

## Product Data Sheet

### Tenite™ Propionate 371A2R30008 Natural, Trsp

#### Application/Uses

- Consumer-Personal Care
- Toothbrushes

#### Product Description

Tenite™ cellulosic plastics are noted for their excellent balance of properties - toughness, hardness, strength, surface gloss, clarity, and a warm feel. The mechanical properties of Tenite™ cellulosic plastics differ with plasticizer levels. Lower plasticizer content yields a harder surface, higher heat resistance, greater rigidity, higher tensile strength, and better dimensional stability. Higher plasticizer content increases impact strength. Tenite™ cellulosic plastics are available in natural, clear, selected ambers or smoke transparents and black translucent. Color concentrates are available in let-down ratios from 10:1 to 40:1. Tenite™ Cellulose Acetate Propionate 371-08 contains a mold release and has a plasticizer level of 8%.

#### Typical Properties

Property <sup>a</sup>	Test <sup>b</sup> Method	Typical Value, Units <sup>c</sup>
-----------------------	--------------------------	-----------------------------------

Plasticizer		8%
Specific Gravity	D 792	1.21

#### Mechanical Properties

Tensile Stress @ Yield	D 638	39.0 MPa (5700 psi)
Tensile Stress @ Break	D 638	38.9 MPa (5700 psi)
Elongation @ Break	D 638	45%
Flexural Modulus	D 790	1758 MPa (2.55 x 10 <sup>5</sup> psi )
Flexural Yield Strength	D 790	52.0 MPa (7600 psi)
Rockwell Hardness, R Scale	D 785	92
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	214 J/m (4.0 ft·lbf/in.)
@ -40°C (-40°F)	D 256	91 J/m (1.7 ft·lbf/in.)

#### Thermal Properties

Deflection Temperature <sup>d</sup>		
@ 1.82 MPa (264 psi)	D 648	80°C (176°F)
@ 0.455 MPa (66 psi)	D 648	90°C (194°F)

Vicat Softening Temperature <sup>d</sup>

D 1525

105°C (221°F)

**Permanence Properties**

Water Absorption, 24 h immersion	D 570	1.6%
Soluble Matter Loss	D 570	0.1%
Weight Loss on Heating [72 hours @ 80°C (176°F)]	D 1562	0.4%

**Miscellaneous Propionate Properties**

Refractive Index, $n_D$	D 542	1.46-1.49
Light Transmission <sup>e</sup>	E 308	>90%
Haze <sup>e</sup>	D 1003	<8.5%
Specific Heat @ 23°C (73°F)	DSC	1.26-1.67 kJ/kg·K (0.301-0.399 Btu/lb·°F)
Thermal Conductivity	C 177	0.17-0.33 W/m·K (1.2-2.3 Btu·in./h·ft <sup>2</sup> ·°F )
Coefficient of Linear Thermal Expansion	D 696	11-17 x 10 <sup>-5</sup> /°C (mm/mm·°C) (6-9 x 10 <sup>-5</sup> /°F (in./in.·°F))
Mold Shrinkage	D 955	0.2-0.6%
Dielectric Strength	D 149	11.8-18.7 kV/mm (300-475 V/mil)
Dielectric Constant 1 MHz	D 150	3.3-3.8
Dissipation Factor 1 MHz	D 150	0.01-0.15
Volume Resistivity	D 257	10 <sup>13</sup> -10 <sup>15</sup> ohm·cm

<sup>a</sup> Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

<sup>b</sup> Unless noted otherwise, the test method is ASTM.

<sup>c</sup> Units are in SI or US customary units.

<sup>d</sup> Conditioned 4 hours @ 70°C (158°F)

<sup>e</sup> 1.52-mm (0.06-in.) thickness

**Characteristics**

Formula 371- mold release

**Comments**

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

*Eastman and its marketing affiliates shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability of fitness of any product, and nothing herein waives any of the Seller's conditions of sale.*

31-Jul-2007 2:40:29 PM