

# Technical Data Sheet

## Regalite™ UltraPure 7100 Hydrocarbon Resin

### Applications

- Hygiene adhesives
- Solvent borne packaging adhesives
- Waterborne hygiene adhesives

### Key Attributes

- Excellent heat stability
- Improved resistance to oxidation
- Low odor
- Low organic volatile content
- Low trace chemicals
- Water-white initial color

### Product Description

Regalite™ UltraPure 7100 hydrocarbon resin is a partially hydrogenated water-white thermoplastic resin with low targeted volatiles after aging, low odor, and low, stable amount of substances of interest as a function of aging temperature. Regalite UltraPure 7100 has improved color stability compared to the heritage grade with the same aromatic content and softening point. Like Regalite R7100, the unique balance of aliphatic-aromatic properties of the resin makes it an excellent tackifier in hot melt adhesives based on SBS block copolymers, providing excellent color retention upon aging.

### Typical Properties

Property	Test Method	Typical Value, Units
<b>General</b>		
Ring and Ball Softening Point	ASTM D 6493	102 °C
Odor <sup>a</sup>		
Styrene		<0.05 ppm
Color, Hunterlab b <sup>b</sup>		
5 cm path length		1.5
Color, Gardner <sup>b</sup>	ASTM D6166	<1
24 hours @ 175°C		3
Density @ 25°C		1.03 kg/dm <sup>3</sup>
Cloudpoint, MMAP <sup>c</sup>		66 °C
Molecular Weight <sup>d</sup>		
M <sub>z</sub>		1400
M <sub>w</sub>		900
M <sub>n</sub>		600
M <sub>w</sub> /M <sub>n</sub>		1.5
Melt Viscosity, Brookfield Thermosel		
@ 140°C		3100 cP (mPa·s)
@ 160°C		550 cP (mPa·s)
@ 180°C		120 cP (mPa·s)
Glass Transition Temperature (T <sub>g</sub> ) <sup>e</sup>		49 °C

<sup>a</sup>Measured by HS-GC-MS/SIM after 30 minutes at 190°C. Eastman method.

<sup>b</sup>50% resin solids in toluene

<sup>c</sup>MMAP cloud point temperature from 1:2 mixture of methylcyclohexane and aniline. Eastman method.

<sup>d</sup>Molecular weight measured via Gel Permeation Chromatography (GPC) using polystyrene standards, elution with THF.

<sup>e</sup>Glass transition temperature by differential scanning calorimetry, 20°C/min.

## Compatibility and Solubility

Regalite™ UltraPure 7100 hydrocarbon resin is a partially hydrogenated, water-white resin with a unique balance of aliphatic-aromatic properties. This characteristic provides the resin with excellent tackification properties in SBS (styrene-butadiene-styrene) block copolymers whilst retaining high cohesive strength in the hot melt adhesive, due to the resin's low affinity for the styrene end-block in the block copolymer. Regalite UltraPure 7100 hydrocarbon resin has an excellent resistance to thermal and oxidative degradation. The resin also provides for low melt viscosities in hot melt adhesives due to its molecular weight and structure, making it an ideal choice for sprayable adhesives. The polar characteristic of Regalite UltraPure 7100 hydrocarbon resin, due to its unique structure, results in excellent adhesion to low surface energy substrates such as polyethylene.

Soluble at all useful proportions in aliphatic, aromatic, and chlorinated hydrocarbons. Insoluble in alcohols and water.

Compatible at all ratios, or in limited but practically useful proportions, with SBS (styrene-butadiene-styrene) block copolymers, SIS (styrene-isoprene-styrene) block copolymers, SBR (styrene butadiene rubber), and EVA (ethylene-vinyl acetate).

## Packaging

Regalite™ UltraPure 7100 hydrocarbon resin is pastillated, packed in polyethylene bags of 20 kg net, and supplied on shrink-wrapped pallets of 50 bags (1000 kg) each, from Eastman's facilities in the Netherlands and from warehouses located in Europe.

## Storage

Due to the thermoplastic behavior, pastillated and flaked resins may fuse, block or lump. This can be accelerated under any of the following conditions: 1) above ambient temperature 2) prolonged storage 3) pressure, e.g. stacking pallets, or a combination of these conditions. This is particularly applicable for low softening point resin grades.

In order to maintain the flake or pastille shape, we recommend storing the material in a temperature-controlled area; be careful with stacking material or applying pressure and preventing prolonged storage. It should be noted that lumping does not have a negative impact on the product specifications. Due to the nature of the product, claims regarding lumping cannot be accepted.

Resins are prone to gradual oxidation, some more so than others. This could result in darkening and/or it could have an adverse effect on the solubility of the resin in organic solvents or on its compatibility with polymers. Accordingly, it is recommended that strict control of inventory be observed at all times, taking care that the oldest material is used first.

Regalite UltraPure 7100 hydrocarbon resin material will remain within product specification limits, as mentioned in the sales specification sheet, for a period of at least twelve months after shipment from Eastman's production facilities in the Netherlands, provided storage conditions outlined in this data sheet are observed. However, as we can neither anticipate the conditions under which the resin is processed nor the end use applications for which it is used, we recommend that the material be tested upon receipt.

## 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.

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