



Colours and



Chemistry in Harmony

SHAH
INDUSTRIES



GOVT. RECOGNISED EXPORT HOUSE

www.shahindustries.co.in



India is a gamut for Dyes (Reactive Dyes, Acid Dyes & Direct Dyes) and Dyes - Intermediates (Raw materials for Dyes). Over 1500 units located within the Indian Sub-continent. To identify the right product from the right source or at a right place and at the right time need a right company.

SHAH INDUSTRIES is a dynamic and professionally managed group manufacturing and Exporting Reactive Dyes for cotton (Cellulosic Fibres) & Chemicals since 1976. The plants are well equipped with latest technologies like Reverse Osmosis (RO) and Spray Dryers, highly qualified and experienced technicians develop and perfect products in Research and Development instrumentation laboratory and on computer colour matching spectrophotometer and other instruments.

Profile

Annual Group

Turn over : US \$ 10.00 Million per Annum

Production

Capacity : 4500 MT Dyes Per Annum

Human Resource : 10 Commercial

12 Technical

15 General Administrations

80 Workmen

Manufacturing



We specialize in unit processes such as Diazotization, Coupling, Condensation, Sulfonation and Reduction, and Crystallization, Purification, Drying and Mixing etc. We



produce a wide range of high quality Reactive Dyes through stringent monitoring and control of production processes.

Our factory is equipped with following machines:

1. Two Spray Dryers.
2. Three Reverse Osmosis Machines (to remove excess salt from dyes).
3. 45 Reactors (10 KL to 50 KL Capacity).
4. Four Blenders (10KL Capacity).

Quality Assurance



We have ISO 9001:2000MGM T SYS RvAC 216 accreditation by KPMG and the quality control

system with the quality guidelines for strict control, we keep on improving our services. We extend co-operation to the Domestic & International customers for developing new types of products at reasonable prices for mutual benefit.

We have latest Computer Colour Matching System and laboratory dyeing equipments to standardize our products

Research & Development

Research and development is the "Key" for upgrading manufacturing processes and



we thereby create market competitiveness.

Royal Touch developed the process control for Reactive Dyes to get the consistent quality product by qualified and experienced technocrats. We have a pilot plant for product development & process improvement

Marketing

Our policy is to provide the world-class products to the Global Market. We have highly qualified & experienced techno-commercial people who can properly understand customer needs and transfer same to our R & D and Production department, so that we can develop and supply correct quality materials as per customer's requirements.

We select the best quality materials at most competitive prices & our supplies are consistent. We are therefore most dependable to the international market.

Packing



We have a separate warehouse where we packed material as per our customer requirement i.e. Mild steel drum,

Plastic drums, Jumbo bags, HDPE Bags etc

Business profile

Continues Growth with utmost satisfaction to our customers, suppliers, employees, Government and society.

Mission Statement

Shah Industries want to continuously achieve growth by creating win-win situation with our customers, suppliers, employees, Government and society.

Continuous Growth

We believe that "Success is a journey & not a destination." Thus we work harder and harder to achieve our ever-increasing targets.

Win -Win Situation

We believe that not only we but everyone connected with us should be benefited in our business dealings. That is why we continuously improve our quality through

Quality Control, R & D and People Development. This results into better quality and higher productivity at lower costs.

Customers

We pass on cost reduction benefit to our customers and supply materials at competitive prices.

Suppliers

Due to growth our requirements of raw materials always increase. Our suppliers are benefited due to increase in volume of business.

Employees

We believe in having cordial relationships with our employees. Their contributions are of highest value to us and we appreciate same regularly. They are regularly sent to various personal development programmes.

Government

We do ethical business & thereby revenue to Government is always on the rise. Our exports are growing exponentially which helps Government in achieving export targets.

Society

Though our eco-friendly manufacturing processes, we take proper care to conserve our environment. There is more employment generation in our company.



*"Small Win
Big Gain"*



HE - Type Reactive Dyes (Dyeing temp - 80°C)

Bismonochloro Triazine

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Fastness				Dischargeability
					Light	Washing	Rubbing	Chlorinated	
Yellow HE-6G		3.0	Y-135	10/40	4-5	4-5/5	5/4	3	B/A
Yellow HE-4G		3.0	Y-105	40/5	4-5	4-5/5	5/4	2-3	B/B
Yellow HE-4R		3.0	Y-84	70/40	5	5/5	5/4	4	C/C
Orange HE-R		3.0	O-84	30/1	4-5	4-5/5	5/3	3	D/D
Red HE-3B		3.0	R-120	90/80	4-5	5/5	5/3-4	4	D/D
Red HE-7B		3.0	R-141	90/90	4	4-5/4-5	5/3-4	4	D/D
Turquoise Blue H-A		3.0	B-71	70/1	5	4-5/4-5	5/3	3	D/D
Blue HE-GN 125%		3.0	B-198	70/30	5	4-5/4-5	5/4	1	D/D
Blue HE-RD 125%		3.0	B-160	150/70	5	5/5	5/3	3	C/C
Navy Blue HE-R 150%		3.0	B-171	200/130	3-4	4-5/5	5/3-4	3-4	B/C
Green HE-4BD		3.0	Gr-19	80/40	3/5	5/5	5/3-4	2-3	B/C



Printing Dyes

Monochlorotriazine

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness			Dischargeability
						Washing	Rubbing	Chlorinated	
Yellow P-6G		3.0	Y-95	70	5	5 5	4-5 5	3-4	A C
Yellow P-4G		3.0	Y-18	70	5	4-5 5	4-5 5	3	A B
Yellow P-3R		3.0	O-12	120	5	4-5 5	4-5 3-4	4-5	A D
Orange P-2R		3.0	O-13	80	5	4 5	4-5 3	4	C C
Red P-2B		3.0	R-24	150	4	4 5	4-5 3-4	4	D D
Red P-6B		3.0	R-218	150	4	4 5	4 3-4	4	C D
Blue P-3R		3.0	B-49	150	5-6	4-5 5	5 3	2	D D
Turquoise Blue P5G		3.0	B-25	60	5-6	4 4	5 3	3	D D
Navy Blue P-2R		3.0	-	120	4	4-5 4	5 3	2-3	B C
Black P-N		4.0	Bk-8	60	5	4-5 5	4-5 3	3-4	D D
Black P-GR 150%		4.0	-	100	5	4-5 5	4-5 3	3-4	B B



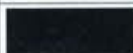
HEXL Type Reactive Dyes

Bismonochloro Triazine

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Fastness					Dischargeability
					Light	Washing	Rubbing	Chlorinated		
Yellow HEXL		3.0	Y-138-1	200 200	4-5	5 5	5 4	4	C C	
Crimson HEXL		3.0	- -	150 100	4-5	4-5 5	5 4	4-5	D D	
Navy Blue HEXL		3.0	- -	150 100	3-4	5 5	5 4	3	B C	



High Strength, High Build-up Reactive Dyes for Medium To Deep Shade (Multifunctional)

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness				Dischargeability
						Washing	Rubbing	Chlorinated		
Yellow SMF-D		3.0	Y -	100 60	5	5 4-5	5 3-4	3-4	A A	
Orange SMF-D		3.0	- -	100 70	4	5 4-5	4-5 3	3-4	A A	
Orange SMF-3D		3.0	- -	100 70	4	5 4-5	4-5 3	3-4	A A	
Red SMF-D		3.0	- -	120 40	4-5	5 4-5	4-5 3-4	3-4	B B	
Red SMF-2BD		3.0	- -	140 50	4-5	4-5 4	4-5 3-4	3-4	B B	
Red SMF-3BD		3.0	- -	120 80	4-5	5 4-5	4-5 3-4	2-3	D D	
Red SMF-SB		3.0	- -	150 60	4-5	4-5 3-4	4-5 3-4	3-4	C C	
Navy Blue SMF-D		3.0	- -	160 60	4	5 5	4 3	3	A A	
Blue SMF-D		3.0	- -	160 60	4	5 5	4 3	3	A A	
Black SMF-G		6.0	- -	180 80	4	4-5 4-5	4-5 3	3	A A	
Black SMF-R		6.0	- -	180 80	4	4-5 4-5	4-5 3	3	A A	



Supra Series (Reactive Dyes)

Bifunctional (Meta-Base)

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness			Dischargeability
						Washing	Rubbing	Chlorinated	
Yellow F3R 150%		3.0	Y- 145	200 200	5	5 4-5	5 3-4	3-4	B B
Red F3B 150%		3.0	R- 195	200 200	4-5	4-5 5	5 3-4	4	D D
Navy Blue BF		3.0	B- 222	200 200	4-5	5 5	5 3-4	3-4	A A



Vinylsulfone Base Dyes

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness			Dischargeability
						Washing	Rubbing	Chlorinated	
Yellow GL		3.0	Y-37	100/40	6	5/5	5/3	4-5	C/A
Yellow GR 150%		3.0	Y-15	80/70	5	4-5/5	5/3	1-2	B/A
Golden Yellow RNL 150%		3.0	O-107	80/60	5	4-5/4-5	4-5/4	1	A/A
Orange 3R		3.0	O-16	60/30	4-5	5/5	5/3-4	2	A/A
Red BB 150%		3.0	R-21	140/80	4	5/4-5	5/3-4	1	A/A
Red RB 133%		3.0	R-198	100/100	4-5	5/4-5	5/3	2-3	C/C
Brill. Violet 5R		3.0	V-5	200/200	5	4-5/5	4-5/3-4	4-5	B/B
Turquoise Blue G 166%		3.0	B-21	100/15	5	4-5/3	5/2-3	1-2	D/C
Blue R Special 150%		3.0	B-19	100/10	5	5/5	5/3-4	2-3	C/D
Brill. Blue BB 133%		3.0	B-220	50	5	5/5	5/3-4	4-5	A/A
Navy Blue GG		3.0	B-203	50/20	4	5/4-5	5/3	2-3	B/B
Navy Blue RGB 150%		3.0	B-250	150/120	4	5/4-5	5/3	2	A/A
Grey RL		3.0	BK-31	120/80	5	4-5/4-5	4-5/3	3-4	C/C
Black B 150%		6.0	BK-5	150/30	3-4	5/5	5/3	2	A/A



ME - Type Reactive Dyes (Dyeing temp - 60°C)

Bifunctional

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness			Dischargeability
						Washing	Rubbing	Chlorinated	
Yellow ME4GL		3.0	Y-160A	140/100	4	5/5	5/4	3-4	A/A
Yellow MERL 150%		3.0	Y-145A	200/200	5	5/4-5	5/3-4	3-4	B/B
Orange ME2RL 150%		3.0	O-122	50/<25	4-5	4-5/4-5	5/3-4	4	D/D
Red ME6BL 150%		3.0	R-250	40/<10	4-5	4-5/4-5	5/3	3	C/C
Red ME4BL 150%		3.0	R-195A	200/200	4	4/4	4-5/3-4	4	D/D
Navy Blue ME2GL		3.0	B-194	80/40	4	5/4	5/3	3-4	B/B
Blue BRF 150%		3.0	Blue 221	50/15	5-6	4/4-5	5/3-4	3-4	C/C
Navy Blue BF		3.0	B-222	100/80	4	5/4-5	5/3	3-4	B/C
Black SNN		6.0	-	150/50	3-4	4-5/4-5	4-5/3-4	2	D/D
Black SSP		6.0	-	120/80	4-5	4/4-5	4-5/3-4	3	D/D
Black SN-150		6.0	-	80/-	4-5	4/4-5	4-5/3-4	3	D/D
Black DN		6.0	-	80/-	4-5	4/3-4	4-5/3-4	2	C/C
Black DNN		6.0	-	80/-	4-5	4/3-4	4-5/3-4	2	C/C
Black SRC		6.0	-	80/-	4-5	4/3-4	4-5/3-4	2	C/C



S2R For Pale Shades

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness			Dischargeability
						Washing	Rubbing	Chlorinated	
Yellow S2R		3.0	-	100	3-4	5/5	5/3	2	B
Red S2R		3.0	-	100	4	5/4-5	5/3	3	C
Blue S2R		3.0	-	100	3-4	5/5	5/3-4	4	B



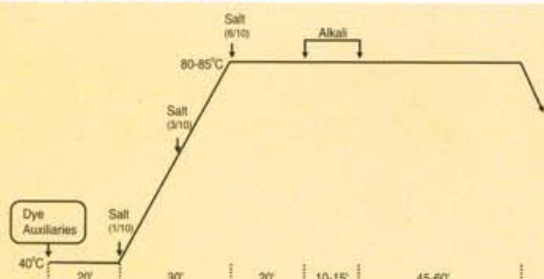
SRB High Strength and Build-up Dyes

Shahfix®	Colour Sample	% o.w.f.	C.I. Reactive	Solubility	Light	Fastness			Dischargeability
						Washing	Rubbing	Chlorinated	
G/Yellow SRB		3.0	-	200/160	5/4	5/5	5/3-4	3	A/A
Ultra Yellow SRB		3.0	-	200/150	5/4-5	5/4-5	4-5/3-4	4	B/B
Red SRB		3.0	-	200/150	4/3	5/4-5	4-5/3	3	D/D
Deep Red SRB		3.0	-	200/150	4/3	4-5/4	4-5/3	2-3	C/C
Ultra Red SRB		3.0	-	200/150	4/3	4-5/4-5	4-5/3	4-5	D/D
Ultra Carmine SRB		3.0	-	250/150	4/3	4-5/4-5	4-5/3	4-5	B/B
Blue SRB		3.0	-	200/150	4-5/3-4	5/5	5/3-4	2-3	C/C
Navy Blue SRB		3.0	-	200/200	4/3-4	5/4-5	4-5/3	3-4	B/C

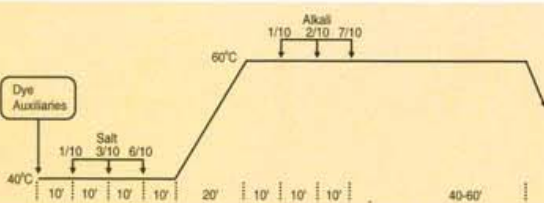
Categories of Shahfix® Reactive dyes

Range	Classification	Applicable dyeing	Dyeing Temp. (°C)	Features
Shahfix HE	Bismonochlorotriazine	Exhaustion	80-85	Wide range of colors Excellent color fastness to merceizing
Shahfix HEXL	Bismonochlorotriazine	Exhaustion	80-85	Excellent level dyeing property and reproducibility Simple dyeing process and reduced dyeing time
Shahfix Supra Series	Bifunctional	Exhaustion Continuous Cold pad-batch	60	Bright colors and easy shading Wide application to the various dyeing methods High fastness to washing, chlorinated water.
Shahfix SMF-D	Multifunctional	Exhaustion Continuous Cold pad-batch	60	Excellent compatibility Good fastness, reproducibility Highly purified dyes
Shahfix Vinylsulfone	Vinylsulfone	Exhaustion, Continuous Cold pad-batch, Printing	60	Easy washing off Cold pad-batch Printing Good fastness, reproducibility Outstanding color strength Wide application to the various dyeing methods
Shahfix Printing Colours	Monochlorotriazine	Printing	102-150	Matchec build-up behavior, high color yield Adopted to a variety of pad-fixation techniques

Exhaustion Dyeing Shahfix® HE and HEXL



Shahfix® Supra Series, ME type, VS type & SMF Series SRB, S2R



Shahfix® HE / HEXL

Dyeing depth (% o.w.f)	Salt (g/l)		Soda ash (g/l)	Mixed Alkali(g/l) Soda Ash/NaOH
	Unmerc.cotton	Merc.cotton		
up to 0.10	10	5	10	5 / 0.7
0.30	20	10	10	5 / 0.7
0.50	30	20	10	5 / 0.7
1.00	45	30	15	5 / 1.0
2.00	60	40	15	5 / 1.0
3.00	70	50	20	5 / 1.5
4.00	80	60	20	5 / 1.5
above 4.00	90	65	20	5 / 1.5

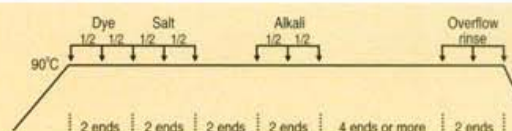
Shahfix® Supra Series, ME type & SMF Series

Dyeing depth (% o.w.f)	Salt (g/l)		Soda ash (g/l)	Mixed Alkali(g/l) Soda Ash/NaOH
	Unmerc.cotton	Merc.cotton		
up to 0.10	3-8	2-5	5	5 / 0.2
0.30	10-15	3-8	8	5 / 0.3
0.50	15-25	5-10	10	5 / 0.5
1.00	25-35	15-25	15	5 / 1.0
2.00	40-50	35-45	15	5 / 1.5
3.00	50	40-50	20	5 / 2.0
4.00	60	50	20	5 / 2.5
above 5.00	60<	50<	20	5 / 2.5

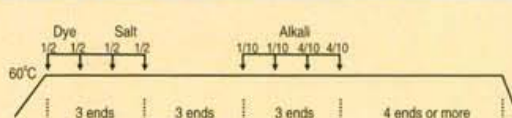
Shahfix® VS type

Dyeing depth (% o.w.f)	Salt (g/l)		Soda ash (g/l)	Mixed Alkali(g/l) Soda Ash/NaOH
	Unmerc.cotton	Merc.cotton		
up to 0.10	10	7	7	5 / 0.0
0.30	20	10	10	5 / 1.0
0.50	25	15	12	5 / 1.3
1.00	35	25	15	5 / 1.5
2.00	40	30	20	5 / 2.0
3.00	50	40	20	5 / 2.5
4.00	60	50	20	5 / 2.7
above 4.00	60-80	50-70	20	5 / 3.0

Jiggar Shahfix® HE



Shahfix® Supra Series & VS Based

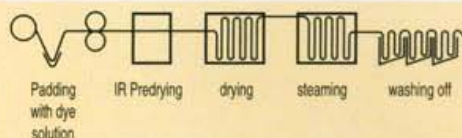


Cold Pad-batch Dyeing



Shahfix supra & Vinyl Sulfon dyesX g/l
 Penetrating agent..... 1-2 g/l
 Caustic soda (38° B'e) 5-35 g/l
 Sodium silicate (400 B'e) 40-100 g/l
 Batching Time6-24 hrs

Continuous Dyeing Pad-Dry-Steam



Padding solution

Shahfix supra series & vinyl sulfon series X g/l
 Urea 0-50 g/l
 Reduction inhibitor 10 g/l
 Migration inhibitor 1g/l
 Sodium bicarbonate 10-20 g/l

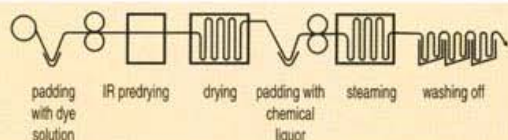
Drying

Steaming

Normal Steaming (saturated steam) 100-105°C, 5-10 min
 H.T. steaming (in super-heated steam)..... 120-130°C, 3-5 min or 140-160°C 1-2 min



Pad-Dry-Pad-Steam



Padding solution

Shafix supra series & vinyl sulfon series	X g/l
Migration inhibitor	1 g/l
Urea	0-50 g/l
Penetrating agent	0-2 g/l
Monosodium phosphate	1 g/l

Padding

Temperature	20-25°C
Pick up	60-65%
Drying	110-120°C, 2 min

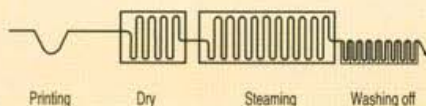
Alkali padding solution (Alkali bath composition)

Glauber's salt anhydrous or common salt	25 g/l
Caustic soda (38° B'e)	10-20 ml/l
Soda ash	0-20 g/l
Reduction inhibitor	10 g/l

Alkali padding

Temperature	20°C
Pick up	80%
Steaming	100-105°C, 45-90 sec

Printing



Shahfix® VS type

	Normal Steaming	HT Steaming	Baking
Printing Dyes	X	X	X
Urea	50-100	100-200	100-200
Water	Y	Y	Y
Stock paste (4-12%)	400-600	400-600	400-600
Reduction inhibitor	10-20	10-20	10-20
Alkali	10-30	10-20	10-20
Total	1000	1000	1000
Fixing Temperature	102°C	13°C	15°C
Fixing Time	5-10 min	3-5 min	2-3 min



Dyeing Methods

Shahfix HE/HEXL

Dyeing Method	: Exhaustion Dyeing
Material	: Unmercerized Cotton
Liquor ratio / Time	: 1:10
Temperature / Time	: 80°C/60 min.

Shahfix Printing Colours

Dyeing Method	: Printing
Material	: Unmercerized Cotton
Temperature / Time	: 102°C / 10 min.



General Properties

Solubility at 25° C

Upper - Without addition of auxiliaries

Lower - With an addition of 50g /l Glauber's salt anhydrous

Royalfix printing colours - Without addition of auxiliaries

Fastness Test Methods

Light	ISO 105-B02	Shade change
Washing	ISO 105-C03	Upper-Shade change Lower - Staining on cotton
Rubbing	ISO-X12	Upper-Dry Lower-Wet
Chlorinated water	ISO 105-E03 20mg/l	Shade Change



Abbreviation

Y	-	Yellow
O	-	Orange
R	-	Red
Br	-	Brown
V	-	Violet
B	-	Blue
Gr	-	Green
Bk	-	Black

Shahfix® Supra Series / Vinyl Sulfone

Dyeing Method	: Exhaustion Dyeing
Material	: Unmercerized Cotton
Liquor ratio	: 1:10
Temperature/Time	: 60°C/ 60min

Dischargeability

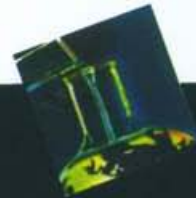
Dischargeability varies with the depth of ground dyeing and recipe of white discharge. The discharge test was made on cotton fabrics (poplin) dyes at 1/1 of the standard depth by the following recipes.

	Neutral	Alkaline
Thickener (Alginate 5%)	50	50
Rongalite C	15	15
Soda Ash	--	5
Balance	X	X
Total	100	100

Assessment

A	: dischargeable
B	: still sufficiently dischargeable
C	: in the case of lower demands still sufficiently dischargeable
D	: not dischargeable
Upper	- Neutral
Lower	- Alkaline

All the above information is based on our trials conducted at various instances. This is being provided for guidelines without obligations. Customers are encouraged to carry out trials at their end to suit their operations and conditions



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