

For more information and technical assistance contact:

Chevron Phillips Chemical Company LP  
P.O. Box 4910  
The Woodlands, TX 77387-4910  
877.798.6666



## Ryton<sup>®</sup> R-7 Polyphenylene Sulfide Resins

Ryton<sup>®</sup> R-7 PPS is polyphenylene sulfide compounded with glass fibers and mineral fillers to produce an injection moldable high temperature engineering compound with the inherent cost savings of thermoplastics.

Nominal Engineering Properties <sup>(1)</sup>	R-7	R-7 02	Test Method
Tensile Strength, Ksi	21.0	20.0	ASTM D638
Elongation, %	1.0	0.9	ASTM D638
Flexural Strength, Ksi	31.0	29.0	ASTM D790
Flexural Modulus, Msi	2.4	2.4	ASTM D790
Notched Izod Impact, ft-lb/in, 1/8 in specimen	1.4	1.3	ASTM D256
Unnotched Izod Impact, ft-lb/in, 1/8 in specimen	5.0	4.5	ASTM D256
Compressive Strength, Ksi	37.0	37.0	ASTM D695
Heat Deflection Temperature 264 psi, °F <sup>(2)</sup>	>500	>500	ASTM D648
UL Temperature Index, °C	200 / 220	200 / 220	UL 746B
Coefficient of Linear Thermal Exp., X 10 <sup>6</sup> in/in °C			ASTM E831
Axial Direction, -50°C to 50°C	20	20	
Axial Direction, 100°C to 200°C	15	15	
Transverse Direction, -50°C to 50°C	30	30	
Transverse Direction, 100°C to 200°C	70	70	
Flammability Rating	V-0 / 5VA	V-0 / 5VA	UL 94
Thermal Conductivity, BTU in/hr ft <sup>2</sup> F	4.2	4.2	
Dielectric Strength, V/mil	450	450	ASTM D149
Dielectric Constant, 78° F			ASTM D150
1kHz	4.2	4.2	
1MHz	4.0	4.0	
Dissipation Factor, 78°F			ASTM D150
1 kHz	0.050	0.050	
1 MHz	0.010	0.010	
Volume Resistivity, ohm.cm	1 x 10 <sup>15</sup>	1 x 10 <sup>15</sup>	ASTM D257
Arc Resistance, sec	150	150	ASTM D495
Comparative Tracking Index, V	225	225	UL 746A
Insulation Resistance, ohm (90°C, 95% RH, 48 hr)	1 x 10 <sup>12</sup>	1 x 10 <sup>12</sup>	
Mold Shrinkage <sup>(3)</sup> in/in, Flow/Transverse	0.002 / 0.004	0.002 / 0.004	
Density, g/cc	1.90	1.90	ASTM D792
Water Absorption, %	0.02	0.02	ASTM D570
Color	Natural	Black	

(1) Test specimen molding conditions: Stock Temperature, 600 - 650° F; Mold Temperature, 275° F

(2) Annealed 2 hours at 400° F

(3) Measured on 4 in X 4 in X 1/8 in Plaques, Edge Gated

The nominal properties reported herein are typical of the product but do not reflect normal testing variances and therefore should not be used for specification purposes.

MSDS #440880

Revision Date January, 2005

Another quality product from



Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Chevron Phillips Chemical Company LP does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.

For more information and technical assistance contact:

Chevron Phillips Chemical Company LP  
P.O. Box 4910  
The Woodlands, TX 77387-4910  
877.798.6666



## Ryton® R-7 Polyphenylene Sulfide Resins

Ryton® R-7 PPS is polyphenylene sulfide compounded with glass fibers and mineral fillers to produce an injection moldable high temperature engineering compound with the inherent cost savings of thermoplastics.

Nominal Engineering Properties <sup>(5)</sup>	R-7	R-7 02	Method
Tensile Strength, MPa	140	135	ISO 527
Elongation, %	1.0	0.9	ISO 527
Flexural Strength, MPa	205	195	ISO 178
Flexural Modulus, GPa	16	16	ISO 178
Notched Izod Impact, kJ/m <sup>2</sup>	7.0	6.0	ISO 180A
Unnotched Izod Impact, kJ/m <sup>2</sup>	18	17	ISO 180A
Compressive Strength, MPa	255	255	ISO 604
Heat Deflection Temperature 1.8 MPa, °C <sup>(6)</sup>	>260	>260	ISO 75
UL Temperature Index, °C	200 / 220	200 / 220	UL 746B
Coefficient of Linear Thermal Exp., X 10 <sup>6</sup> in/in °C			ISO 11359-2
Axial Direction, -50°C to 50°C	20	20	
Axial Direction, 100°C to 200°C	15	15	
Transverse Direction, -50°C to 50°C	30	30	
Transverse Direction, 100°C to 200°C	70	70	
Flammability Rating	V-0 / 5VA	V-0 / 5VA	UL 94
Thermal Conductivity, W/m.K	0.60	0.60	
Dielectric Strength, kV/mm	18	18	ASTM D149
Dielectric Constant, 25°C			ASTM D150
1kHz	4.2	4.2	
1MHz	4.0	4.0	
Dissipation Factor, 25°C			ASTM D150
1 kHz	0.050	0.050	
1 MHz	0.010	0.010	
Volume Resistivity, ohm.cm	1 x 10 <sup>15</sup>	1 x 10 <sup>15</sup>	ASTM D257
Arc Resistance, sec	150	150	ASTM D495
Comparative Tracking Index, V	225	225	UL 746A
Insulation Resistance, ohm (90°C, 95% RH, 48 hr)	1 x 10 <sup>12</sup>	1 x 10 <sup>12</sup>	
Mold Shrinkage <sup>(7)</sup> m/m, Flow/Transverse	0.002 / 0.004	0.002 / 0.004	
Density, g/cc	1.90	1.90	ISO 1183A
Water Absorption, %	0.02	0.02	ASTM D570
Color	Natural	Black	

(5) Test specimen molding conditions: Stock Temperature, 315 - 345 ° F; Mold Temperature, 135 ° C

(6) Annealed 2 hours at 200° C

(7) Measured on 102 mm X 102 mm X 3.2 mm Plaques, Edge Gated

The nominal properties reported herein are typical of the product but do not reflect normal testing variances and therefore should not be used for specification purposes.

MSDS #440880

Revision Date January, 2005

Another quality product from



Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Chevron Phillips Chemical Company LP does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.