

# Technical Data Sheet

## Kristalex™ F100 Hydrocarbon Resin

### Applications

- Adhesives/sealants-b&c
- Bookbinding
- Carpet construction
- Case & carton sealing closings
- Casting wax
- Commercial printing inks
- Concrete
- Film modification
- Hygiene adhesives
- Labels non food contact
- Marine
- Packaging components non food contact
- Packaging tape
- Polymer modification
- Protective coatings
- Roofing
- Solvent borne packaging adhesives
- Specialty tape
- Tape non food contact
- Tires

### Key Attributes

- Excellent thermal stability
- Intermediate softening point
- Made from purified aromatic monomers
- Water-white initial color

### Product Description

Kristalex™ F100 Hydrocarbon Resin is a water-clear, color stable, low molecular weight thermoplastic hydrocarbon polymer. Based on purified 8 - 9 carbon aromatic monomers, this resin is indicated for use in plastics modification, hot melt adhesives and coatings, sealants and caulks. Kristalex™ F100 is compatible with a wide variety of oils, waxes, alkyds, plastics, and elastomers, and is soluble in many common organic solvents. In EVA-based hot melt adhesives Kristalex™ F100 is compatible with EVA grades with up to 18% vinyl acetate and is useful in formulating low-color adhesives with good low temperature properties. In styrenic block copolymer based adhesives Kristalex™ F100 preferentially associates with the styrenic endblocks, producing higher room-temperature cohesion without affecting tack and adhesion properties.

### Typical Properties

Property <sup>a</sup>	Test Method <sup>b</sup>	Typical Value, Units <sup>c</sup>
<b>General</b>		
Ring and Ball Softening Point	ASTM E 28	98 °C
Color, Gardner <sup>f</sup>	ASTM D 6166	<1
Color <sup>d</sup>		
24 hours @ 177°C		2
Hunterlab b, 5 cm path length		1.8
Bromine Number		7 g/100g
Density		
@ 25°C		1.06 kg/dm <sup>3</sup>
Molecular Weight <sup>g</sup>		
M <sub>n</sub>		920
M <sub>w</sub>		1300
M <sub>w</sub> /M <sub>n</sub>		1.6
M <sub>z</sub>		2100
Melt Viscosity		

@ 120°C	37000 cP
@ 140°C	3700 cP
@ 160°C	760 cP
Glass Transition Temperature (T <sub>g</sub> ) <sup>e</sup>	53 °C

<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>50% resin solids in toluene

<sup>e</sup>Glass transition temperature by differential scanning calorimetry.

<sup>f</sup>50% in toluene.

<sup>g</sup>Molecular weight, z-average from gel permeation chromatography, elution with THF.

## Compatibility and Solubility

Compatible at all ratios, or in limited but practically useful proportions, with a wide variety of materials such as SBR and Styrene based block copolymers, neoprene, nitrile, polybutadiene, acrylic polymers, chlorinated rubber, EVA resins (ethylenevinyl acetate copolymers), styrenated alkyds, vinylated alkyds, drying oil alkyds, rosin ester resins.

Soluble in aliphatic hydrocarbons, aromatic hydrocarbons, chlorinated hydrocarbons, esters and ketones. Insoluble in alcohols, glycols. Limited solubility in nitroparaffins.

Solubility Parameters, minimum 20% resin concentration. 7.2-11.1 in Class I solvents - weakly hydrogen-bonded; 6.9-12.6 in Class II solvents - moderately hydrogen-bonded; Insoluble in Class III solvents - strongly hydrogen-bonded.

## Packaging

Kristalex™ F100 Hydrocarbon Resin is pastillated and packed in polyethylene bags of 25 kg net, and supplied on shrink-wrapped pallets of 40 bags (1000 kg) each, from Eastman 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 therefore 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.

Kristalex™ F100 Hydrocarbon Resin material will remain within product specification limits, as mentioned under the heading "Product Specifications", for a period of at least twelve months after shipment from Eastman 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.

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