CRAYAMID®

TECHNICAL DATA SHEET

CRAYAMID® 946

Thermoplastic polyamide

PRODUCT APPLICATION DETAILS

CRAYAMID 946 is a thermoplastic polyamide that will impart a high level of thixotropy to alkyds and other oil based media.

SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Viscosity (REL @ 175°C, 2500s-1)	800 - 1200 mPa.s	ISO 3219
Color (35g resin in 65g of 1:1 toluene:n-Butanol)	9 max Gardner	ISO 4630
Acid value	7 max mg KOH/g	ISO 2114
Amine value	7 max mg KOH/g	CVI 046

OTHER CHARACTERISTICS[1]

	CHARACTERISTICS	METHODS
Soft point (Ball and Ring)	105 - 115 °C	CV1.3.6.1

[1]The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

MARKETS & APPLICATIONS

COATINGS & INKS

- INDUSTRIAL COATING

PERFORMANCE BENEFITS

- CRAYAMID 946 is a thermoplastic polyamide that will impart a high level of thixotropy to alkyds and other oil based media.

CRAYAMID® 946

FORMULATION GUIDELINES

CRAYAMID 946 is used where high gel strength, elastic products with good flow and levelling are required.
The advantages of thixotropy are: prevention of in-can pigment settlement easy breakdown on brushing to give good application properties higher film thickness without sagging balanced flow and levelling characteristics Some of these properties can be achieved using structuring additives. However such products are pseudo- plastic in nature with a rapid recovery in structure after the removal of shearing forces. This leads to poor flow and levelling characteristics.
The truly thixotropic nature of polyamide modified alkyds enables the formulation of coatings with good flow and levelling combined with good sag control.
Thixotropy is imparted when CRAYAMID 946 is reacted into an alkyd at high temperatures. The reactions that take place are a complex series of ester -amide interchanges which modify both the CRAYAMID 946 and the alkyd. Amide-amide and amide-hydroxyl hydrogen bonds impart the final thixotropy.
Factors influencing thixotropic nature *Acid value of alkyd *Hydroxyl value of alkyd *Molecular weight of the alkyd *Temperature of reaction *Time of reaction *Level of CRAYAMID 946 The recommended level of CRAYAMID 946 is 3 - 7% by weight on solid resin content. A typical alkyd would have an acid value of 8-12 mgKOH/g, a hydroxyl value in the range 50 -70 mgKOH/g and a viscosity of 200 - 500 mPa.s (measured as The information contained in this document is based on trials carried out by our Technical centres and data selected from literature, but shall in no event be held or constitute or imply any warranty or undertaking, expressed or implied, or commitment on our part. Our formal specifications define the limit of our commitment. No liability whatsoever can be accepted by ARKEMA with regard to the handling, processing or use of the product or products concerned which must in all cases be employed in accordance with all relevant laws and/or regulations in force in the country or countries concerned.
Arkema Coating Resins 420, rue d'Estienne d'Orves F-92705 - Colombes Cedex - France www.arkema.com a 50% solution in white spirit at 25°C). The ester-amide interchange reactions are carried out at temperatures between 210°C and 240°C .
As the reactions proceed the solubility of the CRAYAMID 946 modified alkyd, as measured as a 40% solution in white spirit, increases until eventually a clear solution is obtained. This is considered to be the optimum with respect to obtaining maximum gel strength from CRAYAMID 946. This reaction will normally take 2 -3 hours but of course will be dependent upon the characteristics of the alkyd. The higher the acid value the quicker the reaction time to achieve a clear solution.
Prolonged reaction after the clear point will result in a rapid decrease in gel strength.
SOLUBILITY
Thixotropic resins produced from CRAYAMID 946 are soluble in aliphatic hydrocarbons such as white spirit and low aromatic white spirits. These also maximise the level of structure. The use of hydroxyl containing solvents and other hydrocarbon solvents with Kauri -Butanol values above 50 must be avoided or thixotropy will be destroyed.
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PRODUCT SAFETY

Please refer to the corresponding Safety Data Sheet

STORAGE AND HANDLING

CRAYAMID® 946 CRAYAMID 946 should be stored indoors in the original, unopened and undamaged container, in a dry place at a temperature not exceeding 30°C. Exposure to direct sunlight should be avoided.
Shelf Life (Months): 12

Arkema Coating Resins
410 Gregson Dr.
Cary, NC 27511 – USA
T +1 919 469 6700

Headquarters: Arkema France
51, Esplanade du Général de Gaulle
92800 Puteaux – France
T +33 (0)1 49 00 80 80

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