TERRIN™

Technical Data Sheet

INVISTA TERRIN™ Polyols

Cost-Effective Alternative to Conventional Polyether and Polyester Polyols

Introduction

TERRIN™ polyols are 100% aliphatic polyester polyols containing a minimum of 50% recycled content.(1) TERRIN™ 168G also contains a minimum 10% renewable materials and TERRIN™ 170 is 100% either recycled or renewable.(1)

TERRIN™ polyols are prepared from glycols, including diethylene glycol and bio-based renewable glycerol, and a mixture of recycled carboxylic acid-functional monomers comprising mainly adipic acid and 6-hydroxycaproic acid (functionally equivalent to caprolactone).

Due to their unique structures, TERRIN™ polyols are liquids at 20°C and remain fluid at -15°C / 5°F and below.(2) They do not crystallize when cooled, but exhibit T_g in the range -60 to -75°C. They can be used in lieu of or in combination with conventional polyether or polyester polyols to formulate a variety of polyurethane products. The resulting polyurethanes can be formulated to be soft and flexible or hard and stiff.

Applications

Technical data available for the following applications:

- Cast Polyurethanes
- Protective Coatings
- High Resilience Foam
- Viscoelastic Foam
- Castor Oil Substitute

Features

- Cost competitive in comparison to conventional polyols
- Contain a minimum of 50% recycled or renewable[1] content
- Have similar hydroxyl values to castor oil, and can be substituted on a nearly equal weight basis
- Supply of TERRIN™ polyols is not dependent on weather and planting cycles
- Are REACH and TSCA compliant

[1]As defined by ISO 14021, Section 7.8; preliminary estimate based on small-scale production.
[2]Patents pending; consult the SDS for additional physical-chemical, safety and health information

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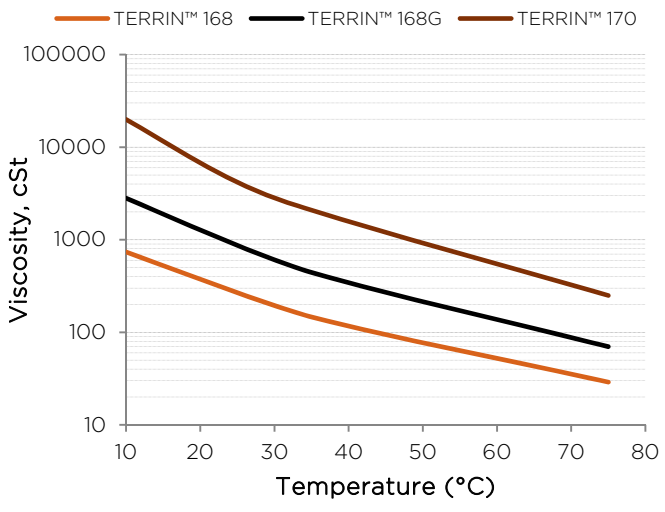
Specifications and Typical Properties of TERRIN™ Polyols			
TERRIN™ polyol	TERRIN™ 168	TERRIN™ 168G	TERRIN™ 170
Hydroxyl value, mg KOH/g (3)	160-180	160-180	160-180
Acid number, mg KOH/g (3)	1.5 max	1.5 max	1.5 max
Water, weight % (3)	0.1 max	0.1 max	0.1 max
Density, g/cm^3 at 23°C	1.1	1.1	1.1
Equivalent weight, g	312-351	312-351	312-351
Hydroxyl type	Mainly primary	Primary and secondary	Primary and secondary
Viscosity, cP at 23°C	350 typical	830 typical	5500 typical
Average functionality	1.8 typical	2.0 typical	2.2 typical
Glass transition temp., T_g	-75°C typical	-70°C typical	-60°C typical
Recycled or renewable content, wt%	50% minimum	60% minimum	100%
Color	Brown	Brown	Brown

(1) As defined by ISO 14021, Section 7.8; preliminary estimate based on small-scale production.
(2) Consult the safety data sheet for more information
(3) Property is included in the product specification

Viscosity of TERRIN™ polyols in solution, cSt			
	TERRIN™ polyol		
Solvent	168	168G	170
Toluene			
75% polyol	34	61	166
50% polyol	7	9	18
DBE® LVP			
75% polyol	76	145	382
50% polyol	22	31	56
Propylene Carbonate			
75% polyol	92	152	433
50% polyol	24	33	60



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