



SANHO CHEMICAL CO., LTD.

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TOHMIDE 92

TOHMIDE 92 is fatty polyamide resin especially designed for the flexographic printing ink uses. One of the major characteristics of TOHMIDE 92 is the high water resistance of the ink films based on this resin in spite of its good solubility in alcoholic solvents.

1. TYPICAL ANALYSIS

Appearance	: Brown Yellow Pellets
Softening Point (Ball and Ring/°C)	: 120±5
Viscosity (Gardner-Holdt/25°C)	: *C ~ F
Colour (Gardner)	: *10 Max
Acid Value (mg-KOH / gm)	: 7 Max
Amine Value (mg-KOH / gm)	: 5 Max

*The solution viscosity of TOHMIDE 92 are of 50% solution in Isopropanol

2. SOUBILITY

Solvent	Resin content (%)	Solution Viscosity (Gardner-Holdt)	(a) solution stability		(b) Gel recovery (minutes)
			at 20°C	at 10°C	
Ethanol.99.5%	40	A>	S	G	20
Ethanol. 99.5%	50	A-	S	G	30
Ethanol. 99.0%	60	E-F	S	SG	10
n-propanol	40	A>	S	S	-
Iso Propanol	40	A>	S	S	-
Isopropanol/Toluene =1 : 1	40	A>	S	S	-

** (A) Solution stability : Each sample solution, after once completely dissolved, was left standing overnight at the designated temperatures, and then was observed.

S : stable, SG : soft gelled, G : gelled

** (b) Gel recovery : Time(in minutes) needed for each of the once gelled-up solution to fully recover fluidity at 25°C.

3. INK TEST

(1) Ink Formulation :

Polyamide resin	: 12.0 Parts by Weight
Phthalocyanineblue pigment	: 7.5
Nitrocellulose. "L-1/8 sec."(=30% wetted by isopropanol)	: 3.0
Isopropanol	: 27.0
Ethyl-acetate	: 1.5



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Ethyleneglyool - monoethylether : 1.5
Total : 52.5

About formulation was prepared to ink by a ball milling.

(2) Test Results : (Polyamide resin used :)

TOHMIDE 92		Polyamide A	Polyamide B
Water Resistance	*(c) Good	Fair	Fair
Oil Resistance	*(d) Good	Fair	GOOD
Heath (-Sealing)	*(e) G00d	Good	Good
Resistance	-Face to face Good	Good	Good
Antil Blocking Test * (f)	-Face to back Fair	Poor	Fair

(3) Testing Conditions :

Water resistance : Each sample ink was printed onto an treated polyethylene film. The sample print was then immersed in tap water for 16 hours at room temperature. Afterwards the ink film was subjected to "Scotch Tape-Test" with the excess water wiped off.

Oil resistance : Margarine was coated onto the sample prints of treated polyethylene substrate, and 16 hours later, "Scotch Tape-Test" was conducted.

Heat (-sealing) resistance : Heat-sealing bar, with the load of 1 kgr./cm^2 , was applied onto the sample ink film on treated polypropylene for one second.

Anti blocking test : The sample inks were printed on treated polyethylene film of an aluminum foil. The ink films were then subjected to static load of 1 kgr/cm^2 , for 16 hours under a condition of 50°C , R/H=50%