

**NEW! Biodegradable
and Biobased**



Description

Biobased and biodegradable packaging solutions made with MirelTM bioplastics resins, derived from corn sugar, provides packaging options that are biodegradable **in natural soil, water environments, home composting and industrial composting systems facilities where available**. High-performance, semi-crystalline polyester is engineered for injection molding. Get **performance comparable to traditional plastic** packaging and help reduce waste sent to landfills. Matching caps in selected sizes and colors available.

Features & Benefits

- Mirel P1003 material properties are similar to traditional PP—heat resistance, moisture resistance, and shelf stability.
- Mirel P1003 bioplastic resins are derived from corn sugar using a microbial fermentation process.
- MirelTM bioplastics are biobased and biodegradable in natural soil and water environments, home and industrial composting systems. Mirel is not designed to biodegrade in landfills. The rate and extent of Mirel's biodegradability will depend on the size and shape of the articles made from it.
- Jars made in USA—Manufactured at CSI, a world-class manufacturer specializing in double-walled jars and closures. New jar line availability starting in 2010.

Mirel PHA Base Resin Biodegradability Certifications

- BPI-certified to meet U.S. standard for compostable plastics according to ASTM D6400
- Vinçotte-certified as "OK Biodegradable Water" for natural freshwater environments
- Vinçotte-certified as "OK Biodegradable Soil" for natural soil environments
- Vinçotte-certified as "OK Compost" for biodegradability in an industrial composting unit to meet E.U. standard for compostable plastics according to EN 13432 / EN 14995
- Vinçotte-certified as "OK Compost Home" for biodegradability in a home composting system
- Meet the U.S. standard for non-floating biodegradable plastics in the marine environment according to ASTM D7081

Decoration Options

- Silk-screen
- Pressure-sensitive labels

To place an order or get more information, please contact your CSI Sales and Customer Service Representative:

**550 East Third Street
Oxnard, CA 93032-0832
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Fax (805) 487-1967
info@csillc.com**

www.csillc.com



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Results of Product Stability Tests in Mirel™ P1003 Jars

Product forms tested include: Body Cream, Hair Masque and Body Polish. Results shown below are consistent for all products tested.

TEST: Product in Package	METHOD	RESULTS		
		1 Month	2 Months	3 Months
Color of product	023FTT	Matches Standard	Matches Standard	Matches Standard
Odor of product	0030OLF	Matches Standard	Matches Standard	Matches Standard
Appearance	0030MFG	Matches Standard	Matches Standard	Matches Standard
Packaging Evaluation	023FTT 0030OLF 0030MFG	No leaking, No discoloration of package or product, no fading or smearing of label	No leaking, No discoloration of package or product, no fading or smearing of label	No leaking, No discoloration of package or product, no fading or smearing of label

MICRO TESTING	METHOD	RESULTS		
		1 Month	2 Months	3 Months
TPC	TM-01.0	<10	<10	<10
Yeast/Mold	TM-12B	<10	<10	<10
Enrichment	TM-01.1	No Growth	No Growth	No Growth
Pseudomonas	TM-01.1	Absence	Absence	Absence
S.aureus	TM-01.1	Absence	Absence	Absence
E.coli	TM-01.1	Absence	Absence	Absence

Incubator Temperature: 40 °C @ 75%RH +/- 5. All products were tested via accelerated temperatures.

Testing Performed By:



Micro Quality Labs
3200 N. San Fernando Blvd.
Burbank, CA 91504

Results show that Mirel P1003 provides excellent packaging stability when tested at accelerated temperatures. Consider CSI's Biodegradable & Biobased jars and caps for your product line!



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