

## Bomar® BR-543MB Difunctional Aliphatic Polyether Urethane Methacrylate

**APPLICATIONS**

- Nail Coatings
- Optical coatings
- Adhesion promoting co-oligomer

**FEATURES**

- High tensile strength
- Excellent optical clarity
- Exhibits hydrolytic stability
- Oil resistant

**FEATURES**

- Improves impact resistance
- Improves adhesion
- Provides weatherability
- Low skin sensitivity

BR-543MB is a difunctional, aliphatic polyether urethane methacrylate. BR-543MB is an excellent candidate to consider for use in cosmetic applications. As a primary oligomer, BR-543MB offers excellent properties of adhesion and optical clarity. As a co-oligomer, BR-543MB can be used to improve an existing formulation's glass adhesion. This product is listed in the INCI directory to meet cosmetic regulatory guidelines, and has low skin sensitivity.

UNCURED PROPERTIES	
Property	Value
Viscosity, cP (60°C)	14,000
Pt-Co (APHA) Color	20
Refractive Index (25°C)	1.476
Density, g/cm <sup>3</sup> (25°C)	1.03

CURED MECHANICAL PROPERTIES						
Property	I30	I50	TM50	TP50	H50	HE30
Tensile Strength, psi**	600	2,200	3,600	1,800	2,500	1,100
Elongation, %**	110	180	3.8	15.3	7.1	130
Elastic Modulus, ksi**	1.1	5.5	110	40	55	8.3
Durometer Hardness	60A	31D	73D	51D	57D	83A
Water Absorption, % (24 hrs)	0.85	0.57	1.22	1.17	0.93	3.92
MEK Double Rubs (#)	5	4	30	6	80	20
T <sub>g</sub> (DMA) = -55°C; Peak tan delta; cured with 2 phr of Omnirad® 184						

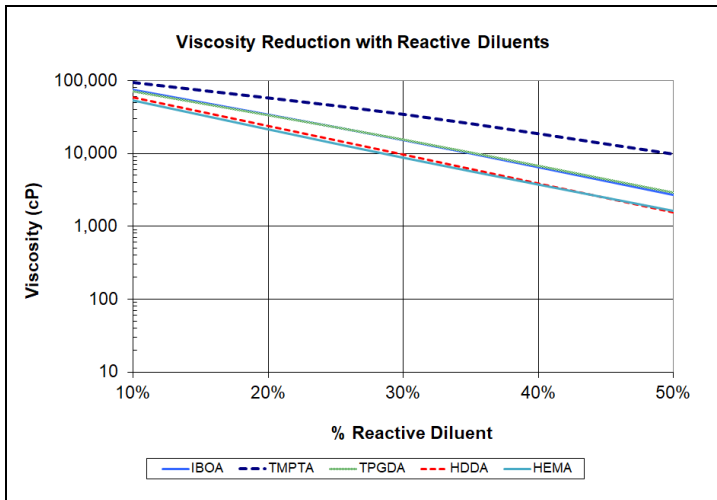
\*\* Per ASTM D882

ADHESION PROPERTIES						
Substrate	I30	I50	TM50	TP50	H50	HE30
ABS		✓	✓✓✓		✓	✓✓
Aluminum		✓				
Cold Rolled Steel		✓				
Glass		✓✓				
HDPE						
PET		✓	✓	✓✓	✓✓✓	✓
PMMA						
Polycarbonate		✓✓	✓✓	✓	✓✓	
Polypropylene						
PVC		✓✓	✓✓✓	✓✓	✓✓✓	
Stainless Steel		✓		✓		

✓ Recommended    ✓✓ Highly Recommended    ✓✓✓ Strongly Recommended

TYPICAL FORMULATIONS						
Test Formulation Name	I30	I50	TM50	TP50	H50	HE30
BR-543MB	70	50	50	50	50	70
IBOA	30	50				
TMPTA			50			
TPGDA				50		
HDDA					50	
HEMA						30
Omnirad™ 184	2	2	2	2	2	2
Viscosity, 25°C *	15,000	2,700	9,900	2,900	1,600	8,700

\* Brookfield – CAP 2000+ @ 25°C.



Brookfield – CAP 2000+ @ 25°C

**GENERAL INFORMATION**

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the I Safety Data Sheet before use.

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