

REINVENTING LIVING GREEN



BiOPDS™



www.pttmcc.com



BiOPDS™

Renewable . Compostable . FCN Approved

Properties	Test Method	Unit	BioPBS™		
			FZ71 (PM/PB)	FZ91 (PM/PB)	FD92 (PM/PB)
Density	ISO 1183	g/cm ³	1.26	1.26	1.24
MFR (190°C, 2.16 kg)	ISO 1133	g/10 min	22	5	4
Melting Point	ISO 3146	°C	115	115	84
Yield Stress	ISO 527-2	MPa	40	40	17
Stress at Break	ISO 527-2	MPa	30	36	24
Strain at Break	ISO 527-2	%	170	210	380
Flexural Modulus	ISO 178	MPa	630	650	250
Flexural Strength	ISO 178	MPa	40	40	18
Izod Impact Strength (23°C)	ISO 180	kJ/m ²	7	10	47
Heat Deflection Temperature (0.45 MPa)	ISO 75-2	°C	95	95	63
Rockwell Hardness	ISO 2039-2	R Scale	107	107	56
Compostability			 Industrial		 Industrial -----  Home

*PM grades are intend to come into contact with food applications.



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PTTMCC Facts & Figures



The world's 1st
and **largest**
BioPBS™ Plant

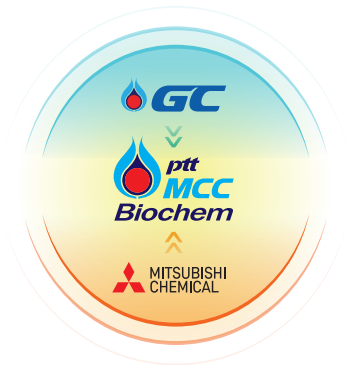
PTTMCC is dedicated to produce BioPBS™ with **20,000 Tons** annual capacity, plant based in Rayong Thailand

BioPBS™ partially (bio-based polybutylene succinate) is revolutionary in its two-fold bio properties. It is both bio-based and biodegradable plastics, naturally decomposes into biomass, CO₂, H₂O. BioPBS™ with higher bio-content is developing and will introduce in the future.

BioPBS™ has been used in wide range applications: Paper coating, Compounding, Synthetic fiber, Flexible and barrier packaging and durable product.

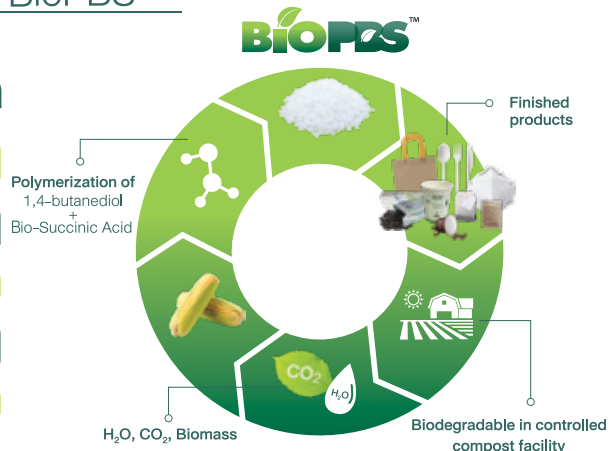


BioPBS™ has exclusive license from Mitsubishi Chemical Corporation Patents.



Closed Loop Formula with BioPBS™

- **BioPBS™** containing renewable carbon.
- **BioPBS™** fully biodegradable even at ambient temperature and compostable (EN13432).
- **BioPBS™** compatible with end-of life both recycling (repulping operation) and composting even in backyard.
- **BioPBS™** is contribution to circular economy.
- **BioPBS™** safe for you and planet. It is food contact, approved by FDA, EU and JHOSPA.
- **BioPBS™** has processability similar to Polyethylene (PE).



Application



BioPBS™
Grade



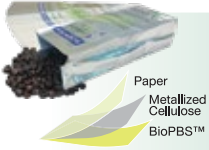
Repulpable &
Recyclable



Industrial
Compostable



Home
Compostable



Barrier packaging
(The best sealant layer)

FD92PM



Paper coating
(The best bioplastic for paper coating)

FZ79AC



**Coffee Capsule/
Cutlery**
(Increase impact strength)

FZ71/FZ91



Synthetic Fiber
(Increase heat stability)

FZ78TM



Certification & Compliance

* For Papercoating

Biodegradability & Compostability	Bio-Based	Food Contact	Repulpability*
 	 No.299/No.300 PTT MCC Biochem Company Limited 	<p>FCN FZ-Grade: FCN# 1817 FD-Grade: FCN# 1818</p> <p>China National Food Safety Standard (GB)</p> <p>JHOSPA </p> <p>EU No.10/2011 </p>	