



Innovative Nanocomposite Materials

January 10, 2011  
News Release  
For Immediate Release

## **New nanocomposite barrier coatings provide cost and performance advantages over EVOH and PVDC.**

Hillsborough, New Jersey, January 10, 2011. InMat®, the leader in environmentally friendly, high barrier nanocomposite coatings, announces its new Nanolok™ WR water-based barrier coating product line. These coatings provide a significant advance in the performance of water based high barrier nanocomposite coatings

Nanolok™ WR 20135a provides high oxygen barrier over the widest relative humidity range currently available in water based nanocomposites. A 1 micron coating will provide an oxygen barrier more than 4 times better than that of PVDC coated PET at relative humidity from 0-80%, and is still almost twice as good at 85% RH. This coating also provides similar moisture barrier to that of PVDC coated PET when tested at 85RH and 40C. It is ~ 10x better oxygen barrier than EVOH (EVAL E) and 40 times better moisture barrier.

Nanolok WR 301409 provides a new level of direct adhesion to a wide variety of flexible packaging films including many polyolefins. This will enable customers to reduce the number of layers in their barrier packaging. After drying this coating has shown excellent resistance to incidental contact with water, and will maintain its barrier properties after top coating and or application of water based inks.

“This new product line once again demonstrates InMat’s technical leadership in the area of water based nanocomposite barrier coatings” says InMat President and CEO Harris A. Goldberg. “Our WR 201 product is exceptional in its performance at high relative humidity making it stand out when compared to competitive products.

As with all InMat coatings, these products contain no solvents or hazardous materials and are appropriate for food packaging applications. If you have a commercial application for these products, please email [contact@inmat.com](mailto:contact@inmat.com), or call Dr. Harris A. Goldberg at 908-874-7788 for more technical information and technical data sheets. Additional information on InMat is available at its website at [www.inmat.com](http://www.inmat.com).

Since 1999 InMat® Inc., The Innovative Nanocomposite Materials Company, is leading the development and commercialization of nanocomposite barrier coating technology. The company is committed to providing environmentally friendly coatings to improve product performance for both industrial and consumer product applications.



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# Nanolok™ WR 20135A

## Product Data Sheet

### *Product Description*

**High Barrier, Water Based, Environmentally Friendly, Nanocomposite Barrier Coating for Transparent Sustainable Packaging**

### Coating Formulation Properties

Property	Typical Value	Units
Oxygen Permeability	2.0 – 3.0	cc- $\mu$ /m <sup>2</sup> -day-atm
	0.005 - 0.008	cc-mil/100 in <sup>2</sup> -day-atm
Solid Content	12.0 – 14.0	%
pH	6 - 8	
Viscosity	10 - 20	cP (100 rpm, 132 sec <sup>-1</sup> )

- Excellent barrier up to 85% RH
- Large enhancements of moisture barrier when coated on flexible packaging films
- Provides source reduction and/or improved sustainability relative to EVOH & PVDC
- More cost effective than EVOH
- 2x the solid content of InMat's other products reducing the required drying time resulting in a higher speed coating process
- Meets compostibility standards on bio-derived films
- Compliant with US and European food contact standards
- Can be used for wide range of food applications including meat and cheese
- Can be applied at high speeds using standard gravure coating methods
- No halogen, VOC's, or hazardous materials



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# Nanolok™ WR 20135A

## Product Data Sheet

### Product Description

**High Barrier, Water Based, Environmentally Friendly, Nanocomposite Barrier Coating for Transparent Sustainable Packaging**

### Coated Film Properties

Base Film			PET 48 gauge	
Property	Units	RH		
Coating Thickness	micron		<b>1.0 ± 0.1</b>	
OTR 23C	cc/m <sup>2</sup> -day-atm (cc/100 in <sup>2</sup> -day-atm)	0%	<b>2.5</b>	<b>(0.16)</b>
		65%	<b>1.8</b>	<b>(0.12)</b>
		80%	<b>3.9</b>	<b>(0.25)</b>
		85%	<b>9</b>	<b>(0.6)</b>
MVTR 38C	0.9 um coating gm/m <sup>2</sup> -day (gm/100 in <sup>2</sup> -day)	85%	<b>7.5</b>	<b>(0.5)</b>
Adhesion	gm/inch	23C	<b>&gt;300</b>	

### Comparison of Coated and Uncoated Film

Film	Nanolok WR 20135A coating thickness (microns)	MVTR 38C, 85% RH (gm/m <sup>2</sup> -day-atm)
PET 48 gauge	None	45
	<b>0.9</b>	<b>7.5</b>
PLA 80 gauge	None	275
	0.9	21