Lion Elastomers LLC

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Trilene® Elastomers **Product Data**

Trilene 65D *(Developmental)*

Description

Trilene 65D is an Ethylene-Propylene-Dicyclopentadiene elastomer dispersed and stabilized in water. It is randomly polymerized to produce a polyolefinic polymer with a stable, saturated hydrocarbon backbone and side group unsaturation to enable crosslinking. It has excellent thermal and oxidation stability under normal conditions. Trilene 65D can be used in a variety of water-based applications such as coatings, adhesives, inks, caulks and sealants.

Unique Features

- Excellent UV, heat, oxidation and chemical stability
- Good mechanical strength
- Manageable viscosity at room temperature
- Low odor and water clean-up
- Crosslinked with metal driers, peroxides, or UV light
- Compatible with a variety of other latex resins

Applications

- *Industrial Coatings:* Primary binder or modifier for applications such as roofing, industrial maintenance and institutional paints
- *Adhesives & sealants:* Primary binder or modifier for applications such as pressure sensitive adhesives and industrial caulks
- *Inks & overprint varnishes:* Modifier for applications in laminating inks and overprint varnishes

Typical Properties

Property	Standard	Typical Value
Appearance	Visual	Milky white
Weight solids (%) in water	ASTM D3960	46
Brookfield Viscosity (cP @ 25˚C)	ASTM D2196	14,000
pH Value (@ 25˚C)	ASTM D7946	8.0
Specific Gravity (g/cc) (@ 25˚C)	ASTM D4052	0.90
M_n	GPC*	11,300
M_w	GPC*	47,000
Propylene Content (wt. %)	ZS 1231**	50
Degree of unsaturation (wt. % diene)	ZS 1222**	10.0
Diene type		DCPD***

*Gel Permeation Chromatography **Lion Elastomers' test method *** Dicyclopentadiene

Product Uses

Trilene 65D can be used in a variety of water-based applications such as coatings, adhesives, inks, caulks and sealants. A developmental coating starting point formulation follows;

Starting Point Formulation		Weight (grams)
Trilene 65D		380.69
Ti-Pure™ R-706		44.77
Deionized(DI) H_2O		38.08
DISPERBYK® 2055		0.91
SR350		11.42
Mineral spirits		19.03
Ricon® 156		3.81
10% Cobalt Hydro-Cure® IV		0.53
12% Zirconium Hydro-Cem		0.76
	Total	**500.0**

Mix water, dispersant, and TiO_2 until dispersed. Mix Mineral Spirits, Ricon, and SR350 until homogeneous, then add and mix Trilene 65D. Combine TiO_2 and resin mixtures. Add driers last.

Peroxide (e.g. Peroxan® PIN) can be added to further accelerate cure, making it a 2K system.

Developmental formulation characteristics

Property	Method	Result*
VOC, lb/gal (g/l)	ASTM D3960	0.32 (38)
Solids, wt. %	ASTM D3960	48
Specific gravity	ASTM D1475	1.02
Viscosity@ 25°C, Brookfield, cP	ASTM D2196	11,000
Dry-to-touch, hrs	ASTM D1640	8
Dry-to-handle, hrs	ASTM D1640	13
Impact Strength, in-lb	ASTM D2794	>90
Crosshatch Adhesion, CRS	ASTM D3359	5B
Hardness, Pencil (7 day)	ASTM D3363	3B

* No peroxide added

Storage and Handling Temperatures

Trilene 65D is a moderately viscous EPDM elastomer in water and can be handled at room temperature. For storage and handling purposes, the following temperatures are recommended:

Storage and Handling
5°C (40°F) to 90°C (195°F)

Product should be protected from freezing.

Health and Safety

Trilene elastomers exhibit an extremely low level of dermal, oral and inhalation toxicity, as well as, low eye irritation. For more detailed information request a SDS for this product.

Trilene 65D complies with FDA 21 CFR §175.105 for adhesive applications intended for use in repeated indirect contact with food.