

**DOXA**

CHEMISTRY ENVISIONED

**SPREDOX D-364 FOR SOLVENT-BASED INKJET**

# Product Introduction

- **Spredox D-364** is a 100% active polymeric dispersant developed for solvent based inkjet systems. It shows outstanding performance grinding carbon black as well as organic pigments with excellent cutting viscosity, enhancing color properties, improving storage stability and wide range of resin compatibility.

## Specification

Appearance	Yellow-brown viscous liquid
Acid value	10-15
Amide value	70-80
Active content	100%

# Evaluate D-364 in Eco Solvent system

- EVALUATION of DISPERSING EFFECT AND STABILITY IN INKJET APPLICATION

# Test formulation - Millbase

	%
Dispersant	6.0
synergist( Solsperse 22000)	1.0
Diethylene glycol diethyl ether	78.0
Yellow 150	15.0
Total	100.0

	%
Dispersant	7.2
synergist( Solsperse 5000)	0.5
Diethylene glycol diethyl ether	72.3
Blue 15:4	20.0
Total	100.0

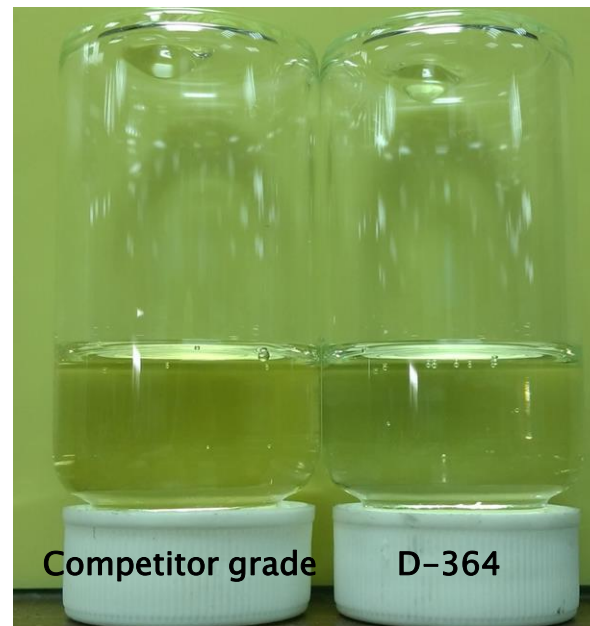
	%
Dispersant	6.0
synergist( Solsperse 22000)	0.5
Diethylene glycol diethyl ether	78.5
Red 122	15.0
Total	100.0

	%
Dispersant	12.0
synergist( Solsperse 5000)	0.5
Diethylene glycol diethyl ether	67.5
Black 7	20.0
Total	100.0

# Test result- Compatibility

## Test Formulation

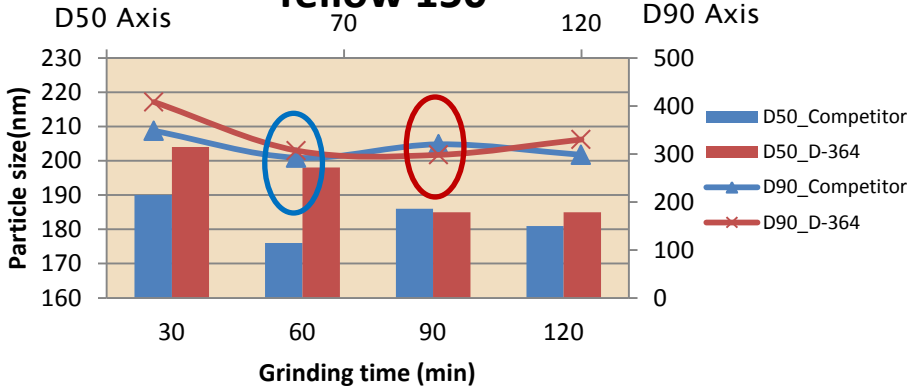
	%
Dispersant	5.0
Diethylene glycol diethyl ether	30.0
Diethylene glycol methyl ethyl ether	49.0
Resin A (Acrylic)	3.0
Resin B (Vinyl)	3.0
Total	90



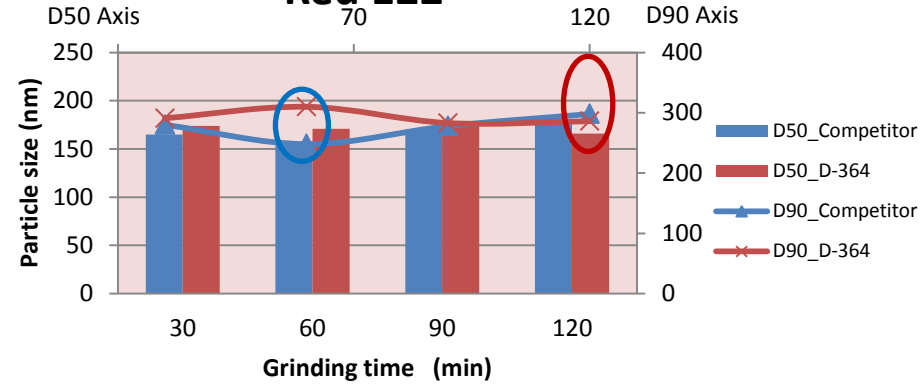
**Compatible with this system**

# Test result- Particle size

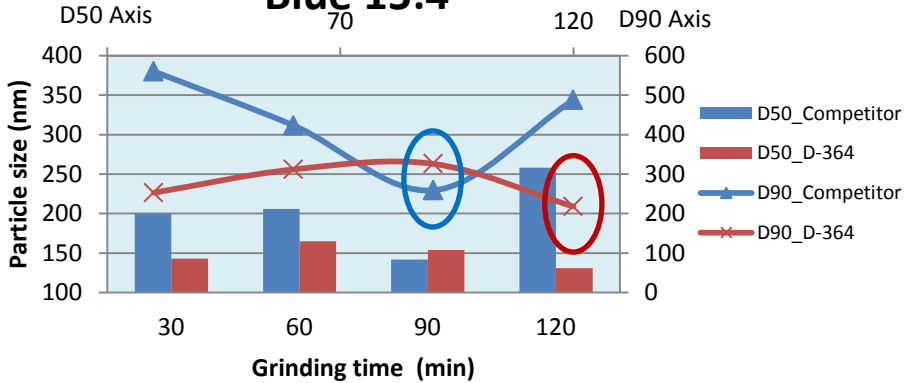
## Yellow 150



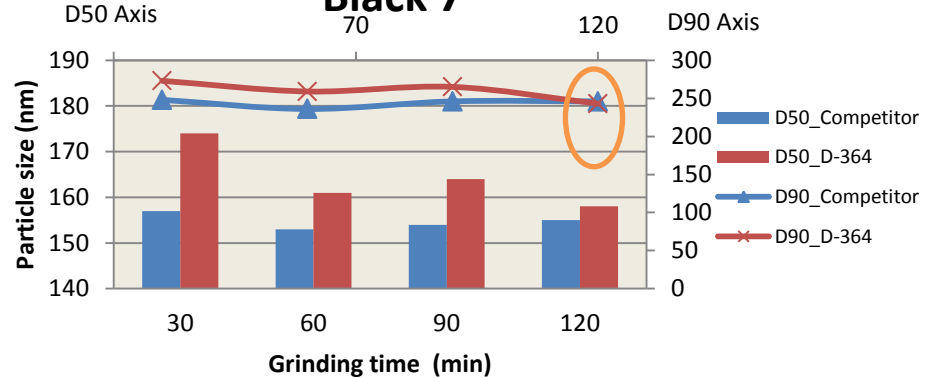
## Red 122



## Blue 15:4

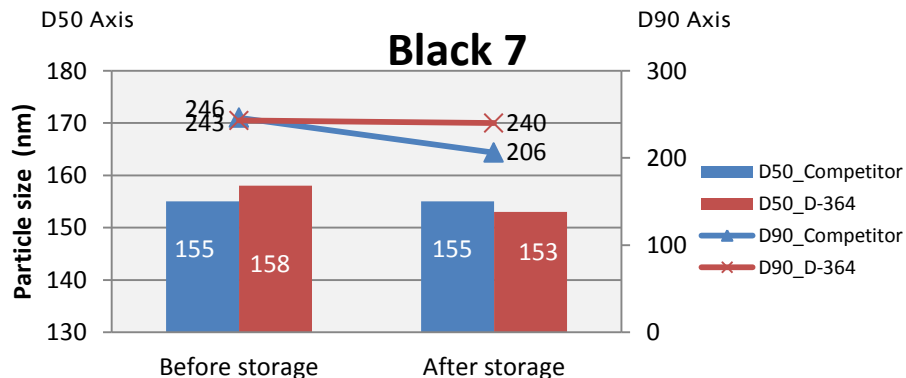
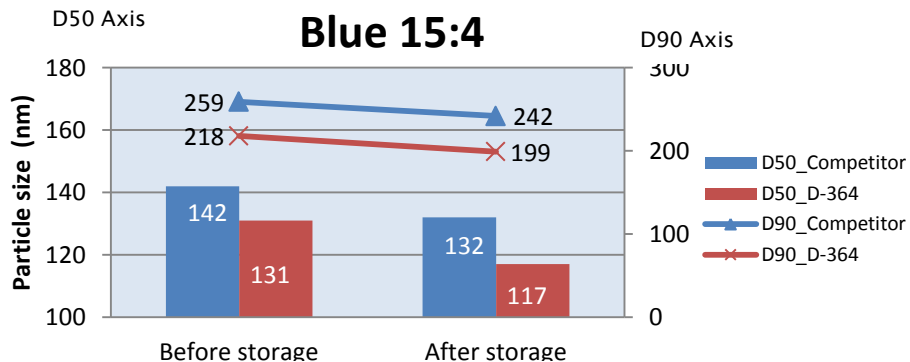
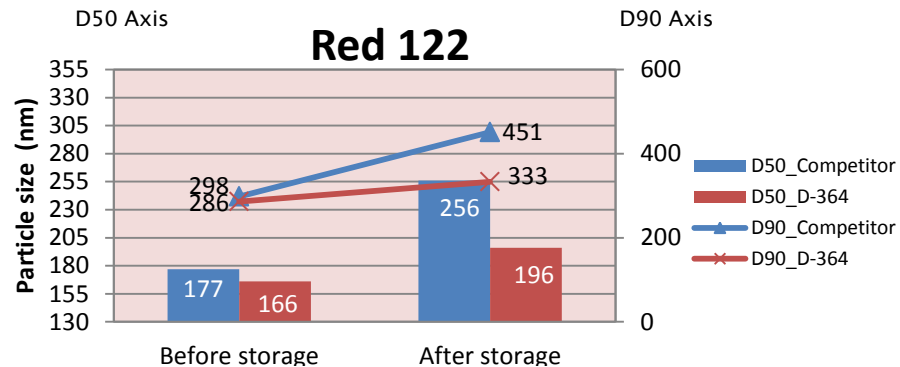
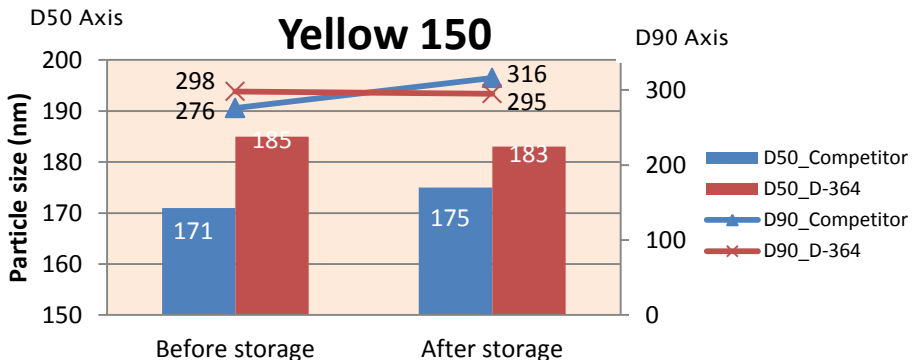


## Black 7



From the D90 reading we could tell D-364 doesn't provide significant particle size reduction once reaches certain time, and it can tolerant longer grinding time and keep a stable particle size

# Test result - Stability (80 °C , 7 days)



With Red 122 and Yellow 150, Spredox D-364 provides better long term stability than competitor's product. In this case, no significant difference have been found in Blue 15:4 and Black 7.

# Other reference-Oven stability (Viscosity)

Yellow 150		After grinding	Storage 3 days	Storage 7 days
Viscosity (cps)	D-364	3.6	3.79	2.59
	Competitor	5.21	5.56	6.65
Red 122		After grinding	Storage 3 days	Storage 7 days
Viscosity (cps)	D-364	6.19	7.47	5.94
	Competitor	7.99	21.04	26.54
Black 7		After grinding	Storage 3 days	Storage 7 days
Viscosity (cps)	D-364	7.66	5.78	3.91
	Competitor	16.90	5.89	4.25
Blue 15:4		After grinding	Storage 3 days	Storage 7 days
Viscosity (cps)	D-364	21.07	16.43	14.93
	Competitor	17.77	17.83	12.52

\* Storage at 80 degree Celsius



# Results and Discussion

Spredox D-364 provides excellent oven stability (long-term stability) and short-term stability (it provides more steadily steric hindrance to avoid particle aggregation as grinding time increase than competitor's product) , especially with Blue 15:4. There are no significant changes in the particle size even under thermal storage condition. Hence we highly recommend to use Spredox D-364 in Eco solvent system.