Chemistar™

Colors For Right First Time Dyeing

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Colors For Right First Time Dyeing

Chemistar offers full range of reactive dyes for dyeing & Printing of cellulosic textiles. This shade card gives technical information on our range of Reactive Dyestuffs and their general application methods.

Chemifix VS DYES

Chemifix 'VS' Dyes are based on β-sulfatoethylsufone reactive system. These dyes have low to medium substantivity/reactivity for cotton and therefore better recommended for padding and printing applications. However, the substantivity of majority of the dyes of this group is greatly enhanced after the addition of alkali, because of the generation of vinlsulphone from of dye from its precursor and therefore can be used for exhaust dyeing also.

EXHAUST DYEING (Winch/jet dyeing):

a)All-in Process: In this method full amount of salt, soda and part of caustic soda are added to the bath in the beginning and the fabric is run for 10 min at room temperature. Then the pre-dissolved dye is added in two portions and the temperature is raised to the required level. Then the remaining amount of caustic soda is added and the dyening is contiuned for 60-90 min.

b)Normal Method: Start dyeing at room temperature with required amount of dye and run the machine for 10 min. Start raising the temperature to the required level @1-2^0 c min and simultaneously add the salt in two portions over a period of 15 min. After the required temperature is reached, alkali is added in two portions and dyeing is continued for 60-90 min. **Salt and Alkali requirements**

Dyeing Temperature	**60^{0}c**	**40^{0}c**	**30^{0}c**
Glauber's salt/Common salf (g/l)	40-80	60-90	80-100
soda ash (g/l) (or)	20	-	-
caustic soda solution			
(70 Tw cc/l) < 2% shade	1	2	5
> 4% shade	2	3	8
soda ash g/l	5	5	5

Notes:

Turq. Blue G gives maximum colour yeild at 80^0 C. For Turq, Blue 10-20 g/l soda ash is used as alkali. ...Combination shades with Turq, Blue G can be dyed at 80^0 C by proper selection of other components..

it is preferable to use glauber's salt for Blue R, T. Blue G and T, Blue H2GP.

PAD-BATCH DYEING

Dissolve the required amount of dyestuff in hot water and cool the solution to room temperature and add urea (if required). Mix the dye solution with the alkali just before padding. preferably the dye solution and alkali are fed to the padding trough through a dye –alkali mixer. Pad the properly pre-treated fabric through the solution at 25-27^0 c and batch for 20-24 hrs. After fixation is completed, fabric is given washing-off treatment.

concentration of dye in pad-liquor	**up to 20 g/l**	**20 to 40 g/l**
urea (g/l)	80	150
sodium silicate (110^0 Tw)	100	100
(Nao, sio_2 ::1:2.1) (g/l)		
Caustic soda (solid) (g/l)	3	3

Notes:

0range 3R is not recommended above 15 g/l concentration, due to poor solubility/ stability of dye in the presence of alkali.

3. printing

a) print –Dry-steam (saturated) Method:

Recipe:

Dye..... X parts
Hot water..... 100-300 parts
Resist salt..... 10-20 parts
Sodium bicarbonate.....10-15 parts
Thickening.....Balance
TOTAL.....1000parts

print-> Dry -> Saturated steam (7-10 min) -> wash off

B) print-> pad (alkali) – Cold dwell Method:

prepare print paste as per the above recipe without taking alkali. print and dry the fabric. Then pad the dried fabric through a solution containing 995-950 ml/lit. of sodium silicate (50^0 be/104^0 Tw) and 5-50 ml/lit caustic soda (38^0 be/17^0 Tw) and batch at room temperature for 20-24 hrs. After batching, the fabric is given usual washing-off treatment.

4. DISCHARGE PRINTING :

Majority of the vinylsulfone dyes are suitable for white and colored discharge effects. Some of the dyes can be discharged to white with netural or weakly alkaline discharge paste. General method is as below:

a)Treat the dyed fabric first with small quantity of Resist salt to protect the ground shade from reductive effect of printing paste.

b)Print the fabric with a paste prepared from the below mentioned recipe.

Rongalite C..... 10-20 parts
Titanium Dioxide (1:1)..... 10 parts
Dischagre salt W..... 6 parts
Thickening agent..... 40 parts
Caustic Soda 38^0 Be..... 10-20 parts
Water..... 4 parts
Total..... 100 parts

After printing, fabric is dried at about 80^{0}c and the streamed for 10-15 min in a star ager. After steaming, fabric is rinsed in cold water and then with warm water. It is then soaped with non-ionic or anionic detergent at boil for 15-20 min.

VS DYES

1% Shade	4% Shade	Product Name Reactive # (C.I. No)	GENERAL PROPERTIES: Solubility g/l at 30°C: in water at 30°C	with 50gpl common salt at 30°C	with 50gpl glauber's salt at 30°C	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Application: Exhaust Dying	Pad Batch Dying	Exhaust Dying/Fixation Temp (c)	GENERAL PROPERTIES: Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for economical dyeing	Suitability for light/pastel Shades	Dischargeability	FASTNESS PROPERTIES: Light: (1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	Washing: ISO-3 (Effect /Stain)	ISO-4 (Effect/ Stain)	Perspiration: Acid (Effect/ Stain)	Alkaline (Effect/ Stain)	Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
		Yellow FG # Yellow 42	100	30	50	20	LS	S	60°C	GS	6	LS	G	4 5	2-3 3	4 4-5	4 3-4	4 4-5	4 4	4 3	2 4
		Yellow GR # Yellow 15	100	50	80	20	S	S	60°C	GS/CS	6	S	G	4-5 5	2-3 3	4-5 4	4 4	5 4-5	5 5	4 3	2 4
		Golden Yellow R # Yellow 77	100	50	50	10	S	S	60°C	GS/CS	6	NS	G	2-3 3	2 2-3	4 4	4 3-4	4 4	4 3-4	4 3	2 4
		G.Yellow RNL #Orange107	100	100	100	30	S	S	60°C	CS/GS	6	S	G	4-5 5	3 3-4	4 4-5	4 4	4 4	4-5 4	4 3	2 4
		Orange 2R # Orange	60	30	50	10	S	LS	60°C	GS/CS	6	NS	G	3 3-4	2-3 3	4 4	4 3-4	4 4	4 4	4 3	1-2 4
		Orange 3R #Orange 16	60	30	50	10	S	LS	60°C	GS	5	S	G	4-5 5	3 3-4	4-5 4-5	4 4	4-5 4-5	4 4-5	4-5 3	2-3 4
		Red 5B # Red 35	60	40	40	10	NS	S	-	GS/CS	4	S	G	3-4 4-5	2-3 3-4	4 4	3-4 4	4-5 5	4-5 5	4 3	2 4
		Violet 5R #Violet 5	100	50	80	10	S	S	60°C	GS/CS	4	LS	F	5-6 6	3 4	4-5 4-5	4 4	5 5	4 5	4 3	2-3 4

VS DYES

1% Shade	4% Shade	Product Name Reactive # (C.I. No)	GENERAL PROPERTIES: Solubility g/l at 30°C: in water at 30°C	with 50gpl common salt at 30°C	with 50gpl glauber's salt at 30°C	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Application: Exhaust Dying	Pad Batch Dying	Exhaust Dying/Fixation Temp (c)	GENERAL PROPERTIES: Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for economical dyeing	Suitability for light/pastel Shades	Dischargeability	FASTNESS PROPERTIES: Light: (1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	Washing: ISO-3 (Effect/ Stain)	ISO-4 (Effect/ Stain)	Perspiration: Acid (Effect /Stain)	Alkaline (Effect /Stain)	Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
		T.Blue G #Blue 21	100	15	60	10	S	S	80°C	GS	6	S	P	5-6 6	3-4 4	4 4	4 3-4	4-5 4-5	4 4-5	4 3	2 4
		T.Blue H2GP #Blue 21	100	15	60	10	S	S	80°C	GS	6	S	P	5-6 6	3-4 4	4 4	4 3-4	4-5 4-5	4 4-5	4 3	2 4
		Blue R # Blue 19	200	20	100	10	S	NS	60°C	GS	6	LS	P	6 6-7	4 4	4-5 5	4 4	5 4	5 4	4 3	3 4
		Blue BBID # Blue 220	100	40	80	10	S	S	60°C	GS	6	s	G	6 6-7	3-4 4	4-5 5	4 4	5 4	5 4	4 3	3 4
		Black B H/C #Black 5	100	100	100	30	S	S	60°C	CS/GS	10	NS	G	5* 	3-4* 	4 4	4 3-4	4 4	4 4	4 2-3*	1-2 3-4
		Black B #Black 5	100	100	100	30	S	S	60°C	CS/GS	10	NS	G	5* 	3-4* 	4 4	4 3-4	4 4	4 4	4 2-3*	1-2 3-4
		Black RL #Black-31	100	50	50	20	LS	S	60°C	CS/GS	5	LS	G	5-6 6	3-4 4	4 4	4 3-4	4 4	4 3-4	4 2-3*	2-3 4

Chemifix F DYES

chemifix 'F' Dyes are hetero bifunctional dyes. These dyes contain at least one vinylsulfone and one monochlorotriazine reactive group and are mainly recommended for exhaust dyeing. These dyes can also be used in pad-batch (sillicate method) and printing applications. 'F' dyes can be used in combination with vinylsulfone dyes for producing mixture shades.

EXHAUST DYEING METHOD

Winch/jet Dyeing: start dyeing with required amount of dye at room temperature. Run the fabric for 10 min. Add the required amount of salt in 2-3 portions of 20 min. Continue dyeing for 15 min at room temperature and then add 1/5th alkali and raise temperature to 600 C in 20-30 min and continue dyeing at 60^0 C for 30 min. Add remaining alkali in 2-3 portions and continue dyeing for 60-90 min.

Jigger Dyeing Method: Start dyeing at room temperature by adding the required amount of dye and salt over two ends. Then give two ends and add half the amount of alkali over two ends and raise temperature to 60^0 C and add balance quantity of alkali over two ends and dye for further 4-6 ends, depending on the depth.

Salt and alkali Requirements:

% Shade	Common Salt (g/l)	Soda Ash (g/l)
up to 0.1	5-10	10
0.1 to 0.5	15-25	10-15
0.5 to 2.0	25-50	15-20
above 2.0	60<	20

Pad Batch Dyeing and printing Methods generally used for vinylsulfone reactive dyes can be used for 'F' dyes also.

F DYES

1% Shade (all blacks 4.0%)	4% Shade (all blacks 8.0%)	Product Name Reactive # (C.I. No)	GENERAL PROPERTIES: Solubility g/l at 30°C: in water at 30°C	with 50gpl common salt at 30°C	with 50gpl glauber's salt at 30°C	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	GENERAL PROPERTIES: Application: Exhaust Dying	Pad Batch Dying	Exhaust Dying/Fixation Temp (c)	GENERAL PROPERTIES: Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for econo-mical dyeing	Suitability for light/pastel Shades	Dischargeability	FASTNESS PROPERTIES: Light: (1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	Washing: ISO-3 (Effect/ Stain)	ISO-4 (Effect/ Stain)	Perspiration: Acid (Effect /Stain)	Alkaline (Effect/ Stain)	Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
		Yellow F-4G 150% #Yellow160A	100	20	80	10	S	LS	60°C	GS	6	LS	G	5 5-6	2-3 3	4-5 4-5	4 3-4	4 4	4 4	4 3	2-3 4
		Yellow F3R 150% #Yellow145A	150	80	80	30	S	S	60°C	CS/GS	6	S	F	6 6-7	4 4	4-5 4	4 3-4	5 4	5 4	4 3	2-3 4
		Orange F2R 150% #Orange122A	60	15	25	5	S	LS	60°C	GS	5	LS	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4	4 3	4 3	2-3 4
		Red F3B 150% #Red 195A	150	100	100	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3-4	4 4	4 3-4	4 4	4 4	4 3	3 4
		Red FRB, 150% #Red 198A	100	80	80	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4	4 4	4 3	2 3-4
		Red FBSID #Red-111	100	80	80	30	S	LS	60°C	CS/GS	6	S	P	4 5	2-3 3	4-5 4	4 3-4	4 4-5	4 4	4 3	2-3 3-4
		N. Blue FBS #Blue 222A	100	50	80	30	S	S	60°C	CS/GS	6	S	F	5 5-6	3 3-4	4 4	4 3-4	4 4	4 4	4 3-4	2 4
		Blue HFBR #Blue 221	100	50	80	30	S	S	60°C	CS/GS	6	S	F	5 5-6	3 3-4	4 4	4 3-4	4 4	4 4	4 3-4	2 4
		Black FGR 150% #Black	100	100	30	10	S	LS	60°C	CS/GS	10	NS	P	5*	3-4*	4 3-4	4 3	4 3-4	4 3-4	3 2-3*	3 4

Chemifix ME DYES

chemifix 'ME' Dyes are hetero bifunctional dyes. These dyes contain alteast one vinylusifone and one monochlorotriazine reactive group and are mainly recommended for exhaust dyeing. These dyes can be used in pad-batch (silicate method) and printing applications. 'ME' dyes can be used in combination with vinyl sulfone dyes for producing mixture shades.

EXHAUST DYEING METHOD

Winch/jet Dyeing: Start dyeing with required amount of dye at room temperature. Run the fabric for 10 min. Add the required amount of salt in 2-3 portions over a period of 20 min. continue dyeing for 15 min at room temperature and then add 1/5th alkali and raise temperature to 60°C in 20-30 min and continue dyeing at 60°C for 10 min. Add remaining alkali in 2-3 portions and continue dyeing for 60-90 min.

Jigger Dyeing Method: Start at room temperature by adding the required amount of dye and salt over two ends. Then give two more ends and add half the amount of alkali over two ends and rise temperature to 60°C and add balance quantity of alkali over two ends and dye for further 4-6 ends, depending on the depth.

Salt and Alkali Requirements:

% Shade	Common Salt (g/l)	Soda Ash (g/l)
up to 0.1	5-10	10
0.1 to 0.5	10-25	10-15
0.5 to 2.0	25-50	15-20
above 2.0	60<	20

Pad Batch Dyeing and printing Methods recommended for vinylsulfone reactive dyes can be used for ME dyes also.

ME DYES

1% Shade (all blacks 4.0%)	4% Shade (all blacks 8.0%)	Product Name Reactive # (C.I. No)	GENERAL PROPERTIES: Solubility g/l at 30°C: in water at 30°C	with 50gpl common salt at 30°C	with 50gpl glauber's salt at 30°C	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	GENERAL PROPERTIES: Application: Exhaust Dying	Pad Batch Dying	Exhaust Dying/Fixation Temp (c)	GENERAL PROPERTIES: Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for econo-mical dyeing	Suitability for light/pastel Shades	Dischargeability	FASTNESS PROPERTIES: Light: (1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	Washing: ISO-3 (Effect /Stain)	ISO-4 (Effect/ Stain)	Perspiration: Acid (Effect /Stain)	Alkaline (Effect /Stain)	Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
		Yellow ME4GL #Yellow160A	100	30	80	20	S	LS	60°C	GS	6	LS	G	5 5-6	2-3 3	4 4-5	4 3-4	4 4	4 4	4 3	2-3 4
		G.Yellow MERL Conc #Yellow145A	150	100	100	30	S	S	60°C	CS/GS	6	S	F	6 6-7	4 4	4-5 4	4 3-4	4 4	4 4	4 3	2-3 4
		Orange ME2RL #Orange122A	40	15	30	5	S	LS	60°C	GS	5	LS	P	4 4-5	2-3 3	4-5 4	4 3-4	4 4	4 4	4 3	2 4
		Red ME4BL Conc. #Red 195A	150	100	100	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4 4	4 3-4	4 4	4 4	4 3	3 4
		Red RB conc. #Red 198A	100	80	80	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4	4 4	4 3	2-3 3-4
		Red BS #Red 111	100	80	80	30	S	LS	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4-5	4 4	4 3	2-3 4
		N.Blue BFID #Blue 222A	100	50	80	30	S	S	60°C	CS/GS	6	S	F	5 5-6	3 3-4	4 4	4 3-4	4 4-5	4 4	4 3	2 4
		Black HFGR #Black	100	100	100*	30	S	S	60°C	CS/GS	10	NS	P	5*	3-4*	4 3-4	4 3	4 3-4	4 3-4	3* 2-3*	3 4

Chemifix M DYES

chemifix 'M' dyes are based on Dichlorotriazine reactive system. These dyes are highly reactive and can be applied to cellulosic material at about 30-40^{0} C.

EXHAUST DYEING:

Set the dye bath at room temperature with predissolved dye and enter the goods. Run the machine..20-30 min. and then add common salt or Glauber's salt. Run the machine for 30-45 min. and add predissolved alkali and continue dyeing for 60-90 min at room temperature. After dyeing goods are given thorough and efficient washing off treatment.

Salt and Alkali Requirement:

% Shade	Common Salt (g/l)	soda Ash (g/l) at M L R			
		1.5	1.10	1.20	1.30
Below 0.5	30	5	5	3	3
0.5-2.0	40	10	5	4	3
2.0-4.0	50	15	10	8	5
Above 4.0	60	20	15	10	5

Notes: Yellow MGR and Blue MR should be dyed at 40^{0}C.
Use of Glauber's Salt is recommended for Yellow MGR & Blue MR

M DYES

1% Shade	4% Shade	Product Name Reactive # (C.I. No)	GENERAL PROPERTIES: Solubility g/l at 30^{0}C: in water at 30^{0}C	with 50gpl common salt at 30^{0}c	with 50gpl glauber's salt at 30^{0}c	with 50 gpl comm. Salt & 20 gpl soda ash at 30^{0}c	Application: Exhaust Dying	Pad Batch Dying	Exhaust Dying/Fixation Temp (c)	GENERAL PROPERTIES: Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for econo-mical dyeing	Suitability for light/pastel Shades	Dischargeability	FASTNESS PROPERTIES: Light (1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	Washing: ISO-3 (Effect/ Stain)	ISO-4 (Effect /Stain)	Perspiration: Acid (Effect /Stain)	Alkaline (Effect/ Stain)	Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
		Yellow M4G	60	20	40	10	S	NS	30^{0}C	GS/GS	6	S	P	5	2-3	4-5	4	4	4-5	4	2
		#Yellow 22												5-6	3	5	4	4-5	5	3	3-4
		Yellow MGR	40	10	20	10	S	NS	40^{0}C	GS	4	LS	P	5-6	3	4-5	4	4-5	5	4	3-4
		#Yellow												6	3-4	4-5	4	4	4	3	4-5
		Golden Yellow MR	80	50	50	20	S	NS	30^{0}C	CS/GS	6	S	P	5-6	3	4	4	5	5	4	2
		#Yellow 44												6	3-4	4-5	3-4	5	5	3	3-4
		Orange M2R	100	50	80	30	S	NS	30^{0}C	CS/GS	6	S	P	4-5	2-3	4	4	4-5	4-5	4	2
		#Orange 4												5	3	4	3-4	4	4-5	3	4
		Red M5B	40	20	20	10	S	NS	30^{0}C	CS/GS	6	S	P	4-5	2-3	4-5	4	5	5	4	2
		#Red2												5	3	4	4	4-5	5	3	4
		Red M8B	50	10	20	10	S	NS	30^{0}C	CS/GS	6	S	P	4-5	2-3	4	4	4-5	4-5	4	2
		#Red 11												5	3	4	3-4	4	4-5	3-4	4
		Magenta MB	30	5	15	5	S	NS	30^{0}C	CS/GS	6	LS	P	4	2-3	4	4	4	4	4	2
		#Violet13												4-5	3	4	3-4	4	4-5	3	3-4
		Blue MR	60	20	40	10	S	NS	40^{0}C	GS	4	LS	P	6	3-4	4	4	5	5	4	3
		#Blue 4												6-7	4	4-5	4	5	4-5	3	4

Chemifix RGB DYES

Chemifix 'RGB' Dyes are high performance dyes, produced from specialty dyestuff intermediates and reactive groups. These dyes have been uniquely formulated by incorporating novel levelling agents and fixing agents to give excellent levelling and reproducible result. These dyes can be used for exhaust, continuous and semi-continuous dyeing. Chemifix 'RGB' dyes can be used in combination with 'VS' and 'ME' dyes for producing whole gamut of shades.

Salient Features

- Suitable for Exhaust Dyeing at 60°C
- Suitable for Continuous Dyeing
- Excellent shade reproducibility
- Versatile Application
- Economical for Medium and Dark Shades
- Very Good Shade Build-up
- Very good solubility in water
- Excellent levelling Characteristics
- Eco Friendly Products
- Good alround fastnes properties

EXHAUST DYEING METHOD

Winch/soft flow Jet Dyeing : start dyeing with required amount of dye at room temperature. Run the fabric for 10 min. Add the required amount of salt in 2-3 portions over a priod of 20 min. and raise the temperature to 60° c in 20-30 min. Continue dyeing at 60° C for 15-30 min. Add alkali in 2-3 portions over a period of 20 min and continue dyeing for 60-90 min.

SALT AND ALKALI REQUIREMENTS

% Shade	Common Salt (g/l)	Soda Ash (g/l)	Mixed Alkali (g/l)	
			Soda Ash	Caustic soda solid
up to 0.1	5-10	8	8	-
0.1to 0.5	10-40	10-15	10	-
0.5 to 1.0	40-50	15-20	5	0.2-0.4
1.0 to 2.0	50-70	20	5	0.4-0.5
2.0 to 4.0	70-80	20	5	0.5-0.8
Above 4.0	80	20	5	1.0

RGB DYES

1% Shade (all blacks 4.0%)	4% Shade (all blacks 8.0%)	Product Name	GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES								
			Solubility g/l at 30°C				Application							Light		Washing		Perspiration				
			in water at 30°C	with 50gpl common salt at 30°C	with 50gpl glauber's salt at 30°c	with 50 gpl comm. Salt & 20 gpl soda ash at 30°c	Exhaust Dying	Pad Batch Dying	Dying/Fixation Temp (c)	Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for econo-mical dyeing	Suitability for light/pastel Shades	Dischargeability	(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect /Stain)	ISO-4 (Effect /Stain)	Acid (Effect/Stain)	Alkaline (Effect/Stain)	Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)	
		Chemifix Lemon Yellow RGB	150	50	100	10	S	LS	60°c	GS	4	S	G	4-5 5	3 3-4	4-5 4-5	4 3-4	4 4	4 4	5 4	3-4 4	
		Chemifix G.Yellow RGB	120	80	80	20	S	S	60°c	GS/CS	6	S	F	5 5-6	4 4	4-5 4-5	4 3-4	4-5 4-5	4-5 4-5	5 4	3 4	
		Chemifix Red RGB	120	80	80	20	S	S	60°c	GS/CS	6	S	P	4-5 5	3 4	4-5 4-5	4 4	4-5 4	4-5 4	5 4	4 4	
		Chemifix Deep Red RGB	100	50	80	15	S	S	60°c	GS	4	N.S	G	4 5	3 4	4-5 4	4 3-4	4-5 4-5	4-5 4	4-5 4	3-5 4	
		Chemifix Brill. Red RGB	150	100	100	20	S	S	60°c	GS/CS	6	S	P	4-5 5	3 4	4-5 5	4-5 4-5	5 5	5 5	4-5 4-5	4 4	
		Chemifix Blue RGB	100	50	80	20	S	S	60°c	GS	4	L.S	G	4-5 5	4 4	4-5 4-5	4 4	4-5 5	4-5 5	4-5 4	4 4	
		Chemifix Navy Blue RGB	120	100	100	20	S	S	60°c	GS/CS	6	N.S	G	– 4	– 3	4-5 5	4-5 4-5	5 5	4 4	4-5 4	3 4	
		Chemifix Black RGB	100	100	100	20	S	S	60°c	GS/CS	8	N.S	G	5* 	4* 	4 4	4-5 5	4-5 4	4 4	4* 3*	3 4	

SALIENT FEATURES OF RGB DYES

Chemifix 'RGB' dyes are high performance dyes. These dyes are uniquely formulated to give on-tone shade build-up and excellent shade reproducibillity These dyes give best performance in medium and dark shades.

CHEMIFIX LEMON YELLOW RGB

- high tinctorial yellow dyestuff
- appropriate component for bright green shades
- excellent solubility in water
- good levelling and wasting off characteristics
- gives best results with glauber's salt
- limited solubility in alkali-preferable to avoid color addition in alkaline bath for shade correction
- dischargeable upto2% shade

CHEMIFIX GOLDEN YELLOW RGB

- very economical product for g. yellow shades
- excellent solubility and good levelling
- excellent shade build-up and reproducibility
- very good light and wet rubbing fastness
- suitable for trichromatic combination with Red RGB and Navy Blue RGB
- dischargeable upto 1.0% shade

CHEMIFIX RED RGB

- economical red component for medium shades
- excellent solubility in water
- excellent levelling in pastel and light shades
- excellent shade build-up and reproducibility
- acceptable light fastness in medium shades
- suitable for trichromatic combination with G.Yellow RGB and Navy Blue RGB
- non-dischargeable product

CHEMIFIX DEEP RED RGB

- very high tinctorial dyestuff
- most economical component for dull reds, browns and maroons
- limited solubility in alkali-preferable to avoid color addition in alkaline bath for shade correction
- gives best results with glauber's salt
- 100% discahrgeable product

CHEMIFIX BRILL RED RGB

- very high tinctorial dyestuff
- most economical component for brilliant reds and scarlets
- excellent solubility in water
- excellent levelling in pastel and light shades
- excellent washing off characteristics
- acceptable light fastness in medium shades
- non-dischargeable product

CHEMIFIX BLUE RGB

- economical blue component for medium shades
- excellent solubility and good levelling
- very good levelling in light and medium shades
- excellent shae build-up and medium shades
- good light fastness in medium shades
- suitable for trichromatic combination with G.Yellow RGB and Red RGB

CHEMIFIX NAVY BLUE RGB

- high tinctorial greenish navy shade
- most economical navy for medium and dark shades
- good trichromatic component for medium and dark shades
- not recommended for light shades and for toning
- 100% dischargeable product

CHEMIFIX BLACK RGB

- high tinctorial bluish black
- most economical for deep blacks
- very good shade build-up and reproducibility
- acceptable light fastness
- 100% dischargeable product

Chemifix S/W DYES

chemifix S/W Dyes are High Performance dyes, made from speciality dyestuff intermediates and reactive group. These days are specially engineered to give high tinctorial value and therefore can be used for producing deep shades by exhaust dyeing. Chemifix S/W dyes can also be used in combination with regular VS and ME dyes for producing mixture shades.

SALIENT FEATURES

- Suitable for Exhaust Dyeing at 60° c
- Possible to produce Deepest Shades
- Very Much Economical for Medium and Dark shades
- Excellent shade Build-up
- Excellent Solubility in water
- Excellent Levelling Characleristics
- Least Sensitivity to Variation in Dyeing Conditions
- Very Good Fastness to Washing, Rubbing and Light

EXHAUST DYEING METHOD

Winch/Soft flow jet Dyeing: Start dyeing with the required amount of dye at room temperature. Run the fabric for 10 min. add the required amount of salt in 2-3 protions over a period of 20 min. and raise the temperature to 60° C in 20-30 min. and continue dyeing for 60-90 min.

SALT AND ALKALI REQUIREMENTS

% Shade	Common Salt (g/l)	Soda Ash (g/l)	Mixed Alkali (g/l)	
			Soda Ash	Caustic soda solid
upto 0.1	5-10	8	8	-
0.1 to 0.5	10-40	10-15	10	-
0.5 to 1.0	40-50	15-20	5	0.2-0.4
1.0 to 2.0	50-70	20	5	0.4-0.5
2.0 to 4.0	70-80	20	5	0.5-0.8
Above 4.0	80	20	5	1.0

S/W DYES

% Shade 0.2% (All Blacks) 4.0%	% Shade 2.0% (All Blacks) 8.0%	Product Name	1/1 Standard Depth (% Shade)	GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES							
				Solubility g/l at 30°C				Application		Dying/Fixation Temp (°c)	Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for econo-mical dyeing	Suitability for light/pastel Shades	Dischargeability	Light	Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect /Stain)	Post Mercerization (Effect /Stain)
				in water at 30°C	with 50gpl common salt at 30°c	with 50gpl glauber's salt at 30°c	with 50 gpl comm. Salt & 20 gpl soda ash at 30°c	Exhaust Dying	Pad Batch Dying						(0.2%, 1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect/ Stain)	ISO-4 (Effect/Stain)	Acid (Effect /Stain)	Alkaline (Effect /Stain)			
		Chemifix Yellow S2G 200%	2.4	150	50	80	10	S	NS	60	GS	4	S	G	2-3 3 3	4-5 4--5	4 3-4	4 4	4 4	5 3-4	4 4	4-5 4-5
		Chemifix Yellow S3R 200%	1.68	150	100	100	50	S	S	60	GS/CS	4	S	F	3 4 4	4-5 4	4 4	5 4	5 4	4-5 3-4	4-5 4	3-4 4-5
		Chemifix G.Yellow SR 200%	1.5	100	80	80	10	S	S	60	GS	4	L.S.	G	3 3-4 4	4-5 4	4 4	5 4	5 4	4-5 3-4	4 4-5	3-4 4
		Chemifix Orange W3R 150%	1.33	100	80	80	10	S	S	60	GS	4	L.S.	G	3 3-4 4	4-5 4	4 4	5 4	5 4	4-5 3-4	4 4-5	3-4 4
		Chemifix Deep Red WB 150%	1.36	100	80	80	25	S	LS	60	GS/CS	5	L.S.	G	3 3-4 4	4-5 4	4 4	5 4	5 4	5 3-4	4 4-5	3-4 4
		Chemifix Deep Red SB 200%	1.4	100	50	50	25	S	LS	60	GS/CS	4	L.S.	P	2-3 3 4	4-5 4-5	4 4	4 4	4 4-5	4-5 4	4 4	3-4 3
		Chemifix Brill. Red S3R 200%	1.90	150	100	100	50	S	S	60	GS/CS	6	S	P	2-3 3 4	4-5 4-5	4 4	5 4	5 4	4 3-4	3-4 3-4	3-4 3-4
		Chemifix Red S2Y 200%	1.48	150	100	100	50	S	LS	60	GS/CS	5	S	P	2-3 2-3 3-4	4 4	4 3-4	4 4	4 4	4-5 3-4	3-4 4	3-4 4
		Chemifix Red Win H/C	2.52	150	100	100	50	S	LS	60	GS/CS	6	S	P	2 3 3	4 4-5	3-4 3-4	4 4	4 4	4-5 3-4	3-4 3-4	3-4 4
		Chemifix Navy SG 200%	2.1	150	100	100	35	S	LS	60	GS/CS	5	S	G	2-3 3 3-4	4-5 4	4-5 4	4-5 4	4-5 4	4 3-4	4 4	3-4 4-5

S/W DYES

% Shade 0.2% (All Blacks) 4.0%	% Shade 2.0% (All Blacks) 8.0%	Product Name	1/1 Standard Depth (% Shade)	GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES							
				Solubility g/l at 30°C				Application		Dying/Fixation Temp (°c)	Preferred electroyte (Glauber's Salt/Common Salt)	Optimum % shade for econo-mical dyeing	Suitability for light/pastel Shades	Dischargeability	Light	Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect /Stain)	Post Mercerization (Effect /Stain)
				in water at 30°C	with 50gpl common salt at 30°c	with 50gpl glauber's salt at 30°c	with 50 gpl comm. Salt & 20 gpl soda ash at 30°c	Exhaust Dying	Pad Batch Dying						(0.2%, 1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect/ Stain)	ISO-4 (Effect/Stain)	Acid (Effect /Stain)	Alkaline (Effect /Stain)			
		Chemifix Navy Blue SGB, 200%	2.3	150	100	100	50	S	S	60	GS/CS	6	L.S.	G	- - 3	4 4 4	4 3-4 4	4 4-5 4	4 4 4	4 3 4	3-4 3-4 3-4	3-4 3-4 3-4
		Chemifix T.Blue S2G 200%	1.8	150	35	100	15	S	S	80	GS	5	S	P	4 4 4	4 4 4	4 3-4 4	4 4 4	4 4 4	4 3 4	2-3 2-3 4	4 4 4
		Chemifix Blue SNG 150%	2.2	100	50	50	20	S	LS	60	GS	4	S	P	4 4 4	4-5 4 4	4 4 4	4 4 4	4 4 4	4 3-4 4	4 4-5 4	4 4 4
		Chemifix Navy SRB 200%	Deep Navy 7.2	150	100	100	50	S	S	60	GS/CS	6	N.S.	G	- - 4*	4 4 4	4 4 4	4 4 4	4 4 4	4 3* 4	3-4 3-4* 4	3-4 3-4* 4
		Chemifix Navy WB	Deep Navy 10	150	100	100	50	S	S	60	GS/CS	8	N.S.	G	- - 4*	4-5 4-5 4	4 4 4	4 4 4	4 4-5 4	4-5 4 4	4 4 4	3 2-3 4
		Chemifix Black WNN H/C	Deep Black 8	150	100	100	50	S	S	60	GS	8	L.S.	G	- - 4-5*	4 4 4	4 4 4	5 4 4	5 4 4	4 3* 4	3-4 3-4* 4	3-4 3-4* 4
		Chemifix Black G	Deep Black 6	150	80	80	50	S	S	60	GS/CS	6	L.S.	G	- - 4-5*	4 4 4	4 4 4	5 4 4	5 4 4	4 3* 4	3-4 3-4* 4	3-4 3-4* 4
		Chemifix Black R	Deep Black 6	150	80	80	50	S	S	60	GS/CS	6	L.S.	G	- - 4-5*	4 4 4	4 4 4	5 4 4	5 4 4	4 3* 4	3-4 3-4* 4	3-4 3-4* 4
		Chemifix Black CDN	Deep Black 8	150	100	100	50	S	S	60	GS/CS	8	L.S.	G	- - 4-5	4 4 4	4 3-4 4	4 4 4	4 4 4	4-5 3-4 4	3-4 4 4	3-4 4 4
		Chemifix Black NX	10	100	80	80	30	S	S	60	GS/CS	8	L.S.	G	- - 4	4 4 4	4 3 4	4 4 4	4 4 4	4 3* 4	3-4 4 4	3 2-3 4

SALIENT FEATURES OF S/W DYES

S/W dyes are high tinctorial dyes. Most of the dyes give 100-200% higher strength, when compared with conventional ME or VS DYES. Therefore, these will give most economical dyeing result in medium and dark shades.

CHEMIFIX YELLOW S2G, 200%

- high tinctorial product
- lemon yellow shade, appropriate component for bright green shades
- excellent solubillity, acceptable light fastness
- good leveling & washing off characteristics
- limited solubility in akali-preferable to avoid color addition in kaline bath for shade correction

CHEMIFIX YELLOW S3R 200%

- high tinctorial product
- very economical product for G.Yellow shades.
- very good light fastness and wet rubbing fastness
- excellent solubility, good levelling
- suitable for trichromatic combination with Red S2Y, 200% and Navy SG,200%

CHEMIFIX G.YELLOW SR,200%

- Very high tinctorial dye
- 100% dischargeable product
- excellent shade build-up
- very economical product for orangish yellow shade
- very good light fastness and wet rubbing fastness
- most economical toning component for black and navys.
- most economical component for dull greens, browns, etc.

CHEMIFIX ORANGE W3R 150%

- Very high tinctorial dye
- 100% dischargeable product
- excellent shade build-up
- very good light fastness and wet rubbing fastness
- most economical toning component for black and navys.

CHEMIFIX DEEP RED WB,150%

- very high tinctorial product
- 100% dischargeable product
- excellent shade build-up
- most economical component for maroons, browns, dull reds
- most economical toner for blacks and navys
- good light fastness

CHEMIFIX DEEP RED SB, 200%

- very high tinctorial product
- most economical component for dull reds, browns and maroons
- excellent shade build-up
- very good light fastness and web rubbing fastness

CHEMIFIX BRILL RED S3R, 200%

- high tinctorial product
- brilliant red
- excellent solubility and good levelling characteristics
- most economical product for brilliant reds and scarlets
- good light fastness
- very good washing fastness
- least sensitive to residual alkali on fabric

CHEMIFIX RED S2Y,200%

- high tinctorial value
- brilliant red for scarlet and blood red shades
- excellent solubility, good levelling suitable for trichromatic combination with yellow S3R, 200% and navy SG, 200%
- least sensitive to residual alkali on fabric

CHEMIFIX RED WIN H/C

- brilliant red shade
- excellent levelling in pastel and light shades
- suitable for trichromatic combination with yellow S3R, 200% and navy SG, 200%

CHEMIFIX NAVY SG, 200%

- very high tinctorial value
- excellent levelling in pastel and light shades
- good light fastness
- suitable for trichromatic combination with red S2Y, 200% and Yellow S3R, 200%
- gives best results with glauber's salt

CHEMIFIX NAVY BLUE SGB, 200%

- high tinctorial greenish navy shade
- 100% dischargeable prdouct
- most economical navyfor medium & dark shades
- good wet rubbing fastness

CHEMIFIX T.BLUE S2G, 200%

- very high tinctorial value
- excellent levelling in pastel and light shades
- highest solubility in water and glauber's salt
- excellent light fastness and wet rubbing fastness
- give best result with glauber's salt
- limited solubility in common salt

CHEMIFIX BLUE SNG, 200%

- high tinctorial royal blue
- excellent levelling in pastel and light shades
- excellent light fastness
- gives best results with glauber's salt
- very economical/reliable component for royal blue shades
- good solubility/stability in alkaline bath

CHEMIFIX NAVY SRB, 200%

- high tinctorial reddish navy shade
- 100% dischargeable product
- most economical navy for medium and dark shades
- good trichromatic component for medium and dark shades
- good wet rubbing fastness

CHEMIFIX NAVY WB

- economical Navy Blue
- 100% dischargable product
- suitable only for medium and dark shades
- good trichromatic component for dark shades

CHEMIFIX BLACK WNH H/C

- high tinctorial dye
- 100% dischargeable product
- suitable for post mercerisation (under optimum conditions) excellent shade build up good light, washing and wet rubbing fastness
- most economical and reproducible jet black

CHEMIFIX BLACK G

- very high tinctorial greenish black dye
- jet black shades can be obtained at 6% shade
- very good wet rubbing and washing fastness
- suitable for post mercerisation (under optimum conditions)
- most ecenomical greenish black

CHEMIFIX BLACK R

- very high tinctorial reddish black dye
- jet black shades can be obtained at 6% shade
- very good wet rubbing and washing fastness
- suitable for post mercerisation (under optimum conditions)
- most ecenomical jet black

CHEMIFIX BLACK CDN

- high tinctorial dye
- 100% dischargeable product excellent shade build-up
- most economical bluish black

CHEMIFIX BLACK NX

- economical black dye
- good light and washing fastness
- suitable for post mercerisation (under optimum conditions)

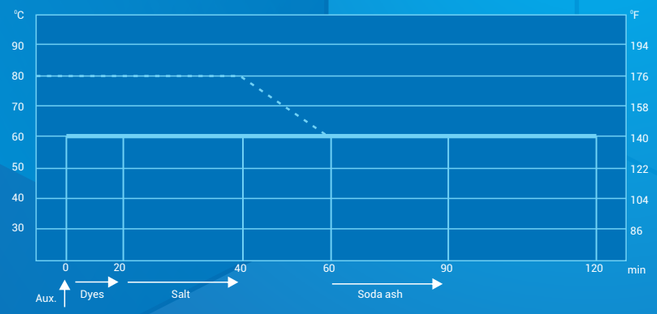
Chemifix CN DYES

The CHEMIFIX CN dyes are hetero bifunctional reactive dyes for warm exhust dyeing. Highly compatible range for Trichromatric shades and high all-round fastness performance. Excellent reproducibility and outstanding washing-off properties resulting in increased productivity.

Highlights of CHEMIFIX CN	Dyer Benefits....
Outstanding speed of washing off • high degree of fixation (over 80%) • medium affinity of the dyes • very good diffusion • bond to cellulose, stable in both alkaline and acidic condition	**Top Productivity** • saves water, energy and time **Excellent wet and wash fastness** • appropriate dye selection fulfills very high requirements (M&S, GAP... etc) • excellent multiwash fastness (including C10A)
Robust dyeing system outstanding reproducibility • excellent compatibility of the trichromy dyes • on-tone build up • high degree of fixation • very good leveling properties	**Fewer corrections, fewer re-dyeing** • right first time • excellent lab-to-bulk and bulk-to-bulk reproducibility • improved appearance of the fabric
High Light fastness combinations	**Excellent light fastness** • appropriate dye selection fulfills very high requirements (M&S, GAP, IKEA...etc)
Very good ecological properties • high degree of fixation (over 80%) • outstanding washing off, less washing baths needed • AOX-free range	**Cost Saving** • shorter washing off process:saves energy, water and time • less dye in waste water: reduced ecological costs

Exhaust Dyeing method for 100% cellulose

60°C method with soda ash



Salt and alkali recommendations/liquor ratio below 1 : 8

CHEMIFIX CN	%	<0.5	0.5	1	2	3	4	>5
5 Salt*	g/l	20	30	40	50	60	70	80
Soda ash	g/l	10	12	14	16	18	20	20

Salt and alkali recommendations/liquor ratio 1 : 8 and above

CHEMIFIX CN	%	<0.5	0.5	1	2	3	4	>5
Salt*	g/l	20	30	40	50	60	70	80
Soda ash	g/l	8	10	12	14	16	18	18

Cold Pad Batch Dyeing on 100% Cellulose

Alkali System	Dyes Concentration in g/l							Fixation Time at 25°C
	<10	20	30	40	50	60	>70	
Sodium Silicate (58 - 60°Be) - g/l (Na_2O : SiO^2 1 : 2.1)	90	90	90	90	90	90	90	10 —12 hours
Caustic Soda (Solid) g/l	-	2	3	3	4	4	5	

Note:

- In order to increase the solubility of the dyes and reduction of substantivity as well as cooling of the pad liquor, the use of 30-50 gpl Urea is recommended.
- Fixation (Dwelling) time is 10 —12 hours depending on the depth of the shade.

CN DYES

0.25% Shade	0.5% Shade	Product Name	Solubility in water at 30°C	GENERAL PROPERTIES: Application Method	GENERAL PROPERTIES: Dying/Fixation Temp (c)	GENERAL PROPERTIES: Preferred electrolyte (Glauber's Salt/common Salt)	GENERAL PROPERTIES: Suitability for Light / Pastel shade	GENERAL PROPERTIES: Dischargeability	FASTNESS PROPERTIES: Light (0.1%, 0.5%,1%) (ISO-105-B02)	FASTNESS PROPERTIES: Light (0.1%, 0.5%,1%) (AATCC, 16E, 20 AFU)	FASTNESS PROPERTIES: Washing ISO-105 C2S (CH/CO)	FASTNESS PROPERTIES: Perspiration Acid (CH/CO)	FASTNESS PROPERTIES: Perspiration Alkaline (CH/CO)	FASTNESS PROPERTIES: Chlorinated Water (Effect Stain)	Post Mercerization	Water Fastness (CH / CO)
		Chemifix Yellow CN2R	100	S	60°c	GS	S	G	4 5 6	4 4-5 4-5	5 5	4-5 5	4-5 5	4	Very Good	5 5
		Chemifix Red CN2BL	100	S	60°c	GS	S	G	5 5-6 6	4 4-5 4-5	5 5	5 5	5 5	2-3	Very Good	5 5
		Chemifix Blue CNR	100	S	60°c	GS	S	F	5 6 6-7	4 4-5 4-5	5 4-5	4-5 5	4-5 5	3-4	Very Good	5 5

Chemifix Ultra 3D dyes

Chemifix Ultra 3D reactive dye series with an innovative chemistry, have been specially designed considering the increasing market requirements for TOTAL COST-EFFECTIVENESS in dyeing. These innovative dyes are focused on cost reduction, better dye yield and good overall fastness properties.

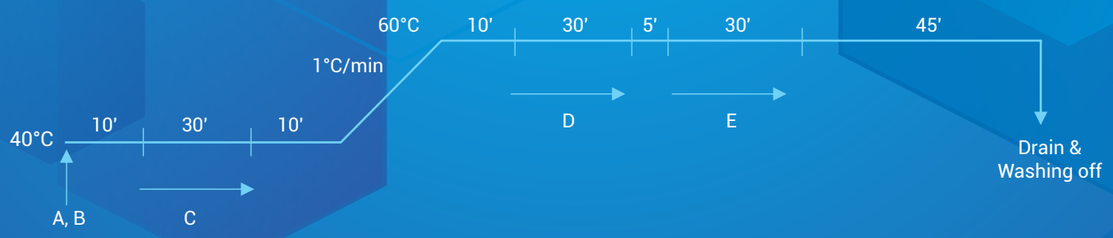
Chemifix Ultra 3D - Saves...
• Dyes Consumption • Water consumption • Salt consumption • Energy consumption
• Effluent load reduction like TDS level, BOD & COD level etc • Production cost

Problem & Challenges presently faced in Dark shade dyeing
• High Percentages of conventional dyestuffs required
• High amounts of water and energy required for washing off processes
• Reduction in overall fastness properties, especially wet fastness
• Cost of production is higher

Chemifix Ultra 3D dye range offers solutions to the above problems due to the following features
• Very high build-up properties
• Good Washing-off properties
• Good Overall fastness properties
• Most economical receipe cost

Special Features	Benefits
• Highest Build up	Deepest shades are possible with lowest amount of dyes & hence dyes Consumption will be reduced considerably offering cost effectiveness
• High degree of Fixation	Shorter washing off cycles; saves energy, water and time.
• Excellent Washing off	Drastically reduces water consumption, saves times & energy, reduced effluent load and overall increased productivity with lowest processing cost
• Excellent compatibility	Excellent lab to bulk & bulk to bulk Shade reproducibility Very good level dyeing
• Most Economical receipes	Cheapest dye receipe cost & cheapest over all production cost

Exhaust Dyeing method for 100% cellulose unmercerized
60°C Mixed Alkali Method using Soda ash & Caustic soda



A - Auxiliaries B - Salt C - Dyes D - Soda Ash E - Caustic Soda

↑ - Addition / Injection → - Dosing

Salt & Alkali (Soda ash only) recommendations

Dye (% owf)	1 - 2%	2 - 3%	3 - 4%	Above 4%
Salt in g/l	30 - 40	40	50	60
Soda ash in g/l	12 - 15	15 - 18	18 - 20	20

Salt & Mixed Alkali recommendations

Dye (% owf)	1 - 2%	2 - 3%	3 - 4%	Above 4%
Salt in g/l	30 - 40	40 - 50	50 - 60	60
Soda ash in g/l	5	5	5	5
Caustic soda (flakes) in g/l	1.0	1.0	1.5	1.5

Note: Turquoise based shades are to be dyed with Isothermal dyeing method at 80°C using Glauber's salt for the best dyeing results.

Ultra3D

4% Shade	Product Name	1/1 Standard Depth (% Shade)	GENERAL PROPERTIES						FASTNESS PROPERTIES										
			Solubility g/l at 30°C			Application				Light		Washing		Chlorinated Water/ISO 105 E03	Perspiration ISO 105 E04				
			in water at 30°C	with 50gpl salt at 30°c	with 50 gpl Salt & 20 gpl soda at 30°c	Exhaust Dyeing	Pad Batch Dyeing	Dyeing/Fixation Temp (°c)	Dischargeability	ISO 105 BO2	AATCC 16E, 20AFU	ISO-105 Co6, C2S, CH, CO	AATCC 6 1 -2A, CH, CO	CH/CO	Acid CH/CO	Alkaline CH/CO	Oxidative Bleach Damage/M & S C10A	Post Mercerization CH/CO	Rubbing (Dry/Wet)
	Chemifix Ultra Lemon 3D	2.2	150	50	20	S	NS	60	G	5-6	3	4-5 4-5	4 4	2-3 4	4 4	4 4	4	2 3-4	4 3
	Chemifix Ultra Yellow 3D	1.0	150	100	100	S	S	60	F	6-7	4	4-5 4-5	4 4-5	4 4-5	5 4	4 4	4	3-4 4-5	4 3-4
	Chemifix Ultra Sun Yellow 3D	1.1	150	10	100	S	S	60	F	6-7	4	4-5 4-5	4 4	4 4	4-5 4	4-5 4	4	3-4 4	4-5 4
	Chemifix Ultra Golden Yellow 3D	1.15	150	100	100	S	S	60	F	6-7	4	4-5 4-5	4 4	3-4 4	4 4	4 4	4	4 3-4	4 3
	Chemifix Ultra Orange 3D	2.2	80	25	10	S	NS	60	P	5	3	4 4-5	4 4-5	2 4	3-4 4	4 4	4	2 3-4	4 3
	Chemifix Ultra Scarlet 3D	1.3	150	100	100	S	S	60	P	6	4	4-5 4-5	4-5 4	3 4	4 4	4 4	4	3 3-4	4 3
	Chemifix Ultra Red 3D	1.25	150	100	100	S	S	60	P	5-6	3-4	4-5 4-5	4 4	3 4	4 4	4 4	4	3 3-4	4 3
	Chemifix Ultra Rubine 3D	1.15	150	100	100	S	S	60	P	5-6	3-4	4-5 5	4 4-5	3-4 4	4-5 4-5	4 4-5	4	3 3-4	4 3
	Chemifix Ultra Bordeaux 3D	1.0	150	80	50	S	S	60	F	6	4	4-5 4-5	4-5 4-5	3 4	4 4	4 4-5	4	3 3-4	4 3

Ultra3D

4% Shade	Product Name	1/1 Standard Depth (% Shade)	GENERAL PROPERTIES						FASTNESS PROPERTIES										
			Solubility g/l at 30°C			Application				Light		Washing		Chlorinated Water/ISO 105 E03	Perspiration ISO 105 E04				
			in water at 30°C	with 50gpl salt at 30°c	with 50 gpl Salt & 20 gpl soda at 30°c	Exhaust Dyeing	Pad Batch Dyeing	Dyeing/Fixation Temp (°c)	Dischargeability	ISO 105 BO2	AATCC 16E, 20AFU	ISO-105 Co6, C2S, CH, CO	AATCC 6 1 -2A, CH, CO	CH/CO	Acid CH/CO	Alkaline CH/CO	Oxidative Bleach Damage/M & S C10A	Post Mercerization CH/CO	Rubbing (Dry/Wet)
	Chemifix Ultra Caramine 3D	1.4	100	80	50	S	S	60	G	6	4	4-5 4-5	4 4-5	4 4-5	4 4	4 4	4	3-4 4-5	4 3
	Chemifix Ultra Rust Red 3D	0.85	200	150	100	S	S	60	G	6	4	4-5 4-5	4-5 4-5	4 4	4 4	4 4	4	3-4 4-5	4 3-4
	Chemifix Ultra Turquoise 3D	1.7	200	35	15	S	S	80	P	6-7	4	4-5 4	4 4	2.3 3	4 4	4 4	4	3-4 4-5	4 3
	Chemifix Ultra Ocean 3D	2.3	200	100	80	S	S	60	P	7	4-5	4-5 4-5	4-5 4-5	4 4	4-5 4-5	4-5 4	4	3-4 4-5	4 3
	Chemifix Ultra Royal 3D	2.2	200	100	80	S	S	60	P	7	4-5	4-5 4-5	4-5 4-5	4-5 4	4-5 4-5	4-5 4	4	3-4 4-5	4 3-4
	Chemifix Ultra Brilliant Blue 3D	1.55	200	50	25	S	LS	60	P	7	4-5	4-5 4-5	4-5 4-5	4 4	4-5 4-5	4-5 4	4	3-4 4-5	4 3
	Chemifix Ultra Blue 3D	2.1	200	100	100	S	S	60	G	6	3-4	4-5 4-5	4 4	4 4	4-5 4-5	4-5 4	4	3-4 4-5	4 4
	Chemifix Ultra Navy 3D	7.2	200	100	100	S	S	60	G	5-6	3-4	4-5 4-5	4-5 4	4 4-5	4 4	4-5 4	3	3 4	4 4
	Chemifix Ultra Jet Black 3D*	6.0	200	100	100	S	S	60	G	5-6	3-4	4 4	4 4	3-4 4	4 4	4-5 4	4	3 4	4 3

* 8% Shade

Washing off: To achieve best possible fastness properties, it is essential to remove the unfixed /hydrolysed dye completely from substrate. Following sequence can be used for this purpose.

Cold rinse -> Hot rinse -> Neutralise (with acertic acid) -> soap (1-3 times)-> Hot rinse -> Cold rinse.

Soaping can be done with 1-2 g/l non_ ionic or anionic detergent or polymeric washing off agent at boil for 15min (M:L:1:15 to 1:20)

FASTNESS PROPERTIES

Fastness of dyed material to various agencies was assessed as per the standard test methods at 1/1 std. depth, mentioned below:

Washing: ISO-3 and ISO-4 (Ratings by greyscale: 1-poor, 5-excellent)
Rubbing: ISO 105X12 (Rating by greyscale: 1-poor, 5- excellent)
Light: AATCC 16E 20hrs. (for blacks at 8.0% shade) (color change ratings by greyscale : 1-poor, 5-excellent)
Perspiration: ISO 105-E04 (Ratings by greyscale : 1-poor, 5-exceellent)
Chlorinated water: ISO 105-E03 (Rating by greyscale : 1-poor, 5-excellent)
Post Mercerisation: 300g/l caustic soda solution at 20 C for 5min. Followed by cold rinsing and neutralization with sulfuric acid.(Ratings by greyscale: 1-poor, 5-excellent)

Note : 1 since post mercerization results are more sensitive to processing conditions/sequence, the data mentioned in this shade card is only indicative, without any guarantee/assurance.

Note: 2. Standard depth was determined by using 40° mercerised poplin fabric, M:L::1:10, common salt: 60gpl, soda ash:20gpl:Dyeing time: 90min.

KEY TO ABBREVIATIONS:
S=Suitable LS=less Suitable NS=Not Suitable
Dischargeabillity: G=Good F=Fair P=Poor
(The information contained herein is provided in good faith but without any warranty)

Chemistar™

Colors For Right First Time Dyeing

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