

# VIBRATHANE® B821

## A MDI polyether prepolymer

### DESCRIPTION

**VIBRATHANE B821** is an MDI-Polyether prepolymer designed to maximize resilience and dynamic performance. VIBRATHANE B821 processes easily with 1,4 Butanediol and with HQEE curatives.

Vibrathane B821 is characterized by:

- Excellent low temperature properties
- High abrasion resistance
- Outstanding hydrolytic stability
- High Resilience

### Hygiene

VIBRATHANE B821 contains a small quantity of free diphenylmethane-4, 4'- diisocyanate (MDI) which causes severe irritation to the eyes, skin, mucous membranes, and respiratory system. Avoid contact with eyes, skin and clothing, and wash thoroughly after handling. Avoid breathing vapor. Use only with adequate ventilation. In the USA, employee exposure to diisocyanate is regulated by OSHA.

Other materials that may be used with VIBRATHANE B821 in the manufacture of finished products may present hazards in handling and use. Before proceeding with any compounding or processing work, consult and follow label directions and handling precautions from suppliers of all ingredients.



The formulation, process conditions and properties obtained with VIBRATHANE B820/MOCA are shown below.

<b>LIQUID PREPOLYMER PROPERTIES</b>	
<b>NCO Ranges</b>	7.12 - 7.64%
<b>Amine Equivalent</b>	550 - 590
<b>Brookfield Viscosity, poise @100°C</b>	4.50 - 7.00
<b>Color, Gardner</b>	0 - 2
<b>Appearance @ 25°C</b>	Clear viscous liquid free from contamination
<b>Specific Gravity @ 24°C (75°F) @ 93°C (200°F)</b>	1.06 g/cc 1.01 g/cc

<b>RECOMMENDED MELTDOWN PROCEDURE</b>	
Devices such as melting ovens, thermostatically controlled warming blankets, or drum heaters can be used for pre-heating VIBRATHANE B821. Approximate preheat times at 70°C (158°F) are:	
<b>5 gallon pail</b>	16 - 24 hours
<b>55 gallon drum</b>	36- 48 hours
Resins exposed to temperatures lower than 24°C during shipment and / or storage may require longer meltdown times. It is recommended that containers of Vibrathane B821 be rolled prior to use to ensure homogeneity.	

<b>PROCESSING CONDITIONS</b>	
<b>Vibrathane B821 (NCO=7.4)</b>	100 pts
<b>1,4 Butanediol</b>	7.53 pts
<b>% Theory</b>	95
<b>VIBRATHANE B821 °C (°F)</b>	82 (180)
<b>1,4 BD, °C (°F)</b>	25-70 (75-158)
<b>Mold, °C (°F)</b>	100 (212)
<b>*Demold Time</b>	45 – 60 Minutes
<b>Pour Life at Above Conditions</b>	6 - 7 Minutes



VIBRATHANE B821 CURED WITH HQEE	
COMPOUND	
VIBRATHANE B821(NCO=7.25), °C (°F)	100 pts
HQEE	16.22
% Theory	95

PROCESSING CONDITIONS	
VIBRATHANE B821(NCO=7.25), °C (°F)	93 (200)
HQEE, °C (°F)	110 (230)
Mold Temp. °C (°F)	115 (240)
Demold Time*	40-50 Minutes
Pour Life	3 - 5 Minutes

\*Catalysts such as T 9, T 12, and Dabco 33LV can be used to shorten demold times.

PHYSICAL PROPERTIES				
	1-4 Butanediol		HQEE	
Stoichiometry	0.95	1.00	0.95	1.00
Shore A	90	90	96	96
Shore D	—	—	53	53
100% Modulus, psi	1060	1060	1840	1800
300% Modulus, psi	2500	2120	2410	2220
Tensile, psi	4800	5600	4100	4000
Elongation, %	410	470	450	480
Split Tear, pli	85	93	150	175
Die C Tear, pli	550	600	800	840
Bashore	62	62	53	53
Compression Set Method B 22 Hrs. @ 158	20	32	18	22
Specific Gravity	1.09	1.09	1.11	1.11



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