



KYUNG-IN SYNTHETIC CORPORATION

Reactive



KYUNG-IN SYNTHETIC CORPORATION



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Synozol · Papizolon

Exhaust Dyeing

KISCO

Reactive Dyestuffs

KISCO was one of the initial pioneers in dyestuff manufacturing in Korea and has continuously invested in the Research and Development of Reactive dye manufacture. As a result of this investment they are now the largest manufacture of Bi-functional reactive dyestuffs in Korea.

The dye product list consists of Bi-functional dyestuffs: Synozol HF, SHF, K, Ultra DS. In addition to Bi-functional dyestuffs KISCO also produces various other types of reactive dyestuffs. Such as Vinylsulfone dyestuffs, Monochlorotriazine dyestuffs.

All manufactured products are subject to strict quality control procedures.



KISCO Reactive Dyestuffs

Synozol CP : For sportswear

Synozol K-HL : High Light fastness on pale shades

Bi-functional

Synozol K : Right First Time Dyeing

Synozol Ultra DS : For dark shades for multi-process

Conventional dyestuffs (HF & SHF)

Vinly Sulfone & Black dyestuffs

Mononicotinictriazine : Papizolon HT

Polyester / cellulosic blends for one bath dyeing



Synozol Reactive CP Dyes

The Synozol CP Dyestuffs have been specifically engineered for use in the manufacture of high quality sportswear, active leisure wear, and domestic textiles. They will meet the recent higher fastness requirements of leading garment retailers.

They have excellent fastness to light, perspiration light, perspiration, active chlorine and oxidative bleaching agents.

Synozol Reactive K Dyes

The Synozol K Dyestuffs are a new range of reactive dyestuffs which have modified chemical structures giving them unique properties. The trichromatic combination has excellent compatibility and brighter shades can be produced. It is also possible to achieve higher fastness than with conventional reactive dyes.

Synozol Ultra DS Dyes









Synozol Ultra DS dyes have been developed to produce cost effective medium to dark shades while offering ease of application across most continuous dyeing, printing and exhaust dyeing processes giving high reproducibility and good overall fastness. They have increased build up properties. Therefore it is possible to make much deeper shades with a reduced amount of dye compare to conventional dyestuffs.

Synozol Reactive Ultra Black Dyes














The Synozol Ultra Black Dyestuffs have been specially produced to overcome the problems normally associated with traditional full black dyes. Deeper shades with lower % dye application can be achieved this results in easier washing off, better fastness and a decrease in water and energy use.

Papizolon Reactive HT Dyes

The Papizolon HT Dyestuffs contain a mononicotinictriazine reactive group giving them high affinity for cellulose under neutral pH conditions. They can be dyed on polyester/cellulosic blends in one bath dyeing at pH 6.5~7.5 temperature 100~130°C.











Synozol Reactive Dyes	Shade (1/6 SD)	C.I No.	1/1 SD (%o.w.f)	Affinity	Solubility (g/l) at 30°C	Light (1/25, 1/6, 1/1) ISO 105 B02
Synozol CP Dyes for Perspiration Light Fastness (sportswear)						
Yellow CP-LP		unknown	2.5%	M	100	5 5 -
Red CP-HL		unknown	5.0%	M	100	5 5 -
Blue CP		unknown	2.5%	M	100	5 5 -
Synozol K-HL Dyes for High Light Fastness (pale shades)						
Yellow K-HL		unknown	4.0%	M	100	5 5 -
Red K-HL		unknown	6.0%	M	100	4 4 -
Blue K-HL		unknown	3.5%	M	100	4-5 4-5 -
Violet K-HL		unknown	5.0%	M	100	3-4 4 -
Grey K-HL		unknown	8.0%	M	100	4-5 4-5 -

Light (1/25, 1/6, 1/1) AATCC 16E 40AFU (K-HL:20AFU	Washing (Ch/CO) ISO 105 C06 C2S	Washing (Ch/CO) AATCC 61 2A	Chlorinated Water ISO 105 E03	Perspiration ISO 105 E04		Rubbing (Dry/Wet) ISO 105 X12	Oxidative Bleach Damage M&S C10A	Dischargeability Neutral
	1/6	1/6	1/6	Acid (Ch/CO)	Alkali(Ch/CO)			
				1/6		1/6	1/6	
4-5 5 -	4-5 5	4-5 5	5	4-5 5	4-5 5	4-5 4-5	5	A
4 4-5 -	4-5 5	4-5 5	2-3	4-5 5	4-5 5	4-5 4-5	4-5	B
4-5 4-5 -	4-5 5	4-5 5	2	4-5 5	4-5 5	4-5 4-5	4-5	B
4-5 4-5 -	4-5 5	4-5 5	4-5	4-5 5	4-5 5	4-5 4-5	4-5	A
4 4 -	4-5 4	4-5 4-5	2	4-5 5	4-5 5	4-5 4-5	4-5	A
4 4-5 -	4-5 4-5	4-5 4-5	2	4-5 5	4-5 5	4-5 4-5	4-5	B
4 4 -	4-5 5	4-5 5	2-3	4-5 5	2-3 5	4-5 4	4	C
4 4-5 -	4-5 4-5	4-5 4-5	2	4-5 4-5	4-5 4-5	4-5 3-4	3-4	D













Synozol Reactive Dyes	Shade (1/1 SD)	C.I No.	1/1 SD (%o.w.f)	Affinity	Solubility (g/l) at 30°C	Light (1/25, 1/6, 1/1) ISO 105 B02
Synozol K Dyes for Right First Time Dyeing(medium shades)						
Yellow K-3RS		unknown	4.0%	M	100	- 5 5
Red K-3BS		unknown	2.8%	M	100	- 4 4
Blue K-BR*		unknown	3.5%	M	50	- 4-5 4-5
Dark Blue K-NF		unknown	4.0%	M	100	- 4 4-5
Navy Blue K-BF		unknown	4.0%	M	100	- 3 4
Navy Blue K-GF		unknown	4.0%	M	100	- 3 4
Synozol Ultra DS Dyes for Dark Shades for Multi Process						
Ultra Yellow DS		unknown	2.0%	M	100	- 4-5 5
Ultra Orange DS		unknown	2.0%	M	100	- 4-5 5
Ultra Red DS		unknown	2.0%	M	100	- 3-4 4
Ultra Bordeaux DS		unknown	1.5%	M	100	- 4-5 5
Ultra Deep Blue DS		unknown	3.5%	M	100	- 4-5 4-5
Ultra Navy DS		unknown	2.0%	M	100	- 3-4 3-4
Ultra Navy DS-R		unknown	1.5%	M	100	- 3-4 4

Product marked as * is dyed at 1/2 dyeing depth.

Light (1/25, 1/6, 1/1) AATCC 16E 20AFU	Washing (Ch/CO) ISO 105 C06 C2S	Washing (Ch/CO) AATCC 61 2A	Chlorinated Water ISO 105 E03	Perspiration ISO 105 E04		Rubbing (Dry/Wet) ISO 105 X12	Oxidative Bleach Damage M&S C10A	Dischargeability Neutral
				Acid (Ch/CO)	Alkali(Ch/CO)			
	1/1	1/1	1/1	1/1		1/1	1/1	
- 4-5 4-5	4-5 4-5	4-5 4-5	4-5	4-5 3	4-5 3	4-5 3-4	4-5	A
- 3-4 4	4-5 4-5	4-5 4-5	4-5	4-5 2-3	4-5 2-3	4-5 3	4-5	C
- 4-5 4-5	4 4-5	4-5 4-5	2	3-4 4-5	3-4 4-5	4-5 3	4	B
- 4 4-5	4-5 4-5	4-5 4-5	3-4	4-5 3	4-5 3	4-5 3	4-5	D
- 3-4 4	4-5 4-5	4-5 4	4-5	4 2-3	4 2-3	4-5 2-3	4	B
- 3-4 4	4-5 4-5	4-5 4	4-5	4 2-3	4 2-3	4-5 2-3	4	A
- 4-5 4-5	4-5 4-5	4-5 4-5	3-4	4-5 4-5	4-5 4-5	4-5 3-4	4	A
- 4-5 4-5	4-5 4-5	4-5 4-5	3-4	4-5 4-5	4-5 4-5	4-5 3-4	4-5	A
- 4 4-5	4-5 4-5	4-5 4	3-4	4-5 3	4-5 3	4-5 2-3	4	D
- 4-5 4-5	4-5 4	4-5 4-5	4	4-5 4-5	4-5 4-5	4-5 3	4-5	A
- 4-5 4-5	4-5 4	4-5 4-5	3-4	4-5 3-4	4-5 3-4	4-5 3	4	C
- 3-4 3-4	4-5 4-5	4-5 4-5	3	4-5 4-5	4-5 4-5	4-5 3	4-5	A
- 3-4 4	4-5 4-5	4-5 4-5	2	4-5 4-5	4-5 4-5	4-5 3	3-4	A




Synozol Reactive Dyes	Shade (1/1 SD)	C.I No.	1/1 SD (%o.w.f)	Affinity	Solubility (g/l) at 30°C	Light (1/25, 1/6, 1/1) ISO 105 B02
Synozol K dyes for Bright Shades						
Brilliant Orange K-R		unknown	3.0%	M	100	3 - 4
Scarlet K-SR		unknown	3.0%	M	100	3-4 - 4
Brilliant Red K-3G Conc		unknown	1.8%	M	100	2-3 - 4
Brilliant Blue K-RL Conc SP		unknown	4.0%	M	100	3-4 - 4
Bi-functional Dyestuffs (HF)						
Yellow HF-3GN		unknown	8.0%	M	100	4-5 - 5
Yellow HF-4GL 150%		unknown	2.5%	M	100	4 - 5
Golden Yellow HF-4GR		unknown	6.0%	M	20	4 - 4
Golden Yellow HF-2GR 150%		Y 145	4.0%	M	100	4 - 5
Red HF-3B		R 194	4.5%	M	50	3-4 - 4
Red HF-6BN 150%		R 195	3.0%	M	100	3-4 - 4

Light (1/1) AATCC 16E 20AFU	Washing (Ch/CO) ISO 105 C06 C2S	Washing (Ch/CO) AATCC 61 2A	Chlorinated Water ISO 105 E03	Perspiration ISO 105 E04		Rubbing (Dry/Wet) ISO 105 X12	Oxidative Bleach Damage M&S C10A	Dischargeability Neutral
				Acid (Ch/CO)	Alkali(Ch/CO)			
	1/1	1/1	1/1	1/1		1/1	1/1	
4-5	4-5 4-5	4-5 4-5	4	4-5 4	4 4-5	4-5 3-4	4	B
4	4-5 4-5	4-5 4-5	4-5	4-5 2-3	4-5 2-3	4-5 3	4-5	C
4	4 4-5	4-5 4-5	2	4-5 4	4 4	4-5 3	3	B
4-5	4-5 3-4	4-5 3-4	2	3-4 3	3-4 3	4-5 2-3	4	D
4-5	4 4-5	4-5 4-5	3-4	4-5 4	4-5 4	4-5 4	4	A
4-5	4-5 4-5	4-5 4-5	3	4-5 4-5	4-5 4-5	4-5 3-4	3-4	B
4-5	4-5 4-5	4-5 4-5	3	4-5 4-5	4-5 4-5	4-5 3-4	3-4	A
4-5	4-5 4-5	4-5 4-5	4-5	4-5 4	4-5 4	4-5 3-4	4-5	A
4-5	4 4	4-5 4	4	4 2-3	4 2-3	4-5 2-3	4-5	C
4-5	4-5 4-5	4-5 4-5	4	4-5 3	4-5 3	4-5 3	4-5	C











Synozol Reactive Dyes	Shade (1/1 SD)	C.I No.	1/1 SD (%o.w.f)	Affinity	Solubility (g/l) at 30°C	Light (1/25, 1/6, 1/1) ISO 105 B02
Bi-functional Dyestuffs (SHF)						
Orange SHF-RR**		O 122	3.0%	M	100	2 - 3-4
Scarlet SHF-2G 150%**		unknown	3.0%	M	100	2-3 - 3-4
Red SHF-GD		R 223	6.0%	M	100	3 - 4-5
Violet SHF-3B**		unknown	5.0%	M	100	2 - 2-3
Vinyl Sulfone Dyestuffs						
Brilliant Red F3B		R 180	5.0%	L	100	3 - 4
Blue BB 133%		B 220	5.0%	L	100	4 - 4-5
Brilliant Blue R Special		B 19	5.0%	L	100	5 - 5
Brilliant Blue R 150% Special		B 19	4.0%	L	100	5 - 5
Turquoise Blue HF-G 133% (& 165%)*		B 21	7.4%	L	100	4 - 4-5
Turquoise Blue HF-G 266%		B 21	3.7%	L	100	4 - 4-5
Navy Blue GG		B 203	3.0%	L	100	3 - 4
Black B 150%		BK 5	8.0%	L	100	3 - 4

Product marked as * is dyed at 1/2 dyeing depth
Product marked as ** is for export only

Light (1/1) AATCC 16E 20AFU	Washing (Ch/CO) ISO 105 C06 C2S	Washing (Ch/CO) AATCC 61 2A	Chlorinated Water ISO 105 E03	Perspiration ISO 105 E04		Rubbing (Dry/Wet) ISO 105 X12	Oxidative Bleach Damage M&S C10A	Dischargeability Neutral
				Acid (Ch/CO)	Alkali(Ch/CO)			
	1/1	1/1	1/1	1/1		1/1	1/1	
3-4	4 4	4-5 4-5	4	4 4-5	4 4-5	4-5 3	4-5	B
4	4-5 3-4	4-5 4	4-5	4 3-4	4 3-4	4-5 3	4-5	B
4-5	4-5 4	4-5 4	4	4-5 3	4-5 3	4-5 2-3	4	A
3	4-5 4-5	4-5 4-5	2-3	4 4-5	4 4	4-5 3-4	3-4	B
4-5	4-5 4	4-5 4	4	4-5 4-5	4-5 4-5	4-5 3	4-5	A
4-5	4-5 4-5	4-5 4-5	3-4	4 4-5	4 4-5	4-5 3-4	4-5	C
4-5	4-5 4-5	4-5 4-5	3	4-5 4-5	4-5 4-5	4-5 3-4	4-5	D
4-5	4-5 4-5	4-5 4-5	3	4-5 4-5	4-5 4-5	4-5 3-4	4-5	D
4-5	4-5 3	4-5 4	2-3	4-5 5	4-5 4-5	4-5 3	4-5	C
4-5	4-5 3	5 4	2-3	4-5 5	4-5 4-5	4-5 3	4-5	C
4	4-5 4-5	4-5 4-5	3-4	4-5 4-5	4-5 4-5	4-5 3	4-5	A
4	4-5 4-5	4-5 4-5	3-4	4-5 2-3	4-5 2-3	4-5 2-3	3-4	B

Synozol Reactive Dyes	Shade (1/1 SD)	C.I No.	1/1 SD (%o.w.f)	Affinity	Solubility (g/l) at 30°C	Light (1/25, 1/6, 1/1) ISO 105 B02
Synozol Ultra Black Dyes						
Ultra Black R		mix	6.0%	M	100	- - 4-5
Ultra Black G		mix	6.0%	M	100	- - 4-5
Ultra Black DR		mix	6.0%	M	100	- - 4-5
Synozol Black Dyes						
Black E-R 150%		mix	8.0%	M	100	- - 4-5
Black SHF-RW 150% Hi Conc		mix	8.0%	M	100	- - 4
Black SHF-RWR 150% New		mix	8.0%	M	100	- - 4
Black CP-TS Liquid		mix	16%	M	100	- - 4
Black SHF-RW Liquid		mix	16%	M	100	- - 4
Deep Black E-2RN Liquid		mix	12%	M	100	- - 4-5

Light (1/1) AATCC 16E 20AFU	Washing (Ch/CO) ISO 105 C06 C2S	Washing (Ch/CO) AATCC 61 2A	Chlorinated Water ISO 105 E03	Perspiration ISO 105 E04		Rubbing (Dry/Wet) ISO 105 X12	Oxidative Bleach Damage M&S C10A	Dischargeability Neutral
				Acid (Ch/CO)	Alkali(Ch/CO)			
	1/1	1/1	1/1	1/1		1/1	1/1	
4-5	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2-3	4-5	B
4-5	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2-3	4-5	B
4-5	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2-3	4-5	B
4-5	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2-3	4-5	B
4	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2	4-5	B
4	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2	4-5	B
4	4-5 4-5	4-5 4-5	4-5	4-5 3	4-5 2-3	4-5 2	4-5	B
4	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2	4-5	B
4-5	4-5 4-5	4-5 4-5	4-5	4-5 3-4	4-5 3	4-5 2-3	4-5	B

Papizolon Reactive Dyes	Shade (1/6 SD)	C.I No.	1/1 SD (%o.w.f)	Solubility (g/l) at 80°C	Light AATCC 16E(20AFU)	Washing(Ch/CO) ISO 105 C03
					1/6	1/2
Papizolon HT Dyes (Mononicotinctriazine)						
Yellow HT-4G		Y 164	3.0%	100	3-4	4 4-5
Yellow HT-MN		unknown	5.0%	100	4-5	4-5 4-5
Yellow HT-RN		Y 162	4.8%	70	4	4-5 4-5
Golden Yellow HT-GN 110%		Y 178	4.2%	80	4	4-5 4-5
Scarlet HT-GN		R 236	4.0%	100	4	4-5 4
Red HT-3BN		R 221	5.0%	70	4	4-5 4
Blue HT-BN		B 216	5.0%	60	4-5	4-5 4-5
Blue HT-MN		unknown	4.6%	60	4	4-5 4-5
Dark Blue HT-DL		B 217	4.0%	100	2-3	4-5 4
Turquoise Blue HT-2G		B 227	5.0%	80	3-4	4-5 4

Chlorinated Water ISO 105 E03	Perspiration ISO 105 E04		Peroxide Bleaching ISO 105 N02(bath1)		Mercerizing ISO 105 X04		Dischargeability Neutral	
	Acid (Ch/CO)	Alkali(Ch/CO)	Shade change	Staining of cotton	Shade change	Staining of cotton		
1/6	1/2		1/2		1/2			
1-2	4-5 4	4 4	4	4-5	4-5	4-5	A	
3-4	4-5 4	4-5 4-5	4-5	4	2-3*RD	4-5	B	
3-4	4-5 4-5	4-5 4-5	4-5	4	2-3*RD	4-5	B	
4	4-5 4-5	4-5 4-5	4-5	4	4*RD	4-5	A	
4	4 4-5	4 4-5	4	3-4	4-5*	4-5	C	
3-4	4 3-4	3-4 3-4	4	4	4*Y	4	C	
2-3	4-5 3-4	4-5 3-4	4-5	4-5	5*	4	B	
3	4-5 3-4	4-5 4	4-5	4-5	5*	4	B	
3-4	4-5 4	4-5 4	4	4	4-5*	4-5	A	
3-4	4-5 4	4 4	2	4	4*BD	3-4	C	

Notes for Reactive Dyes

Affinity

H	High	M	Medium	L	Low
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Fastness Properties

Ch	Shade change	CO	Staining of cotton
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Test Method

Light	ISO 105 B02
	AATCC 16E (20AFU/40AFU)
Washing	ISO 105 C03
	ISO 105 C06-C2S
	AATCC 61 2A
Chlorinated water	ISO 105 E03 (20ppm)
Perspiration	ISO 105 E04
Rubbing	ISO 105 X12
Oxidative Bleach Damage	M&S C10A

Dischargeability



Printing paste	Neutral
Sodium alginate(5%)	500g
Rongalite C	200g
Titanium dioxide(TiO₂)	100g
water	200g
total	1,000g

Evaluation

A	over 4 grade at 1/1 SD	Very good
B	over 4 grade at 1/2 SD	Moderate
C	over 4 grade at 1/6 SD	Limited
D	Not white dischargeable	

Dischargeability is assessed by the grey scale.

General Information

Water Quality in dyeing

In general, reactive dyestuffs exhibit good solubility in water but some dyestuffs are sensitive to hardness in the water. In these cases soft water should be used for dissolving and in the dyeing process.

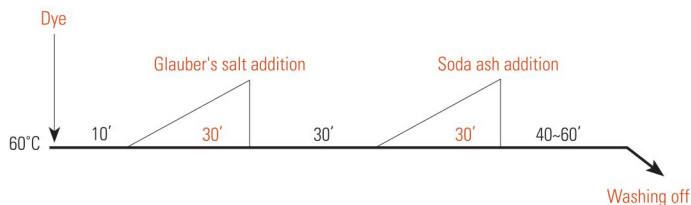
The shade of certain dyestuffs can be influenced by heavy metal ions such as copper and iron in the water. In this case the use of a suitable sequestrant is recommended.

Specification for water quality used in dyeing

Recommended	Maximum Level / Tolerance
Total hardness	50ppm
pH	7.0±0.5
Copper	0.05ppm
Iron	0.05ppm
Chloride ions	300ppm

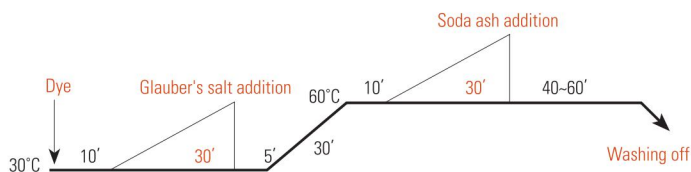
Dyeing Process for Synozol

Isothermal Method



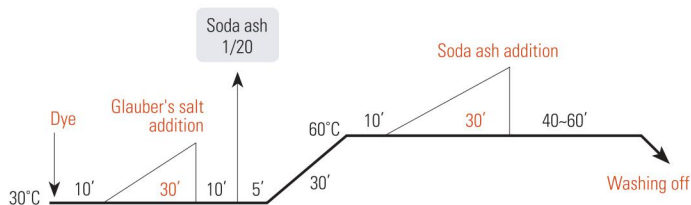
Ease of application, Shorter dyeing times best method for dyeing Bi-functional dyestuffs.

Temperature Increasing Method



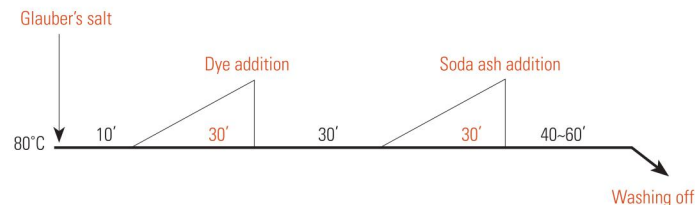
General Method, widely used to give a high degree of levelness and good reproducibility.

Dyeing Method for Synozol Blue R special



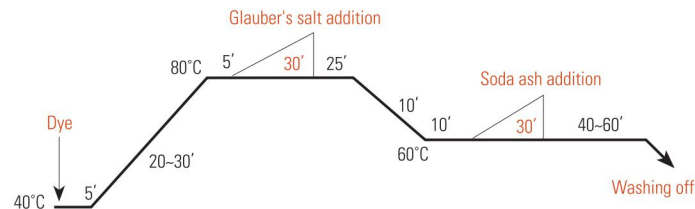
The leveling properties have been substantially increased by alkali pre-addition

Dyeing Method for Synozol Turquoise Blue HF-G



This method is used for Turquoise HF-G to improve levelness.

Cooling Down Method



Highly recommended for difficult to penetrate fabrics such as mercerized cotton and regenerated cellulose.

This method is also recommended for dyes with a large molecular structures such as **Turquoise Blue HF-G and Brilliant Blue K-RL Conc SP.**

General Information

Recommended amount of salt and alkali

★Unmercerized cotton L.R = 1:05

Dye (%o.w.f)	< 0.1	0.1 ~ 0.5	0.5 ~ 1.0	1.0 ~ 2.0	2.0 ~ 3.0	3.0 ~ 5.0	> 5.0
Glauber's salt g/l	16	24	32	40	40	48	64
Soda ash g/l	12	18	18	24	24	24	24
Soda ash g/l	12	18	6	6	6	6	6
Caustic 36°Be m/l	-	-	1.2	1.5	1.8	2.4	3

L.R = 1:10

Dye (%o.w.f)	< 0.1	0.1 ~ 0.5	0.5 ~ 1.0	1.0 ~ 2.0	2.0 ~ 3.0	3.0 ~ 5.0	> 5.0
Glauber's salt g/l	20	30	40	50	50	60	80
Soda ash g/l	10	15	15	20	20	20	20
Soda ash g/l	10	15	5	5	5	5	5
Caustic 36°Be m/l	-	-	1	1.25	1.5	2	2.5

★Mercerized cotton & Regenerated cellulose L.R = 1:05

Dye (%o.w.f)	< 0.1	0.1 ~ 0.5	0.5 ~ 1.0	1.0 ~ 2.0	2.0 ~ 3.0	3.0 ~ 5.0	> 5.0
Glauber's salt g/l	8	16	24	32	32	40	48
Soda ash g/l	12	15	15	18	18	18	18

L.R = 1:10

Dye (%o.w.f)	< 0.1	0.1 ~ 0.5	0.5 ~ 1.0	1.0 ~ 2.0	2.0 ~ 3.0	3.0 ~ 5.0	> 5.0
Glauber's salt g/l	10	20	30	40	40	50	60
Soda ash g/l	10	12	12	15	15	15	15

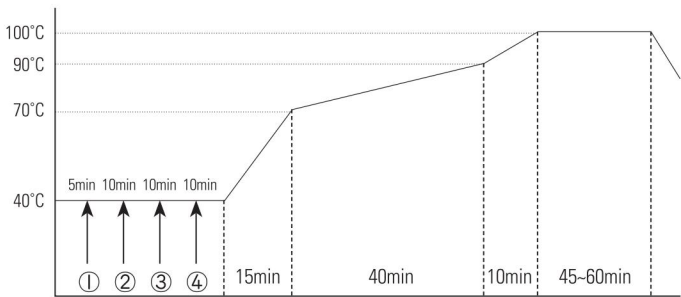
Washing off Process

Bath	Comments
1	Cold rinse for 10min at 40°C
2	Cold neutralizing rinse for 10min at 40°C
3	Hot rinse for 10min at 80°C
4	Soaping for 10min at 98°C
5	Hot rinse for 10min at 60°C
6	Cold rinse for 10min at 40°C

* For dark shades a second soaping bath at 98°C is recommended.

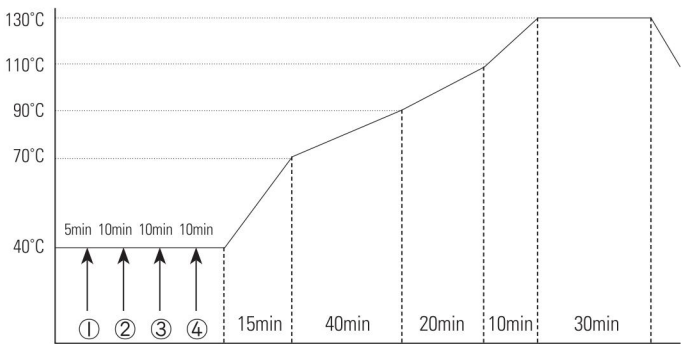
Dyeing Process for Papizolon

Papizolon HT dyeing Process on 100% cellulose & Regenerated cellulose



- ① KISCO Buffer N – 1g/l
- ② Papizolon Reactive dyestuffs
- ③ Glauber's Salt (1/3)
- ④ Glauber's Salt (2/3)

Papizolon HT dyeing Process on polyester / cellulosic blends



- ① KISCO Buffer N – 1g/l
- ② Papizolon Reactive dyestuffs
Synolon Disperse dyestuffs
Disperse Leveling agent
- ③ Glauber's Salt (1/3)
- ④ Glauber's Salt (2/3)

Papizolon HT dyestuffs are dissolved at 80°C, Synolon(disperse) dyestuffs are dispersed at 40°C.

Recommended amount of Glauber's salt

% o.w.f	Unmercerized cotton	Mergerized cotton & Regenerated cellulose
Below 0.05%	10g/l	5g/l
0.05%~0.1%	20g/l	10g/l
0.1%~0.5%	30g/l	20g/l
0.5%~1.0%	40g/l	30g/l

L.R = 1:20

KISCO Buffer N

Papizolon HT dyestuffs are slightly sensitive to pH in the dyebath, the pH should be adjusted between pH 6.5~7.5 before raising the dyeing temperature to avoid dye hydrolysis thus improve the reproducibility. We recommend the use of KISCO Buffer N agent for adjustment. Under normal circumstances the pH is easily maintained by the addition of 1g/l KISCO Buffer N.

Recommended Products

Trichromatic dyes on 100% cellulose & Regenerated cellulose

- Papizolon Yellow HT-MN
- Papizolon Red HT-3BN
- Papizolon Blue HT-MN

Trichromatic dyes on polyester / cellulosic blends

- Polyester portion**
Synolon Yellow EN-F ECO
Synolon Red EN-F
Synolon Blue EN-F

- Cellulosic portion**
Papizolon Yellow HT-MN
Papizolon Red HT-3BN
Papizolon Blue HT-MN

Recommended Products

Tri-chromatic dyes for Pale shades

Synozol Yellow K-HL
Synozol Red K-HL
Synozol Blue K-HL

Tri-chromatic dyes for Medium shades

Synozol Yellow K-3RS
Synozol Red K-3BS
Synozol Navy Blue K-BF (for better chlorinated water)
Synozol Blue K-BR (for better light fastness)

Tri-chromatic dyes for Dark shades

Synozol Ultra Yellow DS
Synozol Ultra Red DS
Synozol Ultra Navy DS

High Perspiration Light fastness for sportswear

Synozol Yellow CP-LP (for Non photochromism)
Synozol Red CP-HL
Synozol Blue CP

White discharge

Trichromatic dyes

Synozol Yellow K-HL, Synozol Yellow HF-4GR (less photochromism)
Synozol Red K-HL, Synozol Red SHF-GD (bright shades)
Synozol Blue K-HL

Pale shades

Synozol Ultra Yellow DS, Synozol Ultra Orange DS
Synozol Ultra Bordeaux DS, Synozol Navy Blue K-GF
Synozol Ultra Navy DS, Synozol Ultra Navy DS-R

Medium-dark shades

Supplementary

Synozol Yellow HF-3GN, Synozol Brilliant Red F3B 150%
Synozol Blue BB 133%
Synozol Navy Blue GG

Pink & Scarlet

Synozol Brilliant Orange K-R, Synozol Scarlet K-SR
Synozol Brilliant Red K-3G Conc, Synozol Red HF-3B
Synozol Red SHF-GD

Green

Synozol T/Q Blue HF-G 266%, Synozol Brilliant Blue K-RL Conc SP
Synozol Yellow HF-4GL 150%
Synozol Yellow HF-3GN (for light fastness)
Synozol Yellow K-3RS