TECHNICAL DATA SHEET

KRISTALEX™ 5140
Hydrocarbon Resin

KRISTALEX™ 5140 Hydrocarbon Resin is a high softening point, low molecular weight resin produced by copolymerization of pure aromatic monomers. It is designed primarily for use as a modifier resin in high performance adhesives and coating compositions. In these applications, its water-white color, heat stability, and resistance to oxidation and discoloration are used to advantage.

In EVA-based hot melt adhesives, KRISTALEX™ 5140 Hydrocarbon Resin has useful compatibility with EVA grades with 20%-40% vinyl acetate and is useful in formulating low-color adhesives with improved high temperature resistance. In styrenic block copolymer-based adhesives, KRISTALEX™ 5140 Hydrocarbon Resin preferentially associates with the styrenic endblocks, producing higher cohesion at temperatures up to 70°C without affecting tack and adhesion properties.

- Excellent thermal stability
- High softening point
- High temperature resistance
- Made from purified aromatic monomers
- Water-white initial color

For further information regarding this product please refer to:

Synthomer Adhesive Technologies

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Property	Typical Value	Unit	Method[1]
Ring and Ball Softening Point	140	°C	ASTM E 28
Color, Yellowness Index	6		ASTM E 313, 50% solids in toluene
MMAP cloud point	10	°C	from 1:2 mixture of methylcyclohexane and aniline
OMS (odorless mineral spirits) cloud point	>180	°C	from Stoddard solvent
Molecular Weight, Mn	1690	g/mol	GPC using polystyrene standards, elution with THF
Molecular Weight, Mw	4750	g/mol	
Molecular Weight, Mz	9260	g/mol	
Polydispersity (Mw/Mn)	2.8		
Melt Viscosity at 160°C	1000	poise	Brookfield
Melt Viscosity at 180°C	100	poise	
Melt Viscosity at 220°C	10	poise	
Glass Transition Temperature (Tg-midpoint)	90	°C	DSC, 20°C/minute

[1] internal method based upon the specified norm

Applications

Adhesives, Assembly, Carpet, Caulks and Sealants, Film Modification, Graphic inks, Hygiene Adhesives, Labels, Other coatings, Plastic Modification, Roofing, Specialty Tapes, Packaging Tapes, Wax Modification, Packaging

Compatibility and Solubility

Compatible in useful proportions with chlorinated paraffins, polystyrene, rosin and modified rosins, rosin ester, styrene-butadiene rubber (SBR) and SBR block copolymers, polyvinylchloride (PVC), acrylonitrile-butadiene-styrene (ABS), as well as modifying the styrenic

endblocks of all styrene-containing block copolymers.

Soluble in aromatic and chlorinated hydrocarbons, esters, and ketones. Insoluble in aliphatic hydrocarbons; alcohols and glycols. Limited solubility in nitroparaffins. For low or zero VOC systems KRISTALEX™ 5140 Hydrocarbon Resin is soluble in the VOC exempt solvents acetone, methyl acetate, t-butyl acetate (TBA) and perchlorobenzenetetrafluoride (PCBTF) and will tolerate some acetone and/or methyl acetate as a diluent in solvent systems based on TBA and/or PCBTF. VOC exemptions and environmental regulations vary regionally and compliance with local standards should be verified before any claims about VOC content are made.

Packaging

Pastilles in multi-wall paper bags (50 lbs, 22.7 kg net wt).

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.

The useful life of this product can be affected by storage and handling conditions. When stored in the original unopened container in an enclosed area and protected from moisture, extreme temperatures and contamination, the shelf life of this product is estimated to continue to meet applicable sales specifications for 3 years from the date of manufacture. Shelf life is a guide not an absolute value. The product should be reanalyzed for critical properties at the end of its shelf life to see if it meets specification for use.

Comments

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