodegradation in marine environment.
- **ASTM E1963:** Ensures the absence of harmful effects on the environment by phototoxicity tests.
- **EPA Method 8015:** This test has been used to demonstrate that no hydrocarbon bonds (oil contamination) remain when analyzing biodegradation. At that point, microbes have converted the polymer into valuable resources.

Also, the Darnel BIO products:



Comply with FDA food regulations



They are free of: BPA, Formaldehyde, Heavy Metals, Products of Animal Origin, Asbestos and Phthalates.