

vercet ™

# RESINS

FOR COATINGS & ADHESIVES

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# CREATING PERFORMANCE THROUGH CHEMISTRY

Building upon decades spent advancing materials chemistry innovation, NatureWorks offers solutions based on lactides and lactide intermediates that help innovators within the coatings, adhesives, sealants, and elastomers (C.A.S.E.), toner and surfactant industries realize:



Significant, measurable product performance benefits



Move through the R&D process more efficiently and with minimal risk



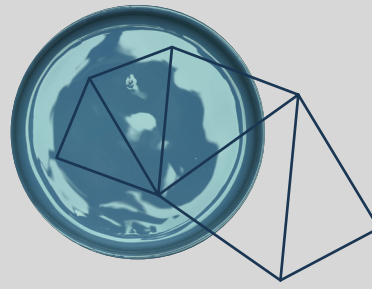
Decrease systems costs via an optimized supply chain

## POLYMERIC RESINS

### CUSTOM SOLUTIONS FOR SOLVENT-BORNE COATINGS & HOT MELT ADHESIVES

Using Vercet resins for coatings & adhesives enables unique properties including a tunable work-life, more end-of-life options, excellent adhesion, and low dispensing temperatures for substrates such as fiber board, paper food packaging, and woods.

COATINGS		ADHESIVES	
SUBSTRATES	MARKETS	SUBSTRATES	MARKETS
Wood Wood Laminates Paper Metals Textiles	Flexible Packaging Food Service Architectural (Decorative)	Wood Wood Laminates Paper Metals	Flexible Packaging Packaging - Carton and Case Seal
PERFORMANCE BENEFITS		PERFORMANCE BENEFITS	
Excellent oil, grease, and solvent resistance Great heat seal More end-of-life options including recycling and composting Renewably-sourced building block		Tunable work-life (seconds to minutes) Low dispensing temperatures Tunable viscosity Excellent adhesion to wood, paper, & plastic Renewably-sourced building block	



We achieve this by coupling tunable Vercet™ lactide-based chemistries with the knowledge of scientists and engineers who understand how to dial in the full capabilities of this versatile product line.

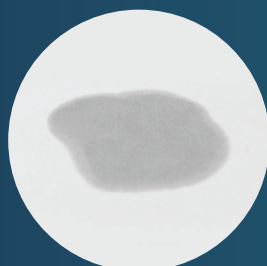
**PROPERTIES**

**VERCET CHEMISTRY FOR TUNABLE SET TIME, STRENGTH & WORK-LIFE**

Sample	DSC - Midpoint Tg Range [°C]	Melt Viscosity [η Pa-sec, 150 °C]	Solubility in Ethyl Acetate			
			15% Solids	30% Solids	50% Solids	Viscosity at 30% Solids <sup>1</sup> [MPa*s]
#1	45 - 49	2.1	✓	✓	✓	45
#2	48 - 52	132	✓	✓	✓	80
#2	49 - 54	232	✓	✓	✗	500

1. Calculated from DIN 4 viscosity measurement using density of 1.01 g/ml.  
 2. AV – Acid Value as determined by ASTM D4662

**CANOLA OIL ON COATED PAPER**



**NO COATING**

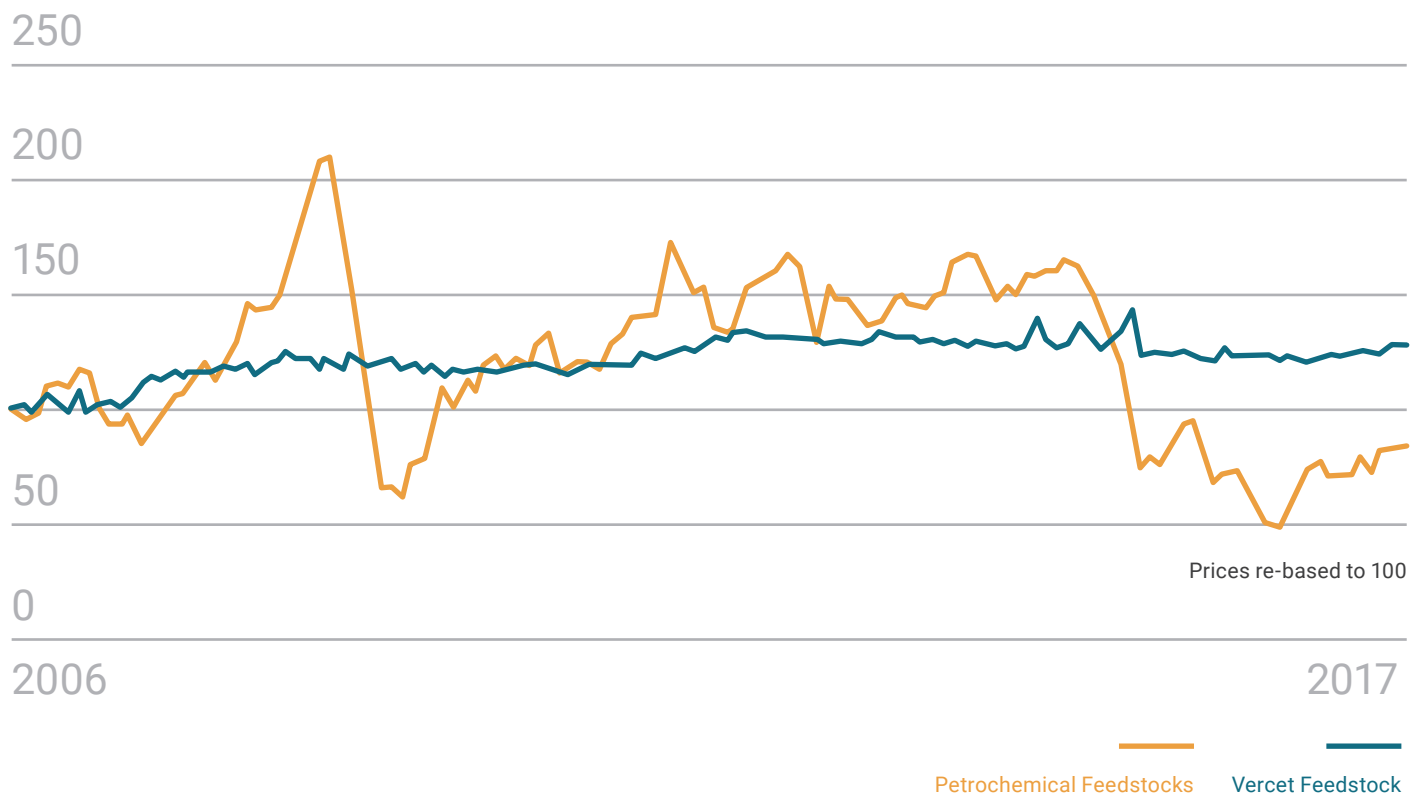


**VERCET COATING**

## BENIGN BY DESIGN

# REDUCING VOLATILITY IN PRICING THROUGH ALTERNATIVE FEEDSTOCKS

Renewably-sourced Vercet lactide-based products bring sensible, elegant, and cost-effective solutions based squarely on the principles of green chemistry to supply chains that, until now, were coupled with traditional fossil-petroleum solutions and their inherent price volatility.



## HOW CAN WE HELP YOU?

To learn more about Vercet custom solutions, please contact a member of our Performance Chemicals team.

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