

K-SPERSE[®] A503

Polymeric Pigment Dispersant



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K-SPERSE A503 is a polymeric dispersant designed for use in solvent based coatings, inks and pigment concentrates. It is supplied at 40% active in butyl acetate.

ADVANTAGES:

- Lower pigment paste viscosity
- High pigment loading
- Does not require a synergist
- Excellent color development and high gloss
- Better clarity of transparent pigments
- Improved jetness and viscosity stability of carbon black dispersions
- Little or no effect on the cure of amino resins or isocyanates
- Compatible with a wide variety of resin systems

TYPICAL PROPERTIES:	Appearance	Clear, yellow liquid
	% Active	40
	Volatile	Butyl acetate
	Specific gravity, 25°C	0.94

SOLUBILITY: Soluble in ketones, esters, ethers, aromatic hydrocarbons and butanol. Partially soluble in aliphatic hydrocarbons, isopropanol, and ethanol. Insoluble in water.

APPLICATIONS: K-SPERSE A503 is recommended for organic and inorganic pigments in a wide variety of solvent based resins, including alkyds, acrylics, polyesters, polyurethanes and aldehydes. It is especially effective for pigments with high surface areas, such as high color carbon blacks, phthalocyanine blue and quinacridone and perylene reds.

TYPICAL USAGE LEVELS:

For high color carbon black:
Weight % dispersant on pigment weight = pigment surface area(m²/g) x 0.36

For other pigments:
Weight % dispersant on pigment weight = pigment surface area(m²/g) x 0.83

It is strongly recommended that a ladder study be run, since the optimum level of dispersant depends on the type of pigment, resin and solvent used in each specific formulation.

INCORPORATION: K-SPERSE A503 should be mixed into the mill base prior to pigment addition.

SHELF LIFE: 12 months from the date of manufacture, when stored at ambient conditions in the original container.

HANDLING & STORAGE: K-SPERSE A503 is classified as a flammable liquid. Safe handling of this product should include the use of safety glasses and gloves. Avoid breathing vapors, use with adequate ventilation. Refer to MSDS for detailed information.

This product may crystallize after prolonged storage at temperatures below 5° C. If crystallization occurs, the product can be restored to a liquid by warming to 20° C.

REGULATORY: Please refer to Section 15 of the Material Safety Data Sheet for information.

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Suggested Millbase Formulations

Listed below are suggested millbase formulations incorporating K-SPERSE® A503 with several organic and inorganic pigments.

Pigment	Color Index Name	% Pigment	% Resin* (solids)	% Solvent**	% K-SPERSE A503
High Color Carbon Black MONARCH® 1300, FW-200	PBK7	15	12	43	30
Medium Color Carbon Black REGAL® 400R	PBK7	30	12.5	40.3	17.2
Phthalocyanine Blue SUNFAST® 249-0535	PB15:4	40	21	23	16
Iron Blue Lansco Milori Blue 5000	PB27	45	11.2	32.8	11
Indanthrone Blue IRGAZIN® Blue A3RN	PB60	40	10.5	25.3	24.2
Titanium Dioxide Ti-PURE® R900	PW6	79	3.7	13.6	3.7
Titanium Dioxide Ti-PURE® R960	PW6	80	3.8	13.7	2.5
Quinacridone Red HOSTAPERM® E5B-02	PV19	32	18	34	16
Red Iron Oxide Heubach HF 40mf	PR101	70	5.7	20.6	3.7
Transparent Red Iron Oxide SICOTRANS® Red 2817	PR101	35	11.6	35.9	17.5
Perylene Maroon PALIOGEN® L-3920	PR179	20	22	44	14
Perylene Maroon Perrinido Maroon R-6436	PR179	20	22	38	20
Quinacridone Red MONASTRAL® Magenta RT243D	PR202	42	9.3	26.3	22.4
Quinacridone Red MONASTRAL RT343D	PR202	42	9.3	26.3	22.4
Diketo-pyrrolo-pyrrole Red IRGAZIN DPP Red BO	PR254	50	9.4	34.3	6.3
Yellow Iron Oxide Heubach HX 140mf	PY42	70	6.3	21.1	2.6
Diarylide Yellow NOVAPERM® Yellow HR 70	PY83	25	14.8	57.4	2.8
Benzimidazolone Yellow HOSTAPERM Yellow H3G	PY154	50	9.6	35.5	4.5
Bismuth Vanadate Yellow SICOPAL® Yellow L1100	PY184	70	7.5	19	3.5
Benzimidazolone Orange NOVAPERM Orange HL 70	PO36	30	13.1	45.7	11.2
Chromium Oxide Green HEUCODUR® Green HD6060	PG17	70	4.4	22.6	3

*Resins tested: POLYMAC® HS 57-5776¹, JONCRYL® 500², LARAPOL® A 81³, and PARALOID® DM-55⁴.

** Solvent: Butyl acetate and/or PM acetate

RESIN SUPPLIER REFERENCE	
1. Hexion Specialty Chemicals	3. BASF Corp.
2. Johnson Polymer	4. Rohm & Haas Corp.