

ADD: 9, GuTing Street, HanTing District, WeiFang City, ShanDong Prov., China TEL: 86–536–7369228 FAX: 86–536–7369208 Http://www.winbos.com E-mail: info@winbos.com





WinSperse®

Pigment Modifiers Wetting And Dispersing Agents

-Products Catalog



WINBOS NEW MATERIALS CO., LTD

Company Profile

WinBos New Materials Co., Ltd. is established in 2006 by three American chemists as a wholly foreign-funded enterprise, solely for the research, development, production and sale of high performance dispersants for solid and liquid dispersion systems. Under the leadership of Dr. Zhongli Zheng, a Yale chemistry Ph.D. WinBos as an expert solution provider of dispersion technology has now become a flagship company of wetting & dispersing agent, pigment modifier product.

The WinSperse series of wetting and dispersing agents have now been widely used in pigments, paint/coatings, inks, plastics, color paste, inkjet ceramics, lubricating oil, pesticides, graphene and other industry. The products are sold to Asia, Europe and many other countries. WinSperse* has become a well-known brand in the industry.

The company has an integrated system of research, development, and technical service, with advanced analysis and testing equipment. We are incorporating Industry 4.0 concepts with ability to customize products for customers and provide a technology solution to dispersion applications.

The company has passed ISO9001 quality management system certification, each batch of products are traceable to ensure product quality and stability.

Index

Pigment additive list	01
Wetting and dispersing agent for Ink list	02
Wetting and dispersing agent for Paint list	03
Wetting and dispersing agent for Plastic list	03
Wetting and dispersing agent for Fluorescent brightening agent list	04
Wetting and dispersing agent for Lubricant list	04
Wetting and dispersing agent for Pesticide list	04
Wetting and dispersing agent for Graphene list	04

Pigment additive list

Selection G	uide for Pigment Applications as Wetting & Dispersing Agents	05
Solvent-based	pigment modifier	
WinSperse	AASP	06
WinSperse	2020	07
WinSperse	5120	08
WinSperse	5140	09
WinSperse	5160	10
WinSperse	5170	11
WinSperse	5190	12
WinSperse	5210	13
WinSperse	5280	14
WinSperse	5291	15
WinSperse	5293	16
WinSperse	3000	17
WinSperse	3010A	18
WinSperse	3020	19
WinSperse	3030	20
WinSperse	3060	21
WinSperse	3100	22
WinSperse	3200	23

Aqueous pigment modifier

WinSperse	5030	24
WinSperse	5070	25
WinSperse	5090	26
WinSperse	5320	27
WinSperse	5380	28
WinSperse	5390	
WinSperse	4060	63

Aqueous and solvent-based pigment modifier

WinSperse	5050	 30
WinSperse	5080	 31
WinSperse	5100	 32

Wetting and dispersing agent for lnk list

Selection Guide for Ink Applications as Wetting & Dispersing Agents	33
Solvent based wetting and dispersing agent	
WinSperse 1010	35
WinSperse 1060	36
WinSperse 1080	37
WinSperse 1510	38
WinSperse 1530	39
WinSperse 2010	40
WinSperse 2050	41
WinSperse 3010A	43
WinSperse 3030	44
WinSperse 3040	45
WinSperse 3050	46
WinSperse 3090	47
WinSperse 3100	48
WinSperse 3200	58
WinSperse 3300	59

Water-based wetting and dispersing agent

WinSperse	4000	60
WinSperse	4040	61
WinSperse	4050	62
WinSperse	4060	63
WinSperse	4080A	64
WinSperse	4090	65
WinSperse	4190	66

Wetting and dispersing agent for Paint list

Selection Guide for Paint Applications as Wetting & Dispersi	ng Agents33
Solvent based wetting and dispersing agent	
WinSperse 2010	
WinSperse 2050	
WinSperse 3030	44
WinSperse 3040	45
WinSperse 3050	
WinSperse 3090	
WinSperse 3100	48
WinSperse 3110	
WinSperse 3140	50
WinSperse 3163B	51
WinSperse 3170	
WinSperse 3190	53
WinSperse 3193	54
WinSperse 3202	55
WinSperse 3204	
WinSperse 3206	
WinSperse 3300	59

Water-based wetting and dispersing agent

WinSperse	4000	60
WinSperse	4040	61
WinSperse	4050	62
WinSperse	4060	63
WinSperse	4080A	64
WinSperse	4090	65
WinSperse	4190	66

Wetting and dispersing agent for Plastic list

Selection Gu	de for Plastic Applica	tions as Wetting & Dispersing Agents34
WinSperse	2010	40
WinSperse	2050	41
WinSperse	8000	42
WinSperse	100	48

Wetting and dispersing agents for Fluorescent brightening agent list

WinSperse 419167	WinSperse 4191		- 67
------------------	----------------	--	------

Wetting and dispersing agent for Lubricant list

WinSperse	6010	68
WinSperse	6020	69

Wetting and dispersing agent for Pesticide list

WinSperse	9050	 7	0

Wetting and dispersing agent for Graphene list

WinSperse	4900	 71
WinSperse	4920	 72

WinSperse[®]Selection Guide for Pigment Applications as Wetting & Dispersing Agents

Application	Ink				Paint/Coating			
	Gravure	ravure Solvent		Waterborne	Industrial paint			
Application		Aromatic	Ester Ether		Alkyd Chlorinated Polyolefin	Acrylic Polyester Epoxy	Waterborne	Plastic
Organic yellow	3010A 3020 3030 3100 5050 5100	AASP 2020 5120 5210 5291 3010A 3020 3030 3100	AASP 2020 5120 5210 3060 5160 5170	5030 5050 5070 5090 5100 5380 5390	3010A 3030 3100 3190	3200	5030 5050 5070 5090 5100 5380	3000 3100 5140 5280
Organic red	3010A 3020 3030 3100 5080	3010A 3020 3030 3100	3060 5160 5170	4060 5030 5320 5080	3010A 3030 3100 3190	3200	5030 5320	3000 3100 5280
Organic blue and green	3010A 3030 3100 5050	3010A 3030 3100 5210	5210 5160 5170	4040 4060	3010A 3030 3100 3190 5210	3200	4040 4060	3000 3100 5280

Pigment modifier

Chemical composition

Potassium para-acetoacetylanilide sulfonate

Chemo-physical properties

Appearance: slightly yellow liquid pH: 3.0–5.0 Density(g/ml,20°C): 1.17–1.19 Active ingredient: 33.3% Solvent: water

Application scope

Used to participate in azo-coupling reaction or to make pigment derivatives.

Application tips

When making P.Y.12, use 3% AASP on dry AAA weight basis. Compared to powder form of AASP, liquid form WinSperse–AASP performs the same with more convenience:

results Product	Hue	Transparency	Color strength	Gloss	Fluidity
AASP(Powder)	Standard	+++	100	Standard	23.0
WinSperse AASP Same		++++	102	Same	23.0

Package

Drum: 240kg/drum

- > Store in dry and cool place, good for 2 years.
- > After opening, reseal the container.

Yellow pigment derivative

Chemical composition

Yellow pigment derivative with acidic group

Chemo-physical properties

Appearance: yellow pasty cake

Characteristics

- Yellow pigment derivative with acidic group, have good affinity to pigment surface.
- Can be used alone or together with other WinSperse dispersant for better results.

Application scope

Mainly used to modify yellow azopigments to be applied to the manufacturing of solvent based inks and paints for better result.

General application guidance

Use 5-10% on dry pigment weight basis.

Application tips

- Add to paste solution before filtration with continuous beating.
- For better results, use together with other WinSperse dispersants.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Polymer with basic pigment affinity groups

Chemo-physical Properties

Appearance: white to yellowish paste Active ingredient: 100% pH(1% isopropanol, aqueous solution): 5.5–8.0 Density(g/ml, 30°C): 0.86–0.89

Characteristics

- WinSperse 5120 and WinSperse 2020 used together give better results.
- Such modified pigments have higher color strength, gloss and transparency with excellent viscosity and storage stability profiles.

Application scope

Mainly used for making yellow azopigments such as P.Y.12, P.Y.13, P.Y.14, P.Y.83 for use in polyamides, nitrocellulose and other solvent based systems.

General application guidance

Use 3–10% on dry pigment basis. For best results, use together with 5–10% WinSperse 2020.

Application tips

Dissolve Winsperse 5120 in 20X hot water, add to the yellow pigments before the filtration step together with Winsperse 2020, stiring for 20 minutes followed by filtration and bake to dry.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Low polar polymer with pigment affinity groups

Chemo-physical Properties

Appearance: white to yellowish paste Active ingredient: 100% pH(1% aqueous solution): 3.0–4.5

Characteristics

Used to modifying high performance azo-pigments such as P.Y.17, P.Y.81, P.Y.83, P.Y.180 to be used in plastics for higher color strength and dispersibility.

Application scope

Mainly used to modifying high performance yellow azo-pigment for plastic applications.

General application guidance

Use 5–10% on dry pigment basis. Dissolve in 20X water before adding to the acid at the acid precipitation step, or to the coupling component solution.

Application tips

For making P.Y.83, mix 8% WinSperse 5140 and 3% xylene and then added to the acetic acid solution during reverse acid precipitation step. This process produced smaller particles and solved the specific problem with PY.83. Adjust the pH=7.5-8.0 before filtration. Such obtained pigment has great gloss and dispersibility.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Mid-to-low polar low molecular weight polymer with pigment affinity groups

Chemo-physical Properties

Appearance: yellowish solid Active ingredient: 100% Acid value(mgKOH/g): 15–25 Amine value(mgKOH/g): 130–150

Characteristics

- Such modified pigment is used in ink for better viscosity and storage stability with higher color strength and gloss.
- Especially well suited to improve performance of pigment used in nitrocellulose systems.

Application scope

Mainly used to modifying yellow azopigment such as P.Y.13, P.Y.14 for use in mid-polar gravure ink.

General application guidance

Use 3–8% on dry pigment basis. Add 1 part of Winsperse 5160 and 1 part of acetic acid to 20X water to Dissolve, heating maybe needed for complete desolution. Or, dissolve Winsperse 5160 directly into the rosin solution before or after the coupling step.

Application tips

For better results in making yellow azo-pigments, use Winsperse 5160 together with WinSperse 2020.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Mid-to-low polar low molecular weight polymer with pigment affinity groups

Chemo-physical Properties

Appearance: yellowish solid Active ingredient: 100% Amine value(mgKOH/g): 180–200 Density(g/ml,40°C): 0.87–0.89

Characteristics

Especially well suited to modify pigment used in nitrocellulose systems for better viscosity and storage stability with higher color strength and gloss.

Application scope

Organic pigment

General application guidance

Use 3–8% on dry pigment basis. Add 4 part of Winsperse 5170 and 2 part of acetic acid to 20X water to dissolve before use.

Application tips

- ➢ For making P.Y.13, P.Y.14. P.Y.83, add 3-8% WinSperse 5170 to the coupling solution, when the reaction temperature heated up. add 5-10% WinSperse 2020, Such modified piament is used in nitrocellulose improve color systems to strength, gloss, viscosity and storage stability.
- For P.B.15:3 cake, add 6–10% sulphonated phthalocyanine while stiring, heat the mixture to 60–70°C, add WinSperse 5170 10–15%, continuing stiring for 2 hours, filtrate and bake to dry to obtain P.B.15:4 for use in solvent based ink especially in nitrocellulose systems.

Package

Drum: 17kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment water flush agent

Chemical composition

Low polar polymer with pigment affinity groups

Chemo-physical Properties

Appearance: white to yellowish paste Active ingredient: 100% pH(1% aqueous solution): 5.5–8.0

Characteristics

High polar pigments and low polar resin systems are not compatible and normally have a more difficult time to flush the water and achieve phase conversion. This agent is designed to facilitate this process for less compatible pigment and resin systems. It can bind to the polar surfaces of the pigment particles to decrease the polarity and increase the water flushing efficiency.

Application scope

Used to modify the polarity of the polar pigments to facilitate the water flush process. Especially used for P.Y.12.

General application guidance

Use 3-5% on dry pigment basis.

Application tips

- For yellow azo-pigments, Dissolve 3-5% WinSperse5190 with 10-20X water, add it to heated pigment paste. Or in addition, in the process of making pigment, use 3-5% AASP or acetoacetyl benzoic acid in the coupling step can further improve thermal stability and increase transparency and color strength, and improve the water flush efficiency.
- For red azo-pigments, add WinSperse 5190 to the rosin solution or to the paste.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Polymer with basic pigment affinity groups

Chemo-physical Properties

Appearance: white to yellowish paste Active ingredient: 100% pH(10% isopropanol, aqueous solution): 7.0–9.0 Density(g/ml, 30°C): 0.86–0.89

Characteristics

- WinSperse 5210 and WinSperse 2020 used together to give better results.
- Such modified pigments have higher color strength, gloss and transparency with excellent viscosity and storage stability profiles. It is compatible with a variety of resins.

Application scope

Mainly used to improving yellow azo-pigments and phthalocyanine pigments in inks and paint.

General application guidance

Use 3–10% on dry pigment basis. For yellow azo-pigments, use together with 5–10% WinSperse 2020.

Application tips

- Dissolve Winsperse 5210 in 20X hot water before use.
- Add Winsperse 2020 first to the yellow pigments before the filtration step followed by adding Winsperse 5210, stiring for 20 minutes followed by filtration and bake to dry.
- For P.B.15:3 cake, add 6–10% sulphonated phthalocyanine while stiring, heat the mixture to 60–70°C, add WinSperse 5210 10–15%, continuing stiring for 2 hours, filtrate and bake to dry to obtain P.B.15:4.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Mid-to-low polar polymer dispersant with pigment affinity groups

Chemo-physical Properties

Appearance: white to yellowish solid Active ingredient: 100% Amine value(mgKOH/g): 185–205 Density(g/ml, 40°C): 0.87–0.89

Characteristics

- Used to modify organic pigments to be used in plastics for a more vibrant color with higher color strength and dispersibility. It can also inhibit the color migration.
- Can be used on high performance pigments.

Application scope

Mainly used to modify high performance azo-pigments such as P.Y.81, P.Y.155, P.Y.180 for plastic applications.

General application guidance

Use 3–8% on dry pigment basis. Add 4 part of Winsperse 5280 and 2 part of acetic acid to 20X water to dissolve before use.

Application tips

For making P.Y.180, add 4% WinSperse 5280 to the coupling solution to obtain pigments having a vibrant color with good anti-migration property, good dispersibility.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Polyamine polymer

Chemo-physical Properties

Appearance: white to yellowish paste or solid Active ingredient: 100%

Characteristics

- This product has multiple anchoring points for the pigment surfaces; the long chains of this polymer provide special stabilization for the dispersed pigment particles.
- Such modified pigments have great solvent resistance and anti-coagulation, thus have improved color strength, gloss, viscosity and storage stability.
- Especially suitable for yellow pigments used in toluene ink.

Application scope

- Mainly used to modify yellow azo-pigments such as: P.Y.12, P.Y.14, especially P.Y.12.
- When used on P.Y.14, the pigment can be used in nitrocellulose, benzene-soluble poly amide systems with better gloss and viscosity.

General application guidance

Use 5–15% on dry pigment basis. Add 2 part of Winsperse 5291 and 1 part of acetic acid to 20X hot water to dissolve. Can be used before or after the coupling solution. After the pigment paste heated to 90 degrees, adjust the pH=11.

Package

Drum: 160kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for solvent based applications

Chemical composition

Polyamine polymer

Chemo-physical Properties

Appearance: white to yellowish paste or solid Active ingredient: 100%

Characteristics

- This product has multiple anchoring points for the pigment surfaces, the long chains of this polymer provide special stabilization for the dispersed pigment particles.
- Such modified pigments have great solvent resistance and anti-coagulation, thus have improved color strength, gloss, viscosity and storage stability.
- Especially suitable for yellow pigments used in toluene ink.
- Compared to WinSperse 5291, WinSperse 5293 produces more of a reddish hue and has higher transparency.

Application scope

Mainly used to modify yellow azo-pigments such as: P.Y.12, P.Y.14, especially P.Y.12.

General application guidance

Use 5–15% on dry pigment basis. Add 2 part of Winsperse 5293 and 1 part of acetic acid to 20X hot water to dissolve. Can be used before or after the coupling step. After the pigment paste heated to 90 degrees, adjust the pH=11.

Package

Drum: 160kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar acidic polymer

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 35–40

Characteristics

- Reduce viscosity and improve pigment dispersibility.
- Increase color strength.

Application scope

- Such treated pigments are used in plastics and masterbatch, especially in plastics with low polarity.
- Used in plasticizer paste as a pigment dispersant.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments, use 2−8%.

Application tips

- For use in plastics, melt the dispersant with heating before mix with resin, then add pigment
- For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier in warm water. Then add this emulsion to the rosin solution before or after the coupling step, or to the paste before filtration.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

WinSperse[®]3010A

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste to wax Active ingredient: 100% Acid value(mgKOH/g): 12–18 Amine value(mgKOH/g): 32–42

Characteristics

- Reduce viscosity, improve storage stability, increase color strength and gloss.
- Especially suitable for use to improve pigment dispersion in low polarity systems such as toluene ink, composite ink, offset printing ink.

Application scope

- Ink: Used in low polarity offset and gravure inks.
- Pigment: Such treated pigments used in low polarity offset and gravure inks.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments, use 2−8%.

Application tips

- For use directly in inks, Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with synergists WinSperse2010/2050
- For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier (or 4 parts of acetic acid) in warm water. Then add this emulsion to the rosin solution before or after the coupling step, or to the paste before filtration.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 12–20 Amine value(mgKOH/g): 18–26 Density(g/ml,30°C): 0.90–0.92

Characteristics

- Especially suitable to improve dispersibility of red azo-lake pigments in offset ink for a more vibrant color with much reduced viscosity and better storage stability.
- Can also be used in improving color strength and viscosity for yellow azo-pigments such as P.Y.12, P.Y.174.

Application scope

Such treated pigments such as P.R.53:1, P.R.57:1, P.Y.12, P.Y.174 are used in offset inks and low polarity solvent inks.

General application guidance

Use 3-6% on dry pigment basis

Application tips

- For use in yellow pigments. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier(or 4 parts of acetic acid) in warm water. Then add this emulsion to the rosin solution before or after the coupling step.
- For use in red azo-pigments.
 Add to the rosin solution.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Amine value(mgKOH/g): 105–125 Density(g/ml, 60°C):0.92–0.95

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity and increase storage stability.
- Increase color strength and gloss.

Application scope

- Ink: Used in low polarity offset and gravure inks.
- Paint: Used in industrial paint with alkyd resins.
- > Pigment: Such treated pigments are used in low polarity systems such as offset ink, gravure ink and industrial paint with alkyd resins for much improved fluidity, dispersibility, without compromising color strength. Especially suited for P.R.57:1, P.Y.12, P.Y.174 etc.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- Inorganic pigments, use 2–8%.
- ➢ For carbon black, use 10−30%.

Application tips

For use directly in inks and paints,

Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with WinSperse2010/2050.

For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier (or 4 parts of acetic acid) in warm water, or dissolve the dispersant into rosin solution. For yellow azo-pigment, use together with WinSperse 2020 for better results.

■ For Azo-pigment. Add the emulsion to the rosin solution before or after the coupling step, or to the paste before filtration.

For Phthalocyanine pigment. P.B.15. Base on P.B.15:3 add 10% cake. sulphonated phthalocyanine while stirina. heat the mixture to 60-70°C, add 10-15% dispersant, continuing stiring at same temp. For 2 hours, filtrate and bake to dry to obtain P.B.15:2. P.B.15:4.

■ For Prussian blue cake: At 60– 70°C, add 5–7% WinSperse 3030 with stiring.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Cationic polymer with mid-polarity

Chemo-physical Properties

Appearance: Brownish viscous liquid Active ingredient: 100% Acid value(mgKOH/g): 33–43 Density(g/ml, 20°C): 0.92–0.95

Characteristics

- Especially suitable to improve dispersibility of pigments in polyamide and polyurethane systems for much reduced viscosity and better storage stability.
- Can also be used in improving color strength and gloss.

Application scope

Used to treat P.Y.14 to be used in gravure inks of mid-polarity systems such as polyamide system and polyurethane system.

General application guidance

Use 5–10% on dry pigment basis

Application tips

For use in yellow pigments. First, make emulsion using 4 parts of the dispersant and 1 part nonionic emulsifier (or 4 parts of acetic acid) in warm water. Then add this emulsion to the rosin solution before or after the coupling step.

> For yellow azo-pigments, use this dispersant together with WinSperse 2020 for better results.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Low-polarity polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 4–10 Amine value(mgKOH/g): 35–45 Density(g/ml, 60°C): 0.89–0.91

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity and increase storage stability.
- Increase color strength and gloss.

Application scope

- Ink: used directly as dispersant in low polarity inks such as offset ink, gravure inks.
- Paint: used directly as dispersant in industrial paint with alkyd resins.
- Plastic: used as dispersant for plastic masterbatch and plasticizer paste.
- Pigment: used to treat pigments to be used in such low polarity systems.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments use 2−8%.
- ➢ For carbon black, use 10−30%.

Application tips

For use directly in inks and paints.

■ Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with WinSperse2010/2050.

For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier (Or 4 parts of acetic acid) in warm water, or dissolve the dispersant into rosin solution.

■ For Azo-pigment. Add the emulsion to the rosin solution before or after the coupling step, or to the paste before filtration. For yellow azo-pigment, use together with WinSperse 2020 for better results.

■ For Phthalocyanine pigment. Base on P.B.15, P.B.15:3 cake, add 10% sulphonated phthalocyanine while stiring, heat the mixture to 60–70°C, add WinSperse 3030 10–15%, continuing stiring at same temp. For 2 hours, filtrate and bake to dry to obtain P.B.15:2, P.B.15:4.

■ For Prussian blue cake: At 60– 70°C, add 5–7% WinSperse 3030 with stiring.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

High molecular weight block copolymer with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% Amine value(mgKOH/g): 32–42

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent re-coagulation.
- Improve color strength and gloss.
- Especially suited for dispersing pigments in medium polar gravure inks.

Application scope

- Ink: Medium polar gravure and UV inks.
- Pigment: Modify the organic pigment surface to be used in medium polar gravure and UV inks and in auto and industrial paints.

General application guidance

Pigment	Carbon black (To dry pigment weight)
Organic	5–15%
Inorganic	2–6%
Carbon black	10–50%

Application tips

- For inks and paints, dissolve the hyperdispersant in the grinding mixture before adding pigments. For better results, use together with WinSperse2010/2050.
- For modifying pigment, first mix 1 part of the dispersant and 1 part acetic acid in warm water. Then add this emulsion before or after the coupling step, or add to the paste before filtration step. For better results, use acidic pigment derivative together with the dispersant.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous applications

Chemical Composition

Non-ionic Hydrophilic Polymer

Chemo-physical Properties

Appearance: viscous white to yellowish liquid pH(1% aqueous solution): 8.5–10.0 Amine value(mgKOH/g): 18–26

Characteristics

Such modified pigment has better viscosity and storage stability for aqueous applications.

Application Scope

- Mainly used to modifying the pigment particle surfaces of yellow and red azo pigments for better aqueous ink and paint applications.
- Also can be used in red lake pigment for offset inks.

Application tips

For making P.Y.14, add 5030 to the coupling component, use 5% on a dry pigment weight basis. The modified pigment can be used in aqueous ink for higher color strength, better gloss and lower viscosity.

For P.R.49:1, add 5030 to the diazo component after base dissolution. Use 3% on the dry pigment weight basis. The modified pigment is used for aqueous ink for a more vibrant color with better color strength and viscosity.

General application guidance

Dissolve 5030 in 10–20X hot water, add before the coupling step. Use 3-5% on a dry pigment basis.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous applications

Chemical Composition

Non-ionic hydrophilic polymer

Chemo-physical Properties

Appearance: Yellowish viscous liquid Active ingredient: 100% pH(1% aqueous solution): 8.5–10 Density(g/ml, 20°C): 1.01–1.03

Characteristics

- Such modified pigments in aqueous applications have higher color strength and gloss with lower viscosity.
- WinSperse 5070 with organic solvents as emulsifier used to prepare pigments with better hiding power.
- Non–APE, an environmental friendly replacement for OP–10 emulsifier.

Application scope

Mainly used to modifying yellow azo-pigments for use in aqueous applications.

General application guidance

- ▶ Use 3–5% on dry pigment basis.
- When used in aqueous solution, predissolve in 10–20X water.
- When used with organic solvents, mix first with organic solvents followed by adding 10–20X water with stiring to form emulsion and then add to the coupling solution before coupling.

Application tips

For making P.Y.14, use 3% 5070 and 6% xylene to form emulsion first and then add it to the coupling solution. Such modified pigment is used in aqueous inks with higher color strength, higher gloss and higher hiding power.

Package

Drum: 200kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous applications

Chemical Composition

Non-ionic hydrophilic polymer

Chemo-physical Properties

Appearance: yellowish viscous liquid pH(1% aqueous solution): 9.6–10.6 Amine value(mg KOH/g): 108–128 Density(g/ml, 20°C): 0.96–0.99

Characteristics

- Mainly used to make azopigments for aqueous applications for higher gloss and color strength.
- It can also be used to improve transparency of the aqueous inks.

Application scope

Mainly used to modifying yellow azopigments for use in aqueous ink and paint.

General application guidance

- Use 5–10% on dry pigment basis.
- First, dissolve in 10X hot water, add to the basified diazo component, or add to the acid before acid precipitation or during reverse acid precipitation process.

Application tips

For making P.Y13 and 14, use 5% 5090. Such modified pigment is used in aqueous inks for higher color strength, gloss, transparency.

Package

Drum: 180kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous applications

Chemical Composition

Poly-anion polymer

Chemo-physical Properties

Appearance: brownish viscous liquid Active ingredient: 40% Solvent: water pH(1% aqueous solution): 10.0–11.0

Characteristics

- This product can participate in the coupling reaction to become part of the pigment molecule, so it will not dissociate from the particle.
- Such modified pigment has better dispersibility and storage stability.

Application scope

Mainly used to modify red azopigments to be used in aqueous ink and paint.

General application guidance

Use 2–4% on dry pigment basis. Add to the coupling solution.

Application tips

- For making P.R.57:1, add this agent to the diazo solution or the coupling solution.
- For making P.R.22, add this agent to the coupling solution to obtain pigment for use in printing paint paste with high vibrancy and color strength.
- For making P.R.49:1, add this agent to the coupling solution to be used in aqueous ink with better storage stability.

Package

Drum: 200kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous applications

Chemical Composition

Non-ionic hydrophilic polymer

Chemo-physical Properties

Appearance: Yellowish viscous liquid Active ingredient: 100% pH(1% aqueous solution): 9.0–10.0 Density(g/ml, 20°C): 1.01–1.03

Characteristics

- Such modified pigments in aqueous applications have higher color strength and gloss with lower viscosity.
- WinSperse 5380 with organic solvents as emulsifiers used to prepare pigments with better hiding power.
- Non–APE, an environmental friendly replacement for OP–10 emulsifier.

Application scope

Mainly used to modify yellow azo-pigments for use in aqueous applications.

General application guidance

- ▶ Use 3–5% on dry pigment basis.
- When used in aqueous solution, predissolve in 10–20X water.
- When used with organic solvents, mix first with organic solvents followed by adding 10–20X water with stiring to form emulsion and then add to the coupling solution.

Application tips

For making P.Y.12, add 3% 5380 to the coupling solution. Such modified pigment is used in aqueous inks or paste with higher color strength, higher gloss and higher hiding power.

Package

Drum: 200kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous applications

Chemical Composition

Hydrophilic polymer

Chemo-physical Properties

Appearance: colorless to yellowish viscous liquid Amine value(mg KOH/g): <8 pH(1% aqueous solution): 5.0–7.0

Characteristics

- Have good affinity to acidic pigment surface.
- Mainly used to make azopigments for aqueous applications for higher gloss, color strength, transparency and lower viscosity.
- Improve stabilization for the dispersed pigment particles in aqueous applications.
- ➢ Non−APE.

Application scope

- Organic yellow pigment P.Y.13, P.Y.14, etc.
- Organic red pigment P.R.53:1, P.R.57:1, etc.

General application guidance

- Dissolve in 10X hot water.
- For organic yellow pigment, add into the coupling component solution. Use 3–5% on a dry pigment basis.
- For red azo-lake pigments, add into the coupling solution or before the caking step. Use 5-10% of the pigment dry weight.

Package

Drum: 200kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous and solvent applications

Chemical Composition

Amine Derivative

Chemo-physical Properties

Appearance: white to clear paste Active ingredient: 100% pH(1% aqueous solution): 3.0–4.0

Characteristics

- Used to modify P.B.15:3 for offset ink. Such modified pigment has a more vibrant color with higher color strength and gloss.
- Used to modify benzidine yellow pigments for offset and aqueous inks. Such modified pigment has a more vibrant color with higher color strength and gloss.

Application Scope

- Mainly used to modify the yellow azo-pigments for use in offset inks. Used in smaller amount can also be beneficial for aqueous inks to increase color strength and opacity. E.g. PY.12, PY.13, PY.14.
- Used in the non-base-boiling production process of P.B.15:3 during the ball-milling step for better use in offset inks.

Application tips

- Dissolve 5050 in 10–20X hot water, add to the coupling solution before the coupling step. Use 3–5% on a dry pigment basis.
- For P.B.15:3, use xylene to dissolve. Use 3–5% on a dry pigment basis.
- For making P.Y.12, add 3–4% 5050 into the coupling component solution. Such modified pigment is used in offset, aqueous inks for a more vibrant color with higher color strength and greenish hue.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous and solvent applications

Chemical Composition

Amine Derivative

Chemo-physical Properties

Appearance: white to yellowish liquid Amine value(mg KOH/g): 540–580 pH(1% aqueous solution): 11.0–12.0 Density(g/ml, 20°C): 0.94–0.97

Characteristics

Mainly used to make P.R.57:1 to improve transparency and storage stability.

Application scope

Modify red-pigments for use in offset ink, flushed ink, and aqueous ink.

General application guidance

Use 2–5% on dry pigment basis. Dissolve in 10X water before adding to coupling solution.

Application tips

For making P.R.57:1, add 4% 5080 to the coupling component solution before coupling. Such modified pigment has higher color strength and transparency. Such modified pigment cake is used in flush phase conversion with a quicker and clearer water flush.

- Such modified pigments can be used in aqueous inks with higher transparency, lower viscosity, and better storage stability.
- > For P.R.48:2. add 1-3% WinSperse5080 to the coupling component solution. Such modified pigment is used in aqueous ink for more vibrant color with higher transparency, lower viscositv. and better storage stability.
- Such modified pigments can be used in offset inks for a vibrant color with higher transparency, color strength and gloss.

Package

Drum: 50kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Pigment modifier for aqueous and solvent applications

Chemical Composition

Low molecular weight polymer

Chemo-physical Properties

Appearance: white paste pH(1% aqueous solution): 9.5–10.5 Density(g/ml, 35°C): 0.90–0.93

Characteristics

- Mainly used to modifying azo-yellow and red pigments for better wetting dispersing properties when used in aqueous and solvent based applications.
- Such modified pigments have vibrant colors with higher color strength and gloss.

Application scope

Mainly used to modifying azo-yellow and red pigments to be used in offset ink, aqueous ink and paint as well as pigment paste.

General application guidance

- ➢ Use 2−4% on dry pigment basis.
- Dissolve in 10X hot water before adding to the basified diazo component, or add to the acid during reverse acid precipitation process.

Application tips

For making P.Y.12, 13, 14, use 2–4% WinSperse 5100. Such modified pigments can be used in offset and aqueous inks for higher gloss and hiding power with 5+% increases in color strength.

Package

Drum: 180kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.
WinSperse[®]Selection Guide for Ink Applications as Wetting & Dispersing Agents

	Press gravure ink	Offset printing ink	Packaging	gravure ink	Jet-prin	iting ink	Waterborne ink	UV ink
Main			Ethyl		Ceramic	Printing		LIV active
Solvent	Xylene	Aliphatic	acetate	Ethanol	Aliphatic	Ester ether	Water	monomer
Pigments			Dispers	ant + (Syne	ergist if nee	eded)		
Inorganic	3010A 3050 3100	3010A 3050 3100	3200	3300	1010 1060 1080		4000 4190	3200
Organic	3010A 3050 3100 +(2010) +(2050)	3010A 3050 3100 +(2010) +(2050)	3200 +(2010) +(2050)	3300 +(2010) +(2050)		1510 1530	4000 4060 4080A 4190	3200 +(2010) +(2050)
Heterocyclic			3200	3300		1510 1530	4000 4060 4190	3200
Carbon black	3030 3050 3100 +(2050)	3050 3100 +(2050)	3200 +(2050)	3300 +(2050)		1510 1530	4050 4080A 4090	3200 +(2050)

WinSperse[®]Selection Guide for Paint Applications as Wetting & Dispersing Agents

	Automotive & repair paint	General ind	ustrial coatings	Anticorrosion / Marine coatings	Waterborne coatings
Resin	Acrylic, Alkyd, Polyester / Aminoacrylic / Polyurethane	Alkyd, Polyester / Aminoacrylic / Polyurethane	Polyester / Aminoacrylic/ Polyurethane	Epoxy, alkyd, Chlorinated polyolefin	Water
Pigment		Dispersant + (Synnergist if nee		eded)	
Inorganic	3110 3140 3163B 3204 3206	3090 3100 3140 3190 3193	3110 3140 3163B 3204 3206	3090 3110 3140 3190 3193 3204	4000 4190
Organic	3163B 3204 3206 +(2010) +(2050)	3090 3100 3193 +(2010) +(2050)	3163B 3204 3206 +(2010) +(2050)	3090 3204 3193 +(2010) +(2050)	4000 4060 4080A 4190
Heterocyclic	3163B 3204 3206	3090 3100	3163B 3204 3206	3090 3204 3193	4000 4060 4190
Carbon black	3163B 3170 3204 3206 3300 +(2050)	3090 3100 3190 3193 +(2050)	3163B 3170 3204 3206 3300 +(2050)	3090 3204 3190 3193 +(2050)	4050 4080A 4090

WinSperse[®]Selection Guide for Plastic Applications as Wetting & Dispersing Agents

	In Plasticizer	Master batch
Dispersive Medium	Phthalic acid esters	PE、PP、ABS、PS、PVC
Pigment	Dispersant + (sy	/nnergist if needed)
Inorganic	3000	3100
Organic	3100 +(2010) +(2050)	3100
Heterocyclic	3100	3100
Carbon black	3100 +(2050)	3100

Hyperdispersant for solvent based ceramic inkjet ink

Chemical Composition

Block copolymer with low-polarity

Chemo-physical Properties

Appearance: yellowish paste Active ingredient: 100% Amine value(mgKOH/g): 36–44

Characteristics

- Contain multi-amine anchoring group for better binding to pigment surfaces.
- Reduce pigment coagulation and sedimentation, increase storage stability.
- Improve system fluidity, color strength, and gloss.
- Narrow pigment size distribution to achieve easier filtration.

Application scope

Specially designed to disperse inorganic pigments in low polar inkjet printing inks for ceramic applications.

General application guidance

Use 6-12% on dry pigment weight.

Application tips

Add dispersant to grinding mixture before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based ceramic inkjet ink

Chemical Composition

No polar block copolymer

Chemo-physical Properties

Appearance: yellowish paste Active ingredient: 100% Amine value(mgKOH/g): 32–42

Characteristics

- Contain multi–amine anchoring group for better binding to pigment surfaces.
- Reduce pigment coagulation and sedimentation, increase storage stability.
- Improve system fluidity, color strength, and gloss.
- Narrow pigment size distribution to achieve easier filtration.

Application scope

Specially designed to disperse inorganic pigments in non-polar inkjet printing inks for ceramic applications. **General application guidance**

Use 6-12% on dry pigment weight.

Application tips

Add dispersant to grinding mixture before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based ceramic inkjet ink

Chemical Composition

Block copolymer with low-polarity

Chemo-physical Properties

Appearance: yellowish paste Active ingredient: 100% Amine value(mgKOH/g): 10–18

Characteristics

- Contain multi-amine anchoring group for better binding to pigment surfaces.
- Reduce pigment coagulation and sedimentation, increase storage stability.
- Improve system fluidity, color strength, and gloss.
- Narrow pigment size distribution to achieve easier filtration.

Application scope

Specially designed to disperse inorganic pigments in low polar inkjet printing inks for ceramic applications. General application guidance

Use 6-12% on dry pigment weight.

Application tips

Add dispersant to grinding mixture before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based inkjet ink

Chemical composition

Mid-polarity polymer with pigment affinity groups

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 50% Solvent: BGA Amine number(mgKOH/g): 12–22 Density(g/ml,20°C): 0.97–0.99

Characteristics

- To reduce the viscosity of the grinding system with higher pigment content, and to prevent flocculation, and to improve storage stability.
- To improve transparency, gloss, and color strength.
- Pigment particle size distribution is narrowed with improved filtration.
- Suitable for vinisol resin, especially suitable for dispersing P.Y.180, P.B.15:4, P.R.146.

Application scope

- Used in packaging gravure ink, with esters, ketones and aromatic solvents.
- Used in the solvent type inkjet ink.

General application guidance

Pigment	Suggested amount (Weight to pigment)
Organic	40-80%
Carbon black	50–100%

Application tips

- Dissolve the dispersant in the grinding mixtule before adding pigments.
- Use together with WinSperse 2050 for better results to disperse carbon black.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Wetting and dispersing agent for solvent based inkjet ink

Chemical composition

Mid-polarity polymer with pigment affinity groups

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 50% Solvent: BGA Amine number(mgKOH/g): 12–22 Density(g/ml,20°C): 0.97–0.99

Characteristics

- To reduce the viscosity of the grinding system with higher pigment content, and to prevent flocculation, and to improve storage stability.
- To improve transparency, gloss, and color strength.
- Pigment particle size distribution is narrowed with improved filtration.
- Suitable for vinisol resin, especially suitable for dispersing P.Y.180, P.B.15:4, P.R.146.

Application scope

- Used in packaging gravure ink, with esters, ketones and aromatic solvents.
- Used in the solvent type inkjet ink.

General application guidance

Pigment	(Weight to pigment)
Organic	40-80%
Carbon black	50–100%

Application tips

- Dissolve the dispersant in the grinding mixtule before adding pigments.
- Use together with WinSperse 2050 for better results to disperse carbon black.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

WinSperse[®]2010 Yellow pigment Synergist

Chemical composition

Yellow azo-pigment derivative

Chemo-physical properties

Appearance: orange yellow powder Active ingredient: 100%

Characteristics

- Used together with other dispersant as synergist to achieve better result.
- To modify azo pigment surface to increase color strength, transparency in solvent based inks, while decrease system viscosity and increase storage stability.
- Especially useful for modifying benzidine yellow pigments.
- Suited to disperse azo-pigments in inks and paints to improve viscosity, storage stability, and color strength.

Application scope

- Modify pigments: azo-pigments especially benzidine yellow.
- For directly dispersing pigments to inks and paints:

disperse azo-pigments especially organic red and yellow pigments into paints and inks.

General application guidance

Use 2–5% on dry pigment basis

Application tips

- For modify pigments:
 - Add before filtration or mixed directly to pigment powder.
 - For better results, use together with basic WinSperse dispersant.
- For directly dispersing pigments to inks and paints:

Add to grinding mixture before adding pigment.

For better results, use together with basic WinSperse dispersant.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Phthalocyanine pigment synergist

Chemical Composition

Phthalocyanine pigment derivative

Chemo-physical properties

Appearance: blue powder Active ingredient: 100%

Characteristics

- Used to modify phthalocyanine pigment surface to increase color strength, gloss and dispersibility in inks and paints.
- Can also be used in dispersing carbon black.
- For better results, use together with other WinSperse dispersant.

Application scope

- Modify pigments: phthalocyanine pigment and carbon black.
- For directly dispersing pigments to inks and paints: disperse azo-pigments especially

organic red and yellow pigments into paints and inks.

General application guidance

Use 2-5% on dry pigment basis

Application tips

- For modify pigments:
 - Add before filtration or mixed directly with pigment powder.

During conversion process of PB15:3 to PB15:4, use 5–15%.

For use directly in dispersing pigments to inks and paints:

Add to grinding mixture before adding pigment.

For better results, use together with basic WinSperse dispersant.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar acidic polymer

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 35–40

Characteristics

- Reduce viscosity and improve pigment dispersibility.
- Increase color strength.

Application scope

- Such treated pigments are used in plastics and masterbatch, especially in plastics with low polarity.
- Used in plasticizer paste as a pigment dispersant.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments, use 2−8%.

Application tips

- For use in plastics, melt the dispersant with heating before mix with resin, then add pigment
- For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier in warm water. Then add this emulsion to the rosin solution before or after the coupling step, or to the paste before filtration.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

WinSperse[®]3010A

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste to wax Active ingredient: 100% Acid value(mgKOH/g): 12–18 Amine value(mgKOH/g): 32–42

Characteristics

- Reduce viscosity, improve storage stability, increase color strength and gloss.
- Especially suitable to improve pigment dispersion in low polarity systems such as toluene ink, composite ink, offset printing ink.

Application scope

- Ink: Used in low polarity offset and gravure inks.
- Pigment: Such treated pigments used in low polarity offset and gravure inks.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments, use 2−8%.

Application tips

- For use directly in inks, Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with synergists WinSperse2010/2050
- For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier (or 4 parts of acetic acid) in warm water. Then add this emulsion to the rosin solution before or after the coupling step, or to the paste before filtration.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Amine value(mgKOH/g): 105–125 Density(g/ml, 60°C):0.92–0.95

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity and increase storage stability.
- Increase color strength and gloss.

Application scope

- Ink: Used in low polarity offset and gravure inks.
- Paint: Used in industrial paint with alkyd resins.
- Pigment: Such treated pigments are used in low polarity systems such as offset ink, gravure ink and industrial paint with alkyd resins for much improved fluidity, dispersibility, without compromising color strength. Especially suited for P.R.57:1, P.Y.12, P.Y.174 etc.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- Inorganic pigments, use 2–8%.
- ➢ For carbon black, use 10−30%.

Application tips

For use directly in inks and paints,

■ Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with WinSperse2010/2050.

For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier (or 4 parts of acetic acid) in warm water, or dissolve the dispersant into rosin solution. For yellow azo-pigment, use together with WinSperse 2020 for better results.

■ For Azo-pigment. Add the emulsion to the rosin solution before or after the coupling step, or to the paste before filtration.

For Phthalocyanine pigment. P.B.15. Base on P.B.15:3 add 10% cake. sulphonated phthalocyanine while stirina. heat the mixture to 60-70°C, add 10-15% dispersant, continuing stiring at same temp. For 2 hours, filtrate and bake to dry to obtain P.B.15:2. P.B.15:4.

■ For Prussian blue cake: At 60– 70°C, add 5–7% WinSperse 3030 with stiring.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Non-polar polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 15–20 Amine value(mgKOH/g): 35–45

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity; increase storage stability, color strength and gloss.
- Much better anti-precipitation property at low temperature.

Application scope

- Ink: Used directly in dispersing pigments in low polarity systems such as offset ink, gravure ink and industrial paint with alkyd resins. Also used to disperse pigments into china ink-jet printing inks.
- Paint: Used in industrial paint with alkyd resins.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ▶ Inorganic pigments, use 2–8%.
- ➢ For carbon black, use 10−30%.

Application tips

For use directly in inks and paints, Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with synergists WinSperse2010, WinSperse2050.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical composition

Low-polarity polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Amine value(mgKOH/g): 35–45 Density(g/ml, 60°C): 0.89–0.91

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity and increase storage stability.
- Increase color strength and gloss.

Application scope

- Ink: Used directly as dispersant in low polarity inks such as offset ink, gravure ink and china inkjet printing ink.
- Paint: Used directly as dispersant in industrial paint with alkyd resins.
- Plastic: Used as dispersant for plastic masterbatch and plasticizer paste.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments, use 2−8%.
- ▶ For carbon black, use 10–30%.

Application tips

For use directly in inks and paints, Dissolve dispersant in grinding mixture and followed by adding pigments.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Low-polarity polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 15–25 Amine value(mgKOH/g): 20–30

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity and increase storage stability.
- Increase color strength and gloss.
- With good ability to prevent sedimentation, flooding/floating.

Application scope

- Ink: Used directly as dispersant in low polarity inks such as offset ink, gravure ink.
- Paint: Used directly as dispersant in industrial paint with alkyd resins.
- Plastic: Used as dispersant for plastic masterbatch and plasticizer paste.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ▶ Inorganic pigments, use 2–8%.
- ▶ For carbon black, use 10-30%.

Application tips

For use directly in inks and paints, Dissolve dispersant in grinding mixture and followed by adding pigments.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Low-polarity polymer with basic amines

Chemo-physical Properties

Appearance: Brownish paste Active ingredient: 100% Acid value(mgKOH/g): 4–10 Amine value(mgKOH/g): 35–45 Density(g/ml, 60°C): 0.89–0.91

Characteristics

- Contain multi–amine anchoring group for the pigment surfaces for better adsorption.
- Reduce system viscosity and increase storage stability.
- Increase color strength and gloss.

Application scope

- Ink: used directly as dispersant in low polarity inks such as offset ink, gravure ink.
- Paint: used directly as dispersant in industrial paint with alkyd resins.
- Plastic: used as dispersant for plastic masterbatch and plasticizer paste.
- Pigment: used to treat pigments to be used in such low polarity systems.

General application guidance

- For organic pigments, use 4–12% on dry pigment basis.
- ➢ Inorganic pigments use 2−8%.
- ➢ For carbon black, use 10−30%.

Application tips

For use directly in inks and paints,

Dissolve dispersant in grinding mixture and followed by adding pigments. For better results, use together with WinSperse2010/2050.

For modifying pigments during synthesis. First, make emulsion using 4 parts of the dispersant and 1 part non-ionic emulsifier (Or 4 parts of acetic acid) in warm water, or dissolve the dispersant into rosin solution.

■ For Azo-pigment. Add the emulsion to the rosin solution before or after the coupling step, or to the paste before filtration. For yellow azo-pigment, use together with WinSperse 2020 for better results.

■ For Phthqalocyanine pigment. Base on P.B.15, P.B.15:3 cake, add 10% sulphonated phthalocyanine while stiring, heat the mixture to 60–70°C, add WinSperse 3030 10–15%, continuing stiring at same temp. For 2 hours, filtrate and bake to dry to obtain P.B.15:2, P.B.15:4.

■ For Prussian blue cake: At 60– 70°C, add 5–7% WinSperse 3030 with stiring.

Package

Drum: 18kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Acidic copolymer

Chemo-physical Properties

Appearance: colorless to yellowish viscous liquid Active ingredient: 50% Solvent: Propylene glycol methyl ether acetate Acid value(mgKOH/g): 58–68

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent re-coagulation.
- Increase storage stability, prevent flooding/floating.
- Widely used to disperse inorganic pigments, especially titanium oxide.

Application scope

- Paint: auto and repair paint.
- > Leather paste: in DMF systems.
- Resin: Low to mid-polarity systems.

General application guidance

Pigment	Use amount (To dry pigment weight)
Inorganic	5–10%
Titanium Oxide	2–4%

Application tips

Dissolve the dispersant in the grinding mixture before adding pigments.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical composition

Polyurethane with mid-polarity

Chemo-physical Properties

Appearance: Brownish viscous liquid Active ingredient: 45% Solvent: xylene/butyl acetate Acid value(mgKOH/g): 8–13 Amine value(mgKOH/g): 8–13 Density(g/ml,20°C): 0.92–0.96

Characteristics

- Especially suitable to improve dispersibility of inorganic pigments.
- Reduce grinding viscosity while increasing pigment load with good ability to prevent re-coagulation, and prevent flooding / floating.
- Especially suited for titanium oxide dispersion.

Application scope

Paint: industrial paint, woodwork paint, and coiled steel paint using resins such as polyacrylate, alkyd, polyester and epoxy resins.

General application guidance

Pigment	Use amount (To dry pigment weight)
Inorganic	5–10%
Titanium oxide	2–5%
Organic	20–40%
Carbon black	25–100%

Application tips

Dissolve the hyperdispersant in the grinding mixture before adding pigments.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

WinSperse[®]3163B

Hyperdispersant for solvent based applications

Chemical Composition

High molecular weight polyurethane with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 45% Solvent: xylene/butyl acetate/PMA Amine value(mgKOH/g): 12–18 Density(g/ml, 20°C): 0.97–0.99

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent re-coagulation.
- Increase color strength and gloss.
- > No precipitation at low temperature.
- Especially suited for carbon black dispersion.

Application scope

- Paint: auto and repair paint, woodwork and industrial paint using resins such as polyacrylate, alkyd, polyester and epoxy resins. Especially suited for hydroxy and thermosetting acrylic resin.
- Ink: mainly used in ketone-ester or aromatic solvent gravure inks

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	20-40%
Inorganic	5–15%
Titanium Oxide	2–5%
Carbon black	25-100%

Application tips

Dissolve the hyperdispersant in the grinding mixture before adding pigments.

For dispersing carbon black, use together with WinSperse2010, WinSperse2050 for better results.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical composition

High molecular weight polyurethane with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 50% Solvent: butyl acetate/PMA Amine value(mgKOH/g): 9–14 Density(g/ml, 20°C): 0.97–0.99

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with much reduced re-coagulation.
- Especially suited for carbon black dispersion.
- Increase color strength and gloss.
- > No precipitation at low temperature.
- Have higher polarity than WinSperse 3163B.

Application scope

- Paint: auto and repair paint, woodwork and industrial paint using resins such as polyacrylate, alkyd, polyester and epoxy resins. Especially suited for hydroxy and thermosetting acrylic resin.
- Ink: Ketone, ester or aromatic solvent gravure and inkjet printing inks.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	20–40%
Inorganic	5–15%
Titanium Oxide	2–5%
Carbon black	25–100%

Application tips

Dissolve the dispersant in the grinding mixture before adding pigments. For carbon black, use together with WinSperse2010, WinSperse2050.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Unsaturated amino-polyester with low polarity

Chemo-physical Properties

Appearance: yellowish paste Active ingredient: 100% Amine value(mgKOH/g): 100–120

Characteristics

- Designed to improve dispersibility of inorganic pigments and carbon black, especially for iron oxide.
- Effective in preventing flooding / floating.
- Especially suited for bottom coat with strong affinity.

Application scope

- Paint: industrial paint, anticorrosion paint, marine paint and coiled steel paint using resins such as alkyd, polyester, epoxy resins, and polyvinylchloride resins.
- Ink: low to mid-polarity inks.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	2–6%
Inorganic	1–4%
Titanium Oxide	0.5–1%
Carbon black	10–20%

Application tips

Dissolve the hyperdispersant in the grinding mixture before adding pigments.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical composition

Copolymer of Poly amine and acid with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 50% Solvent: xylene/butanol Amine value(mgKOH/g): 18–23

Characteristics

- Specially designed to disperse inorganic pigments with good ability to prevent sedimentation, flooding/floating.
- Especially suited for use in primer with good substrate affinity.

Application scope

- Ink: low to mid-polarity solvent inks.
- Paint: mainly used in general industrial paint, anti-corrosion paint, marine paint, coil coatings. Can be used in alkyd, polyester, chlorinated polyolefin resin system.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	4–12%
Inorganic	2–8%
Titanium Oxide	1–2%
Carbon black	20–40%

Application tips

Dissolve the dispersant in the grinding mixture before adding pigments.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

High molecular weight block copolymer with mid-polarity

Chemo-physical Properties

Appearance: brownish viscous liquid Active ingredient: 40% Solvent: butyl acetate Amine value(mgKOH/g): 14–20

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent re-coagulation.
- > Provide great storage stability.
- Increase color strength and gloss.
- Well suited to disperse pigments in mid-polarity inks and paints.

Application scope

 Paint: industrial paint using midpolarity resins such as alkyd and polyacrylates.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	20–40%
Inorganic	5–15%
Carbon black	25-125%

Application tips

Dissolve the hyperdispersant in the grinding mixture before adding pigments.

For dispersing carbon black, use together with WinSperse 2050 for better results.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical composition

High molecular weight block copolymer with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 40% Solvent: butyl acetate Amine value(mgKOH/g): 14–20

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent recoagulation.
- Increase color strength, gloss and storage stability, especially suitable for dispersing carbon black.
- Suited for a variety of organic pigments and carbon black in auto paints and industrial paints.

Application scope

- Paint: auto and repair paint, woodwork, coil steel paint and industrial paint using resins such as alkyd, polyester, epoxy, polyacrylate, unsaturated polyester resin.
- Resin: alkyd, polyester, epoxy, polyacrylate etc. resins.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	20–40%
Inorganic	5–15%
Carbon black	25–125%

Application tips

Dissolve the hyperdispersant in the grinding mixture before adding pigments.

For dispersing carbon black, use together with WinSperse 2050 for better results.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

High molecular weight block copolymer with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 40% Solvent: butyl acetate Amine value(mgKOH/g): 14–20

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent re-coagulation.
- Increase color strength, gloss and storage stability, especially suitable for dispersing carbon black.
- Higher polarity than WinSperse 3204.
- Suited for a variety of organic pigments and carbon black in auto paints and industrial paints.

Application scope

- Paint: auto and repair paint, woodwork, coil steel paint and industrial paint using resins such as alkyd, polyester, epoxy, polyacrylate.
- Resin: polyacrylate, polyester, epoxy and alkyd resins.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	20–40%
Inorganic	5–15%
Carbon black	25-125%

Application tips

Dissolve the hyperdispersant in the grinding mixture before adding pigments.

For dispersing carbon black, use together with WinSperse 2050 for better results.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

High molecular weight block copolymer with mid-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% Amine value(mgKOH/g): 32-42

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent re-coagulation.
- Improve color strength and gloss.
- Especially suited for dispersing pigments in medium polar gravure inks.

Application scope

- Ink: Medium polar gravure and UV inks.
- Pigment: Modify the organic pigment surface to be used in medium polar gravure and UV inks and in auto and industrial paints.

General application guidance

Pigment	Carbon black (To dry pigment weight)
Organic	5–15%
Inorganic	2–6%
Carbon black	10–50%

Application tips

- For inks and paints, dissolve the hyperdispersant in the grinding mixture before adding pigments. For better results, use together with WinSperse2010/2050.
- For modifying pigment, first mix 1 part of the dispersant and 1 part acetic acid in warm water. Then add this emulsion before or after the coupling step, or add to the paste before filtration step. For better results, use acidic pigment derivative together with the dispersant.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for solvent based applications

Chemical Composition

Block copolymer with high-polarity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% Amine value(mgKOH/g): 30–38 Density(g/ml, 25°C): 1.02–1.08

Characteristics

- Reduce grinding time and viscosity while increasing pigment load with good ability to prevent recoagulation.
- > Improve color strength and gloss.
- Mainly used to disperse pigments in alcohol gravure inks.
- Especially suited to disperse carbon black in auto and repair paints, producing more of a bluish hue.

Application scope

- Ink: packaging gravure inks using alcohol as solvent or other polar solvents.
- Paint: used in auto and repair paints, especially in polyacrylic resins.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	5–15%
Inorganic	2–6%
Carbon black	10–50%

Application tips

- Dissolve the dispersant in grinding solvent before adding pigment.
- For better results, use together with synergists WinSperse2010/2050.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for water based applications

Chemical composition

Hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 80% pH(1% aqueous solution): 7.5–8.5

Characteristics

- Reduce viscosity and increase storage stability.
- Improve color strength and gloss.
- Wide applications, suitable for dispersing both inorganic and organic pigment.
- > Non–APE, environment friendly.

Application scope

- Add directly as dispersant to aqueous ink, paint and color paste.
- Modify pigments used in aqueous ink, paint and color paste.

General application guidance

Pigment	Use amount (To dry pigment weight)
Titanium Oxide	3–8%
Inorganic	5–10%
Organic	12–30%

Application tips

- For ink, paints and paste, dissolve the dispersant in grinding solvent before adding pigment.
- For modifying pigments, add to the pigment paste before filtration or before grinding.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant for water based applications

Chemical Composition

Non-ionic hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% pH(1% aqueous solution): 6.0–7.5 Density(g/ml, 20°C): 1.12–1.14

Characteristics

- Reduce viscosity and increase storage stability.
- Improve color strength and gloss.
- Especially suitable to disperse pigment in aqueous applications without or with resin.
- ▶ Non–APE, environment friendly.

Application scope

- Add directly as dispersant to aqueous ink, paint and color paste.
- Modify pigments used in aqueous ink, paint and color paste.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	5–20%
Carbon black	10–30%

Application tips

Dissolve the dispersant in grinding solvent before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 5 year.
- After partial use, re-seal the container.

Hyperdispersant for water based applications

Chemical composition

Non-ionic hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% pH(1% aqueous solution): 7.0–8.0 Density(g/ml, 20°C): 1.14–1.17

Characteristics

- Reduce viscosity and increase storage stability.
- Improve color strength and gloss.
- Especially suitable to disperse carbon black in aqueous applications without resin.
- ➢ Non−APE, environment friendly.

Application scope

- Add directly as dispersant to aqueous ink, paint and color paste.
- Modify pigments used in aqueous ink, paint and color paste.

General application guidance

 Pigment
 Use amount (To dry pigment weight)

 Carbon black
 10–30%

Application tips

Dissolve the dispersant in grinding solvent before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 5 year.
- After partial use, re-seal the container.

Hyperdispersant for water based applications

Chemical Composition

Non-ionic hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 80% pH(1% aqueous solution): 7.5–8.5

Characteristics

- Reduce viscosity and increase storage stability.
- > Improve color strength and gloss.
- Mainly used to disperse organic pigments and phthalocyanine pigments in aqueous applications.
- > Non-APE, environment friendly.

Application scope

- Add directly as dispersant to aqueous ink, paint and color paste.
- Modify pigments used in aqueous ink, paint and color paste.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	12–20%
Phthalocyanine	15–25%

Application tips

- For ink, paint and paste, dissolve the dispersant in grinding solvent before adding pigment.
- For modifying pigments, add to the pigment paste before filtration or after flushing of pigment filtration cake while during making paste.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

WinSperse[®]4080A

Hyperdispersant for water based applications

Chemical composition

Non-ionic hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% pH(1% aqueous solution): 5.5–7.5 Density(g/ml, 20°C): 1.10–1.13

Characteristics

- Reduce viscosity and increase storage stability.
- > Improve color strength and gloss.
- Mainly used to disperse organic pigments in aqueous applications.
- Especially suited to disperse P.Y.12, P.R.22 in aqueous textile printing ink paste.
- Well suited to disperse P.B.15:3 in inks and paste.
- Suited to modify P.B.15:3 for use in aqueous applications.
- > Non–APE, environment friendly.

Application scope

- Add directly as dispersant to aqueous ink, paint and paint.
- Modify pigments such as P.B.15:3 for use in aqueous applications.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	5–20%
Carbon black	10–30%

Application tips

Devolve the dispersant in grinding solvent before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 5 year.
- After partial use, re-seal the container.

Hyperdispersant for water based applications

Chemical Composition

Non-ionic hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 80% pH(1% aqueous solution): 7.5–8.5

Characteristics

- Reduce viscosity and increase storage stability.
- Improve color strength and gloss.
- Especially suitable to disperse carbon black in aqueous applications without resin.
- > Non-APE, environment friendly.

Application scope

- Add directly as dispersant to aqueous ink, paint and paint.
- Modify pigments used in aqueous ink, paint and paint.

General application guidance

Pigment	Use amount (To dry pigment weight)
Organic	12–20%
Carbon black	20–50%

Application tips

Dissolve the dispersant in grinding solvent before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant for water based applications

Chemical composition

Non-ionic hydrophilic polymer with pigment affinity

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 50% pH(1% aqueous solution): 6.5–7.5

Characteristics

- Prevent pigment flocculation, increase storage stability.
- Improve color strength, gloss and reduce viscosity.
- > Non–APE, environment friendly.

Application scope

Add directly as dispersant to aqueous ink, paint and color paste.

General application guidance

Pigment	Use amount (To dry pigment weight)
Titanium Oxide	5–10%
Organic	20–60%
Inorganic	5–20%
Carbon black	20-80%

Application tips

Dissolve the dispersant in grinding solvent before adding pigment.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant used for wetting and dispersion of fluorescent brightening agent

Chemical Composition

Non-ionic hydrophilic polymer with affinity to fluorescent brightening agent

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 80% pH(1% aqueous solution): 7.5-8.5

Characteristics

- Prevent flocculation, sedimentation \triangleright of fluorescent brightening agent, increase storage stability.
- Reduce viscosity.
- ➢ Non−APE, environment friendly.

Application scope

Add directly as dispersant to aqueous fluorescent brightening agent paste.

General application guidance

Use amount Piament (To dry fluorescent brightening agent weight) Fluorescent brightening agen

20-30%

Application tips

Dissolve the dispersant in grinding solvent before adding fluorescent brightening agent.

Package

Drum: 25kg/drum

- > Store in cool and dry places, good for 10 year.
- > After partial use, re-seal the container.

Dispersant for use lubricant

Chemical composition

Block copolymer with very low-polarity

Chemo-physical Properties

Appearance: yellowish paste Active ingredient: 100% Amine value(mgKOH/g): 36–44

Characteristics

- Prevent the accumulation of soot particles, reduce viscosity increase.
- Prevent sludge flocculation and sedimentation of insoluble material.
- Good dispersing ability to disperse particles in lubricant, reduce solid residues and sediment.
- Reduce wear and tear of the motor or mechanical equipment.

Application scope

- Lubricant oil
- > Lubricant additive

To disperse calcium borate and other nano-scale material. Used as dispersant in composite additive.

Application guidance

> In lubricant oil:

Add 1%-3% of the lubricant oil weight.

> In lubricant additives:

When dispersing calcium borate or other nano material, use 15%–30% of the nano material weight.

For composite additive, use 10%-20% of the composite additive weight.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.
Dispersant for use in lubricant

Chemical Composition

Non polar polymer with amino affinity groups

Chemo-physical Properties

Appearance: brownish paste Active ingredient: 100% Amine number(mgKOH/g): 42–52

Characteristics

- To prevent the accumulation of carbon deposition, reduce the viscosity increase of lubricating oil.
- To prevent sludge flocculation and precipitation of insoluble material.
- To keep the motor or mechanical equipment clean and reduce wear.
- Has good particle dispersing property to reduce residue and precipitation.

Application scope

Lubricant oil

Lubricant additive

To disperse calcium borate and other nano-scale material. To disperse graphene.

Used as dispersant in Composite additive.

Application guidance

> In lubricant oil:

Add 1%-3% of the lubricant oil weight.

> In lubricant additives:

When dispersing calcium borate or other nano material, use 15%– 30% of the nano material weight.

When dispersing graphene, use 50%-100% of the graphene weight.

For composite additive, use 10%–20% of the composite additive weight.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Dispersant for pesticides in oils

Chemical composition

Block copolymer with very low-polarity

Chemo-physical Properties

Appearance: yellowish paste Active ingredient: 100% Amine value(mgKOH/g): 36–44

Characteristics

- Prevent the flocculation and sedimentation of the pesticide particles.
- Improve wetting and dispersibility of the pesticide particles to reduce the grinding time.

Application scope

Specially designed to disperse pesticides in oily systems.

General application guidance

Use 5–10% on lubricant weight. Add dispersant to grinding solvent before adding pesticides.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.

Hyperdispersant used for the wetting and dispersion of graphene

Chemical Composition

Non-ionic hydrophilic polymer with graphene affinity.

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 100% PH(1% aqueous solution): 5.0–6.0

Characteristics

- To prevent flocculation and increase storage stability.
- To reduce grinding time and viscosity.
- Especially suitable for nanoscale graphene dispersion.
- Non–APE, environment friendly.

Application scope

- For the dispersion during graphene's manufacturing.
- Dispersion of graphene powder in aqueous solution.

General application guidance

 Pigment
 Use amount (To dry graphene powder weight)

 Graphene
 40–80%

Application tips

Dissolve the dispersant in grinding solvent before adding graphene.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 10 year.
- After partial use, re-seal the container.

Hyperdispersant used for the wetting and dispersion of graphene

Chemical composition

Non-ionic hydrophilic polymer with graphene affinity.

Chemo-physical Properties

Appearance: yellowish viscous liquid Active ingredient: 80% pH(1% aqueous solution): 7.5–8.5

Characteristics

- To prevent flocculation and increase storage stability.
- To reduce grinding time and viscosity.
- Especially suitable for nanoscale graphene dispersion.
- ➢ Non−APE, environment friendly.

Application scope

- For the dispersion during graphene's manufacturing.
- Dispersion of graphene powder in aqueous solution.

General application guidanceIn

 Pigment
 Use amount (To dry graphene powder weight)

 Graphene
 50–100%

Application tips

Dissolve the dispersant in grinding solvent before adding graphene.

Package

Drum: 25kg/drum

- Store in cool and dry places, good for 2 year.
- After partial use, re-seal the container.