

Cost-Effective Alternative to Conventional Polyether and Polyester Polyols

INVISTA's TERRIN™ 170 polyol is a 100% aliphatic polyester polyol made using raw materials that are all either recycled or renewable.⁽¹⁾ Due to its unique structure, TERRIN™ 170 polyol is an easily-handled liquid at room temperature and remains liquid, although more viscous, at -15°C/5°F and below.⁽²⁾ It does not crystallize, but exhibits T_g at approximately -60°C.

TERRIN™ 170 polyol can be used in lieu of or in combination with polyether or polyester polyols to formulate a variety of polyurethane products. Because of its higher average functionality and crosslink density, polyurethanes made using TERRIN™ 170 tend to have higher T_g and be harder and tougher than similar polyurethanes made using TERRIN™ 168 or 168G polyols; foams are more rigid and dimensionally stable.

FEATURES AND BENEFITS

- Cost competitive in comparison to conventional polyols
- 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
- REACH and TSCA compliant

POLYURETHANES FROM TERRIN™ 170 POLYOL

| Formulation (105 isocyanate index) | T_g , °C | Hardness |
|---|------------|------------|
| One shot using PMDI ⁽³⁾ | 52 | 57 Shore D |
| One shot using PMDI, diethylene glycol added to 50% hard segment ⁽³⁾ | 66 | 78 Shore D |

SPECIFICATIONS AND TYPICAL PROPERTIES

| | |
|---|---------------------------------|
| Hydroxyl number | 160-180 mg KOH/g ⁽⁴⁾ |
| Acid number | 1.5 max mg KOH/g ⁽⁴⁾ |
| Water, weight | 0.1 max % ⁽⁴⁾ |
| Density | 1.1 g/cm ³ at 23°C |
| Equivalent weight | 312-351 g |
| Hydroxyl type | Primary & Secondary |
| Viscosity | 5500 typical cP at 23°C |
| Average functionality | 2.2 typical |
| Glass transition temp., T_g | -60°C typical |
| Recycled or renewable content | 100% |
| Color | Brown |

(1) As defined by ISO 14021 sections 7.8 and 7.14

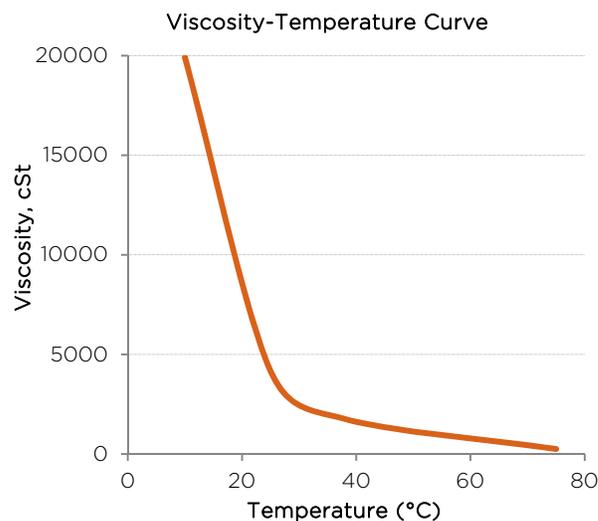
(2) Consult the MSDS for additional physical-chemical, safety, and health information

(3) Rubinate® M from Huntsman Corporation

(4) Property is included in the product specification

VISCOSITY

| 10°C/50°F | 25°C/77°F | 38°C/100°F | 75°C/167°F |
|-----------|-----------|------------|------------|
| 19910 cSt | 4165 cSt | 1758 cSt | 250 cSt |



SOLUTION VISCOSITY

| Solvent | 75% polyol | 50% polyol |
|---------------------|------------|------------|
| Toluene | 166 cSt | 18 cSt |
| DBE® - LVP ester | 382 cSt | 56 cSt |
| Propylene carbonate | 433 cSt | 60 cSt |



www.TERRIN.INVISTA.com

For samples and further information please contact:

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