ZetaSperse® 2500
Pigment Dispersing Additive

Introduction

ZetaSperse 2500 pigment dispersing additive is designed to wet, disperse, and stabilize a variety of organic pigment chemistries, with exceptional performance on metal salt red types such as lithol rubine (PR57:1). ZetaSperse 2500 additive offers an optimized combination of wetting and stabilization mechanisms for aqueous systems and can be used with resin or resin-free systems. ZetaSperse 2500 additive is best suited for the following pigment chemistries: Red Lakes (PR57:x, PR48:x, PR49:x and others) and most organic pigments classes.

Advantages

- Excellent dispersion stability
  – Stable viscosities over long-term/heat aging
- Increased color development
- Robust color and dispersion stability in letdown with shock resistance
- Free from APEs, solvents, glycols and HAPS

Typical Properties

Actives, wt %	40%
Inactives	water
Appearance/form	clear liquid
Color	straw
Pour point	10˚C
Viscosity, 25˚C	500 cps
VOC measures	
Directive 2004/42/CE	none
EPA method 24	<0.5

Global Registrations

ZetaSperse 2500 additive is currently on the following regulatory lists:

EINECS (EU)
ENCS (Japan)
TSCA (USA)
ECL (South Korea)
SEPA (China)
AICS (Australia)

Applications are in progress for listing on additional inventories. Please contact your local Air Products representative for the most recent information.

Use and Dosage

ZetaSperse 2500 additive is suitable for aqueous pigment dispersions. Table 1 shows a representative list of resin-free starting point formulations based on common commercial pigments. Please contact us for specific product recommendations.

The performance benefits of ZetaSperse 2500 additive are optimal in resin-free grinds, but comparable benefits can also be achieved in resinated systems. For use with resins, we recommend milling with Z-2500 and as little grind resin as possible. The remaining resin in the formulation should be added after the bulk of the milling has been completed. This methodology optimizes the benefits of Z-2500 by limiting competitive interactions with the resin on the pigment surface.

Table 1

Resin-free model formulations based on common commercial pigments

Pigment	Symuler Red 219350D	Sunbrite 211-4620	Sunbrite 48:4 234-0485	Novoperm Yellow 5GD70	Quindo Magenta 228-6828
Color Index	PR57:1	PR49:2	PR48:4	PY155	PR122
Supplier	Sun	Sun	Sun	Clariant	Sun
Pigment, wt %	35	35	35	40	30
ZetaSperse 2500 dispersant, wt %	15.5	12.5	12.5	10.0	13.5
Surfynol® defoamer,* wt %	0.5	0.5	0.5	0.5	0.5
Water (remainder)	49	52	52	49.5	56.0

*recommended defoamer: Surfynol DF-58 (silicone-based, 0.2–0.5% use level), DF-75 (oil-based, 0.5–1.0% use level), or DF-110D (acetylenic-based, 0.5–1.0% use level) defoamers

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