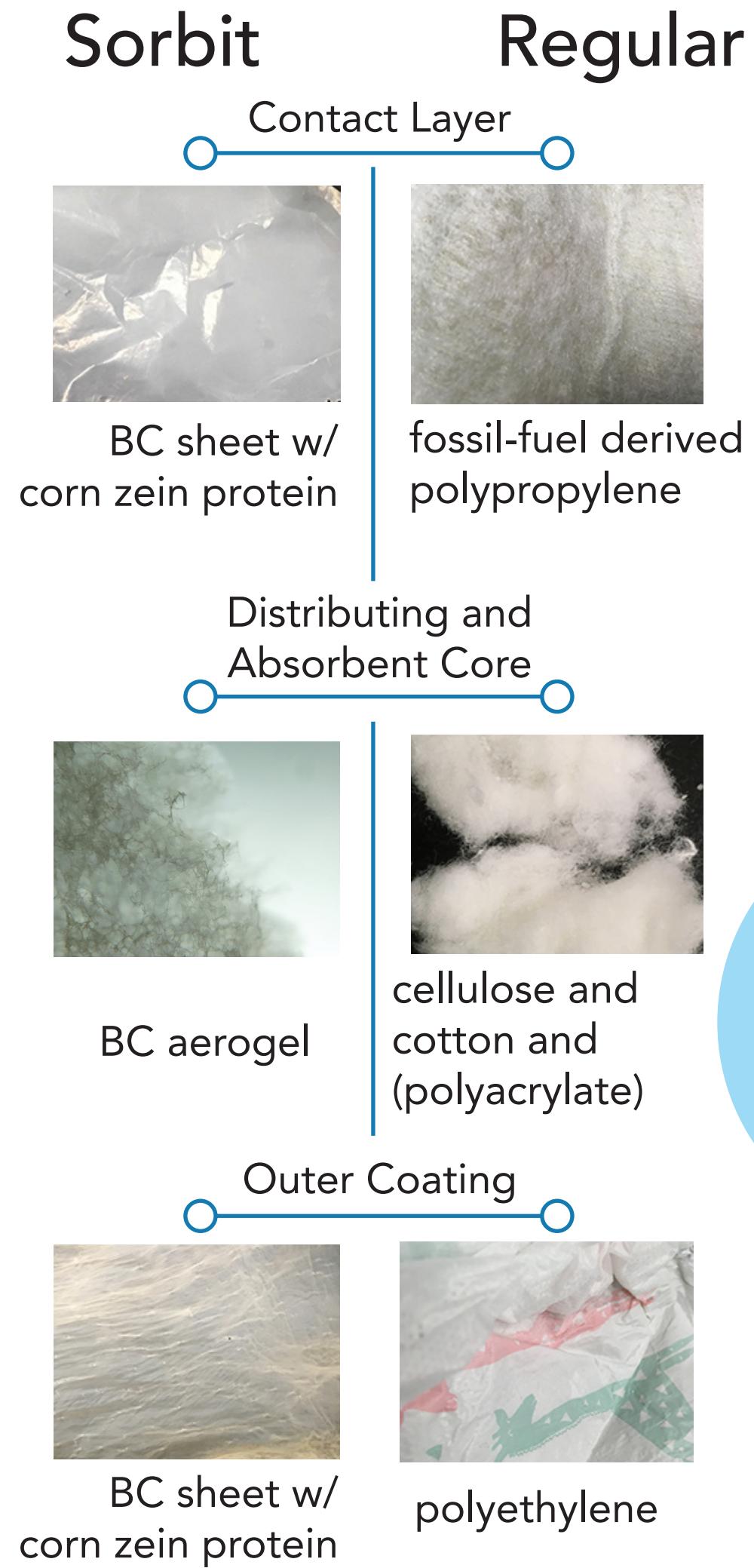
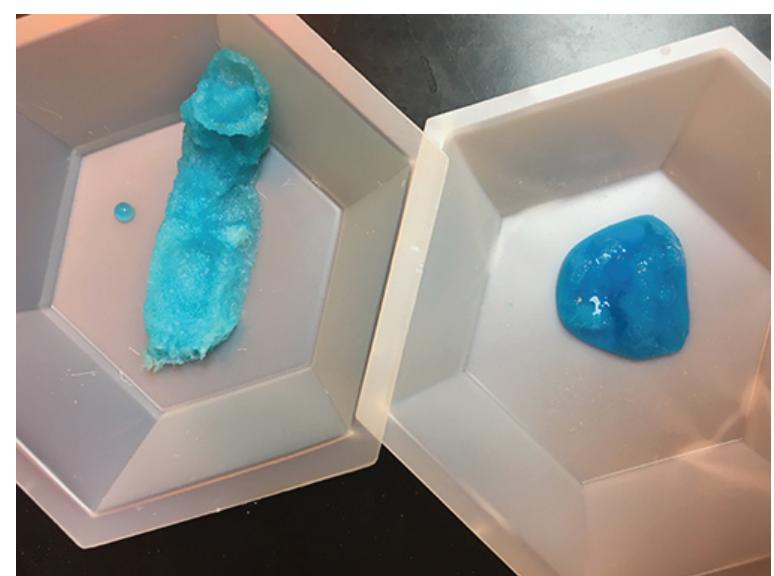
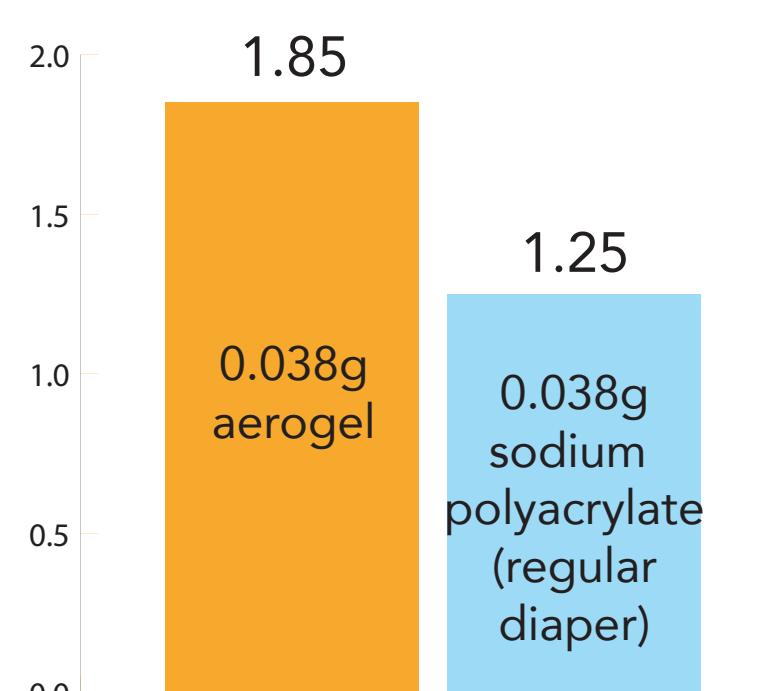


Above: Diapers made out of bacterial cellulose (BC)  
Photo by B. R. Molloy

## Layers of a Diaper



## Absorbency



Above: Comparison of aerogel (left) and sodium polyacrylate (right)

a fresh start and a cool finish

# Sorbit Diaper

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Left: Dry NaOH treated BC  
Top Right: Wet citrus grown BC  
Bottom Right: Dry citrus grownBC

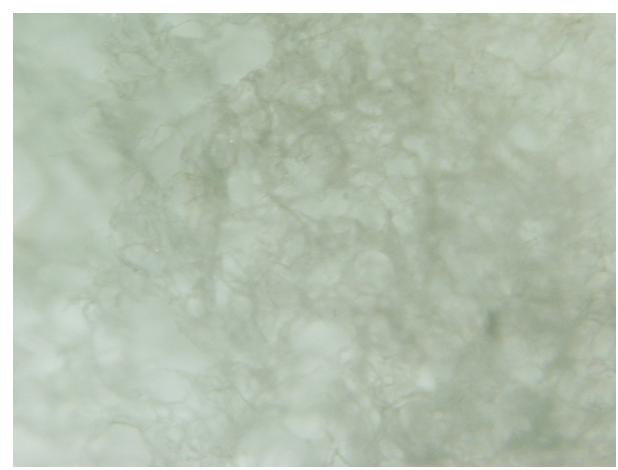
SCOBY

Symbiotic Colony  
Of Bacteria and Yeast

Bacterial cellulose (BC) is produced by a SCOBY growing at the air liquid interface of a fermentation media. Microorganisms and other contaminants are removed from the BC by treatment with food-grade NaOH and water washes.

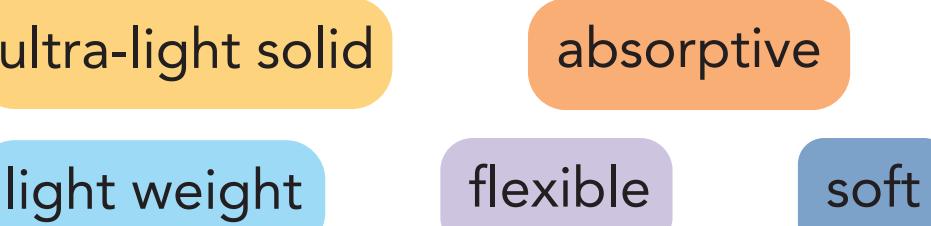
Aerogel

"synthetic porous ultralight material derived from a gel"<sup>3</sup>



Above: Aerogel under microscope

## Properties of an Aerogel



Left Top: aerogel made from NaOH treated BC  
Left Bottom: aerogel made from citrus grown BC  
Right: from a torn aerogel under a microscope



## Environmental Impact

By implementing bacterial cellulose sheets and aerogel for all the functional layers of the diaper, plastic waste is reduced. Alternative options for disposal, such as composting, could decrease long term accumulation impact in landfills. In addition, the extremely low weight may lower overall carbon footprint in transportation. Since Sorbit diaper is made from biological materials, it is superior to conventional diapers in terms of biodegradability.

A baby uses over 7,200 diapers during pre-potty training stage<sup>4</sup>

Diapers contributed 2.1% waste in the US<sup>5</sup>

It takes about 450 yrs for one diaper to decompose<sup>1</sup>

88.5% of diaper users want to know more about BC diapers<sup>2</sup>

Aerogel is 32.4% more absorbent than polyacrylate of the same weight

## Applications of an Aerogel



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