

# Intrinsic Advanced Materials

An Intrinsic Textiles Group  
& Parkdale Advanced Materials  
Joint Venture





FUNCTIONAL. SENSIBLE. SUSTAINABLE.

AN INNOVATIVE SOLUTION



CiCLO is an easy to implement biomimetic solution that minimizes polyester pollution through biodegradation in four real world environments:

- microfibers in sea water
- microfibers in wastewater treatment plants
- microfibers in soil
- and discarded synthetic textiles in landfills



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## INDEPENDENT 3<sup>RD</sup> PARTY TESTING

### D6691 - Marine Biodegradation Test

*Determines aerobic biodegradation of plastic materials in the marine environment by natural sea water.*

### D5210 - Wastewater Sludge Test

*Determines the anaerobic biodegradation of plastic materials in the presence of municipal sewage sludge.*

### D5511 - Anaerobic High Solids Test

*Determines anaerobic biodegradation of plastic materials under high-solids anaerobic-digestion conditions.*

### D5988 - Soil Biodegradation Test

*Determines the degree and rate of aerobic biodegradation of plastic materials in contact with soil.*

### E1963 - Terrestrial Plant Toxicity Test

*Determines toxicity of test substances.*

### BMP – Biomethane Potential Test

*Provides significant information about the biomethanation of specific substrates.*

### OEKO-TEX Certification

### SGS Fabric & Performance Testing

### 3rd Party Review Against

### Confidential Brand RSL List



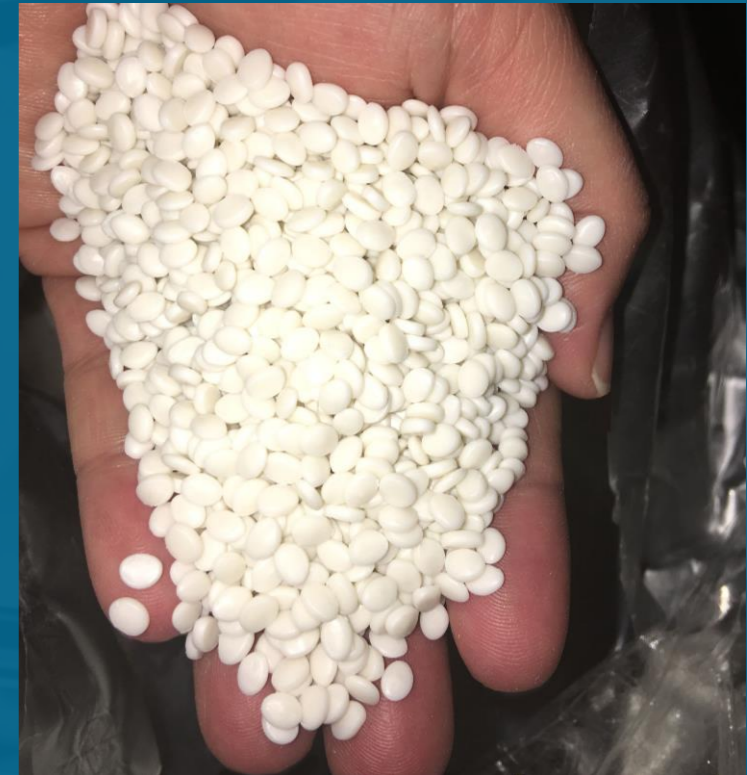


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## ADDITIVE TECHNOLOGY FOR SYNTHETIC MATERIALS

- CiCLO is a master batch additive available from Intrinsic Advance Materials.
- Added to rPET filament yarn or staple fiber at the extrusion or spinning phase.
- Successfully adapted for Polyester and Nylon.
- Development work on-going for other polymer applications and product formats.



RECYCLED  
PET



FILAMENT



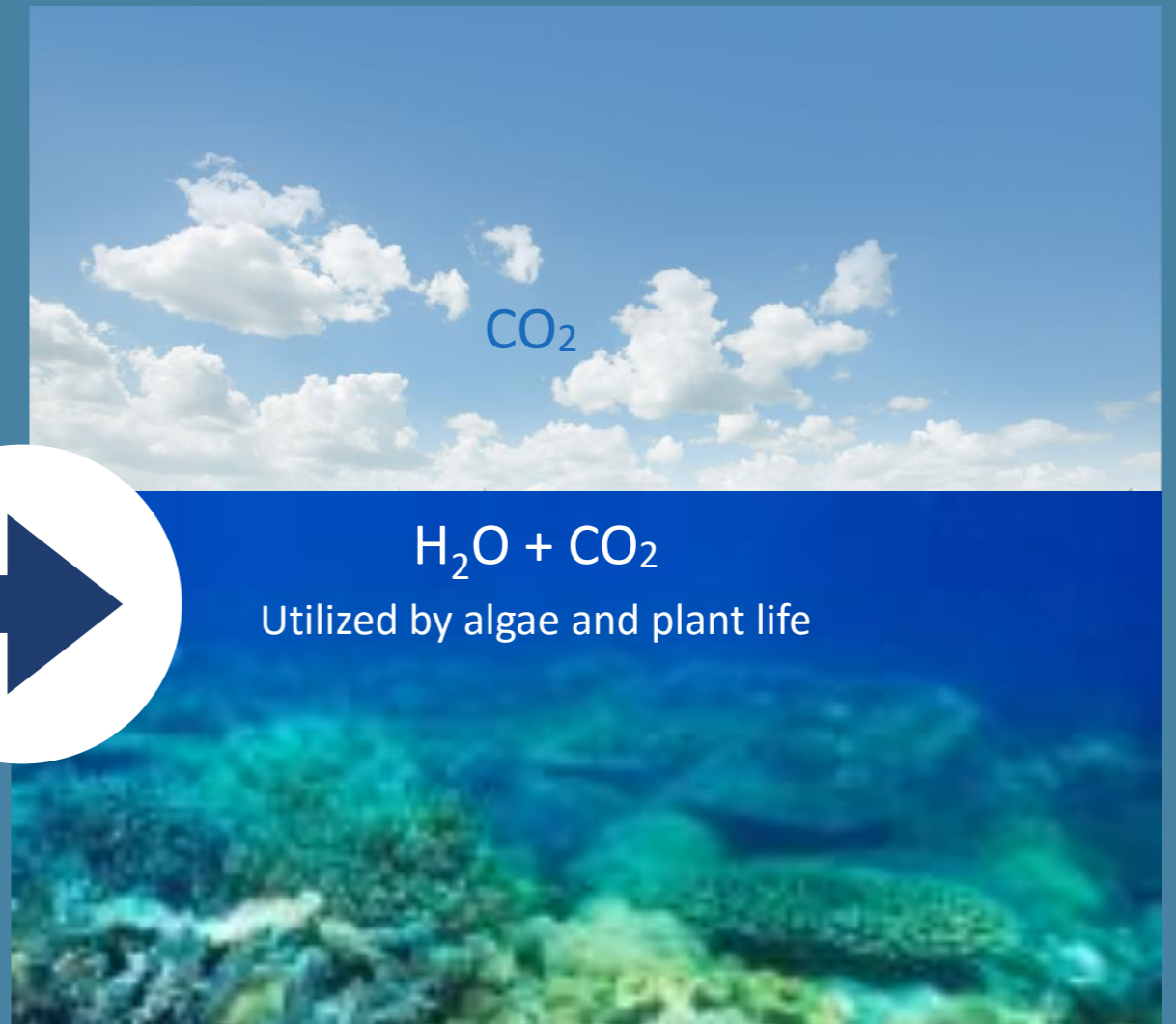
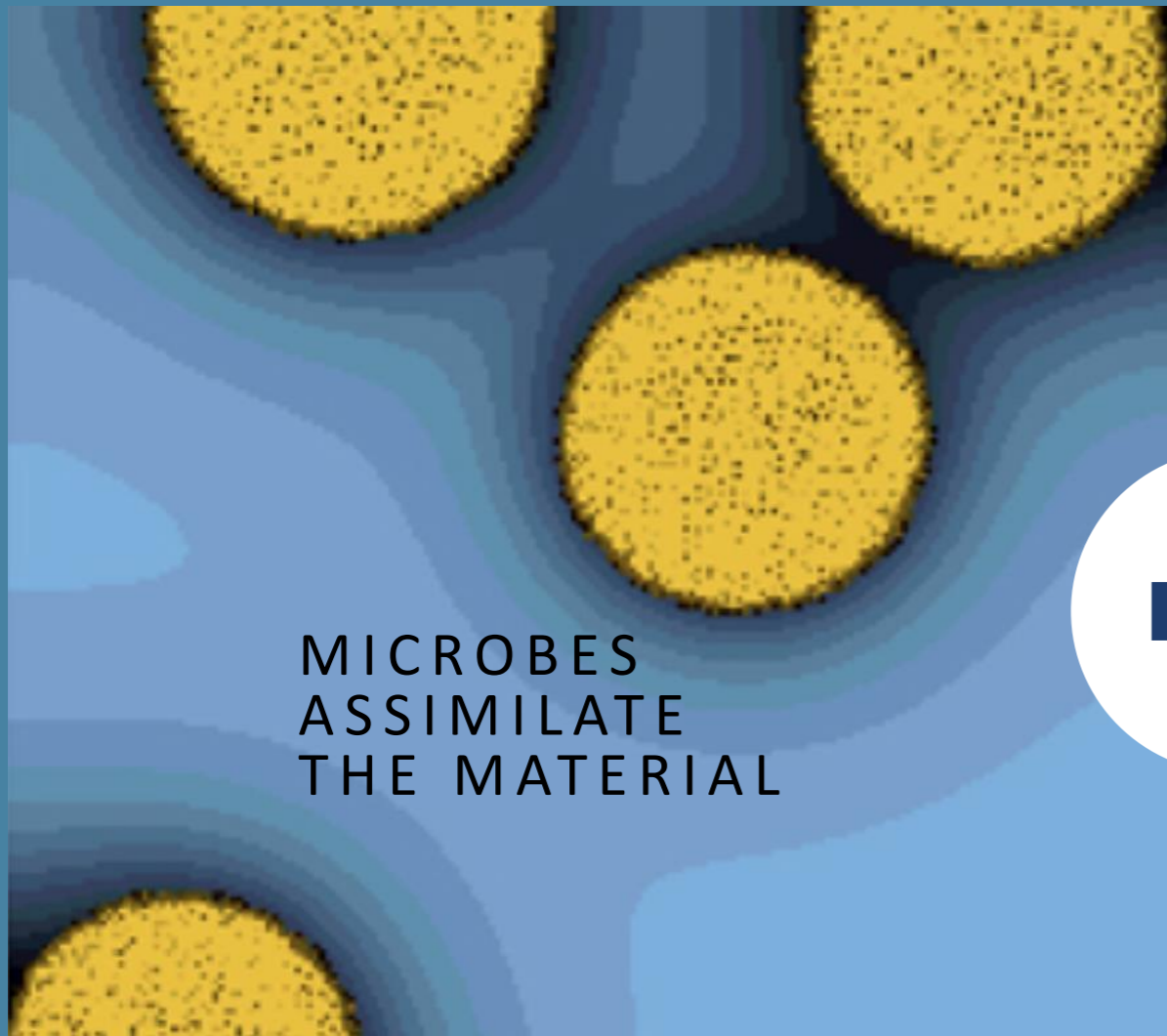
STAPLE



ENHANCED  
BIODEGRADATION

# MICROFIBER POLLUTION

HOW DOES IT WORK IN AEROBIC SEA WATER?



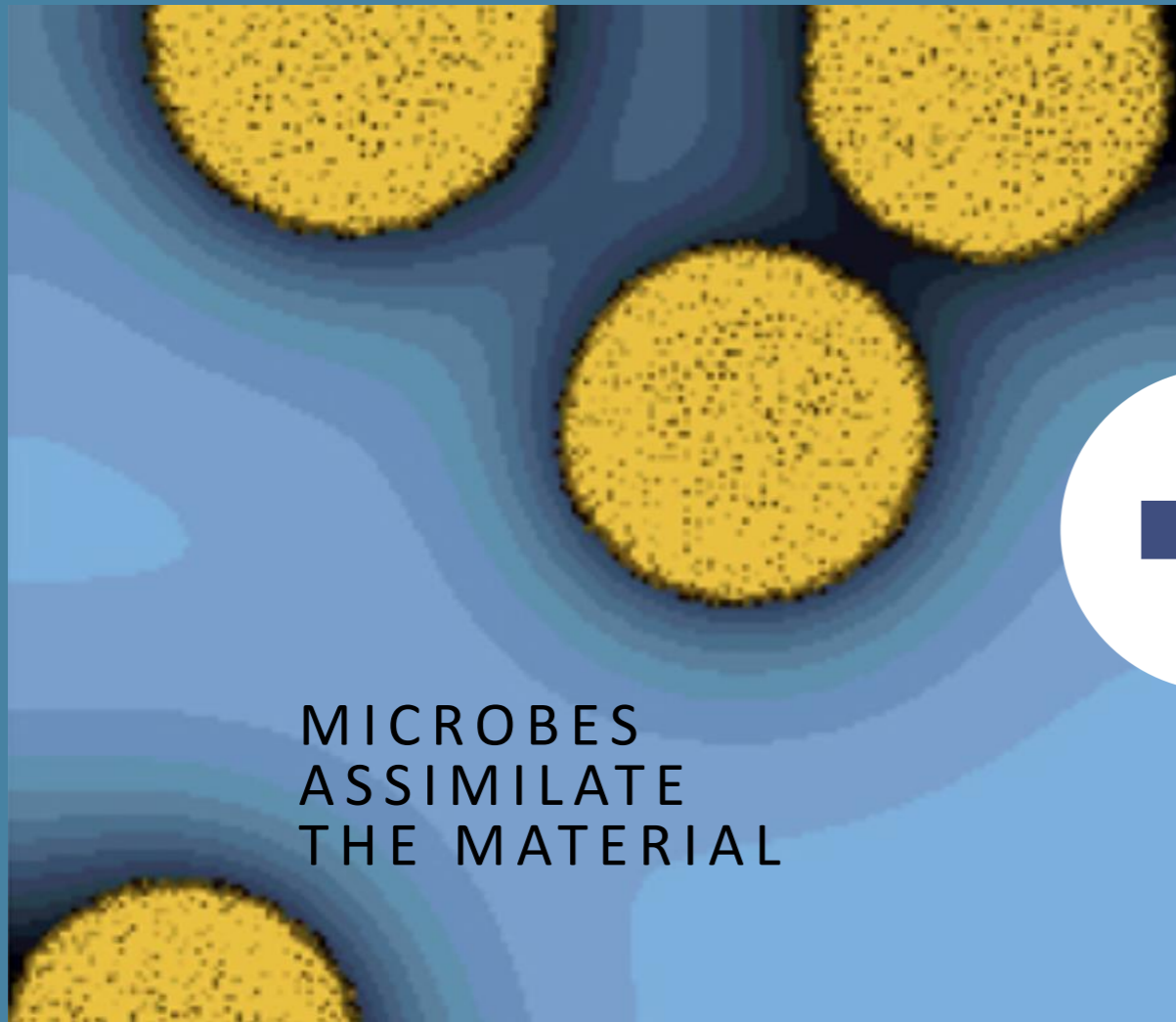
- Process can take weeks to begin under actual conditions
- Reset each time the material is dried or washed
- CiCLO ingredients add no additional risk to marine life



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# HOW DOES IT WORK?

## LANDFILL AND WASTEWATER TREATMENT SLUDGE DIGESTER



MICROBES  
ASSIMILATE  
THE MATERIAL



Gas captured at landfill & digesters  
CH<sub>4</sub> and CO<sub>2</sub>

HUMUS

Carbon, Nitrogen, Hydrogen, Oxygen

### Waste to Energy Process



Landfill



Gas Collection



Gas to Electric Plant



Transmission

## WHEN IS IT ACTIVATED?

OUR BIOMIMETIC PROCESS IS ACTIVATED UNDER PROLONGED EXPOSURE TO MOISTURE AND UNIQUE MICROBES THAT EXIST IN ANAEROBIC WASTEWATER TREATMENT DIGESTERS, SOIL, LANDFILL CONDITIONS AND MARINE ENVIRONMENTS.

PRODUCT APPLICATIONS ARE ENDLESS, AND FABRICS CAN BE CARED FOR IN THEIR USUAL MANNER.



FABRICS BUILT WITH CiCLO LOOK, FEEL AND WEAR JUST LIKE ANY OTHER, AND CAN BE ENGINEERED WITH HIGH PERFORMANCE CHARACTERISTICS.



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# EXAMPLE MARKETING CLAIM

## CICLO HANG-TAG MEETS US FTC & CA GUIDELINES



WE WORK CLOSELY WITH BRANDS TO INCREASE AWARENESS OF LEGAL REGULATIONS ASSOCIATED WITH MAKING BIODEGRADABLE MARKETING CLAIMS.