

Polyurethane Specialty Products Group

VERSALINK® P-250 OLIGOMERIC DIAMINE

Description

Oligomeric diamine
 Polytetramethyleneoxide-
 di-p-aminobenzoate
 TSCA Registry No.: 54677-43-5
 CAS Registry No.: 54667-43-5

Versalink P-250 oligomeric diamine is a waxy solid at room temperature. It can be blended with other Versalink oligomeric diamines to obtain a liquid state at room temperature. Table 1 outlines this product's physical properties.

Applications

Versalink P-250 oligomeric diamine is a waxy solid at ambient temperature. By heating and cooling to room temperature, Versalink P-250 oligomeric diamine remains a liquid for a limited period of time. Alternatively, it can be blended with other liquid Versalink products to maintain a liquid state at 25 °C. Versalink P-250 oligomeric diamine can be used as a curative for diisocyanates (MDI, TDI) and diisocyanate prepolymers and as an amine- and anhydride-cured epoxy modifier (to enhance flexibility). Applications include molding compounds such as castable elastomers, tooling compounds and encapsulation compounds, as well as two-component adhesives, coatings and sealants.

Properties

Table 2 outlines typical properties when using Versalink P-250 oligomeric diamine cured with liquid MDI processed at room temperature. When processed at ambient conditions, Versalink P-250-based elastomers have a low shrinkage factor. Linear shrinkage is only 0.3% when processed at room temperature, versus 1.6% when cured at 100 °C.

Table 1 - Typical Properties of Versalink P-250 Oligomeric Diamine

$\text{H}_2\text{N}-\text{C}_6\text{H}_4-\text{C}(=\text{O})-\text{O}-(\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{O})_n-\text{C}(=\text{O})-\text{C}_6\text{H}_4-\text{NH}_2$	
Color	Amber Waxy Solid
Viscosity	< 300 @ 85 °C
Specific Gravity	1.04 - 1.1 @ 40 °C
Melting Temperature	56 °C
Total Equivalent Weight	220 - 250
n = 3 - 4	

Table 2 - Versalink P-250/MDI Systems

Processing Conditions	
MDI	ISONATE® 2143L
NCO, %	29
MDI Level, pph	65
Stoichiometry, %	95
Mix Temp., °C	25*
Pot Life, min.	1 - 2
Demold Time, hr.	15
Cure Conditions	12 hrs. @ 125 °C followed by 24 hrs. @ 25 °C

Physical Properties

Hardness, Shore D	84
Tensile Strength, psi	9,600
Elongation, %	9
Young's Modulus, psi	190,000
Flexural Modulus, psi	230,000
Impact Strength, ft.-lb./in. Notched Izod	2.85
Heat Distortion Temperature, °C	112 ± 10

* Versalink.P-250 oligomeric diamine is mixed as a super-cooled liquid.

Trademarks and Suppliers

IsonateDow Chemical Co.



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