

MONICA INDUSTRIES



REACTIVE DYES

REACTIVE DYES

Reactive dyes react with cellulose fibre to produce dyeing & printings of all-round fastness.

Pre-treatment

Goods ready for dyeing must be free from size and efficiently scoured as reactive Dyes react with starches and gelatine.

With bleached goods eliminate traces of residual chlorine or peroxy compounds before diluted Acetic Acid (0.5 to part of 30% acetic acid per 1000 parts water). This prevents prematured localized fixation and improves levelling of dyes on difficult substrate.

Washing off after Dyeing & Printing

To obtain maximum wet fastness, Reactive dyes dyeings must be washed off and soaped to remove unreacted or hydrolysed dye. Use the longest possible liquor with frequent changes of wash liquor. The most efficient washing off route is as followings :

'M' Brand dyes

These are fibre reactive dyes which are characterised by simplicity of dyeing and great diversity of produced colours. The dyeings produced with the aid of these dyes are exceptionally brilliant with high light fastness on cellulosic fibres and fabrics.

Dyeing Methods :

- a) Exhaustion c) Pad-steam
- b) Pad-Batch d) Pad-Dry-Thermofix

Exhaustion Method :

Set the dyebath at room temperature with pre-dissolved dye and enter the goods. Run for about 15 minutes and then add predissolved common salt or calcined Glauber's salt. Run the goods for about 30 minutes. Add predissolved alkali, soda ash or equal part sodium bicarbonate and soda ash and continue dyeing for 30 to 60 minutes. Then drain the dyeing for 30 to 60 minutes. then drain the dyebath and give through washings.

Salt and Alkali Requirements :

Depth of Shade	Salt	Soda Ash at M.L.R. in g/l			
		1:5	1:10	1:20	1:30
Upto 0.5%	30 g/l	5	5	3	2
0.5% - 0.5%	40 g/l	10	5	4	2
2.5% - 2.0%	50 g/l	15	10	8	4
Above 4.0%	60 g/l	20	15	10	5

Note : Add salt portion wise after the dye addition when dyeing.

- a) Shade less than 0.5% depth
- b) With Yellow MGR above 1% shade, do not exceed 40 parts Glauber's salt. Common salt should not be used.
- c) Yellow M4G, dye full shades for 60-90 minutes in alkali.

Pad Batch Process for 'M' dyes

Class of Dyestuff	Padding Liquor Constituents	Batching Time
'M' Brand	Dye+2-5 g/l Wetting Agent + Soda Ash equal to the weight of The dye Minimum = 5 g/l Maximum = 30 g/l.	2 hours
'M' Brand	Dye concentration upto 30 g/l. + 2-5 g/l Wetting agent + Bicarbonate/ soad Ash (4:1) mixture equal to the weight of the dye but minimum = 5 g/l. Dye concentration above 30 g/l use 2:1 mixture of Bicarbonate / Soda Ash.	16 - 24 hours

Dyes

These dyes are specially developed for dyeing cotton and other cellulosic materials. These dyes process significantly high exhaustion and fixation efficiency even at high material to liquor ratios and therefore particularly recommended to dye cotton Hosiery good on winches.

The main features 'HE' Dyes are :

- 1) Exceptionally high build up.
- 2) Wide variation in material to liquor ratio does not affect the exhaustion and fixation efficiency.
- 3) Due to high fixation of dye subsequent washing and soaping treatment is much easier and hence economical.

Dyeing Method :

Set the dyebath at room temperature with predissolved dye. Enter the goods and run for 10 minutes. Add common salt / Glauber's salt calcined in two instalments. Raise the temperature of the dyebath at 80-90 and run the good for 30 minutes. Add predissolved alkali and continue dyeing for 30-45 minutes.

Dyeing Method :

Set the dyebath at room temperature with predissolved dye. Enter the goods for 30 minutes. Add predissolved alkali and continue dyeing for 30-45 minutes.

Salt and Alkali Requirement :

Depth of Shade	Up to 0.5%	0.5% to 1%	1% to 2%	2% to 4%	4% and Above
Salt g/l	30	45	60	70	90
TSP or Soda Ash g/l	10	15	15	20	20

'H' Brand dyes :

These are hot brand reactive dyestuffs and are used both for dyeing and printing of cotton and regenerated cellulosic fabrics. This class of dyestuffs is mainly used in printing on account of their good-print-paste stability in presence of alkali.

'Vinyl Sulphone' Dyestuffs

These dyes are based on Vinyl sulphone as reactive group and are mainly used in printing of cotton Textile. These dyes are comparatively less substantive but, they have excellent fixation properties and therefore after fixation of prints, the unfixed dyes can be washed off easily reserving the unprinted portion of the fabric unstained. These dyes process excellent brightness and goods light and wash.

Printing Methods :

- Print with alkali-dry-stream (5-10 minutes) at 100-120°C on rapid ager or 15-20 minutes at 90°C.
- Print with alkali-dry-thermofix for 5 minutes at 150°C or 1 minute at 90°C.
- Print without alkali-dry-pad with alkaline solution-flash age for 15-45 second.
- Print without alkali-dry-nip pad with sodium silicate 45° Be (100-102° Tw) - Batch for 16 hours and wash. This type of dyes as this class of dyestuffs give excellent fixation goods washing off and brilliant prints.

'H' Dyestuffs

Printing Recipe :

"H" Dyestuffs	X	Parts
Urea	6-10	Parts
Water	15-20	Parts
Alogogel MV (6%)	Y	Parts
Resist Salt	1	Parts
Sodium Bicarbonate	1.5	Parts
Total	100	Parts

Print-dry-stream for 15-20 minutes in star ager

Note :

- 1) 10-15 Parts of urea are recommended while printing Viscose rayon.
- 2) 2.5 Parts of Sodium Bicarbonate are recommended while printing with Turq. Blue H5G.

Vinly Sulphone Dyestuffs :

Printing Recipe

'V.S.' Dyestuffs	X	Parts
Water at boil	10-15	Parts
Sodium Alginate Thickening Allogogel MV (6%)	Y	Parts
Total	100	Parts

Print-dry-nip pad through a liquor containing Sodium Silicate-batch the material and cover with polyethylene sheet for 16 hours.

Subsequently soap the goods in open soapers.

Note : Sodium Silicate to be used should have a weight ratio of Sodium Oxide to Silicon Dioxide as 1:2:1.

'ME' Dyes

These are low temperature high exhaust dyes with higher grade of allround fastness properties including perspiration, light, chlorines and Washing.

These dyes have also an advantage of high degree of exhaustion and fixation rates, better alkali stability and levelling properties. As these dyes react with cellulosic fibres at low temperature and can also be applied by cold-batch method hence, these dyes are real energy saving dyes.

Exhaust Dyeing

Dyestuff is dissolved in water and run material for 30 minutes. Add Glauber's salt 50 g/l and temperature is raised to 60°C in about 30 minutes. Add alkali 20 g/l at 60°C and run for 60 minutes more.

PATTERNS

MONICA INDUSTRIES

4.0%

'M' DYES

**PRODUCT NAME
C.I. REACTIVE**

Solubility At 30°C

Fastness to

Light

Washing

Hypochlorite

Perspiration

**Yellow M8G
Yellow 86**

80

5

5

2

4-5

**Yellow M4G
Yellow 22**

100

6

4-5

1

5

**Gold. Yellow MR
Yellow 44**

100

6

5

5

3

**Yellow M4R
Orange 14**

100

4

5

2

4

**Brill. Orange M2R
Orange 4**

100

4

5

4

4

**Brill. Red M5B
Red 2**

100

4-5

4-5

1

5

**Brill. Red M8B
Red 11**

100

4

4-5

1

5

**Brill. Magenta MB
Violet 13**

80

3-4

4-5

1

4-5

**Violet C4R
Violet 24**

80

3-4

4-5

1

4-5

**Blue M2R
Blue 81**

100

4-5

4-5

1

4-5

**Blue MR
Blue 4**

70

4

4-5

2-3

4-5

**MONICA
INDUSTRIES**

4.0%

'H' DYES

**PRODUCT NAME
C.I. REACTIVE**

Solubility At 30°C

Fastness to

Light

Washing

Hypochlorite

Perspiration

**Brill. Yellow P4G
Yellow 18**

120

6-7

4-5

1

4-5

**Gold. Yellow P3R
Orange 12**

100

6

4-5

3

5

**Brill. Orange P2R
Orange 13**

180

4-5

5

4

4

**Brill. Orange PC2R
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180

4-5

4

4

4

**Red 6BX
Red 76**

100

4-5

3-4

2-3

4-5

**Brill. Red P8B
Red 31**

100

4-5

4

2-3

4

**Red P2B
---**

100

4-5

4

2-3

4

**Magenta PB
Violet 13**

100

6-7

5

4

4

**Purple H3R
Violet 1**

100

4-5

4

4

3-4

**Brill Turq. Blue H5G
Blue 25**

80

5-6

4-5

3-4

4

**Navy Blue RX
Blue 59**

100

4

4-5

1-2

4

**Blue 5RH (H5R)
Blue-13**

80

4

4-5

2

4

**MONICA
INDUSTRIES**

4.0%

'VS' DYES

**PRODUCT NAME
C.I. REACTIVE**

Solubility At 30°C

Fastness to

Light

Washing

Hypochlorite

Perspiration

Yellow FG
Yellow 42

100

5

5

1

5

Gold. Yellow RNL
Yellow 107

40

6

4-5

3

5

Gold. Yellow R
Yellow 17

70

6

4

1

4-5

Orange 2R
Orange 7

90

5-6

4

1

4

Red C2G
Red 106

100

4

4

1

4-5

Red 5B
Red 35

80

4

4-5

1

5

Violet 5R
Violet 5

100

6-7

4-5

2-3

4

Turq. Blue G
Blue 21

100

5-6

4-5

3-4

5

Black B
Black 5

100

4

4-5

1

5

Black N150

100

4

4-5

4-5

4

Black WNN

100

4

4-5

4-5

4

Black HFGR

100

4

5

5

4-5

MONICA INDUSTRIES

4.0%

'VS' DYES

**PRODUCT NAME
C.I. REACTIVE**

Solubility At 30°C

Fastness to

Light

Washing

Hypochlorite

Perspiration

Brown GR
Brown 18

100

6

3-4

1

4-5

Maroon R

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Jet Black
Black 66

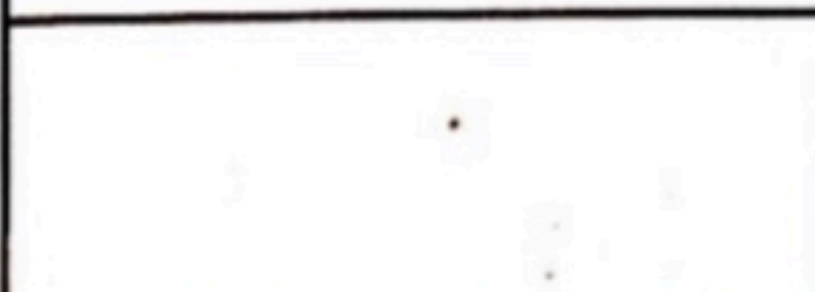
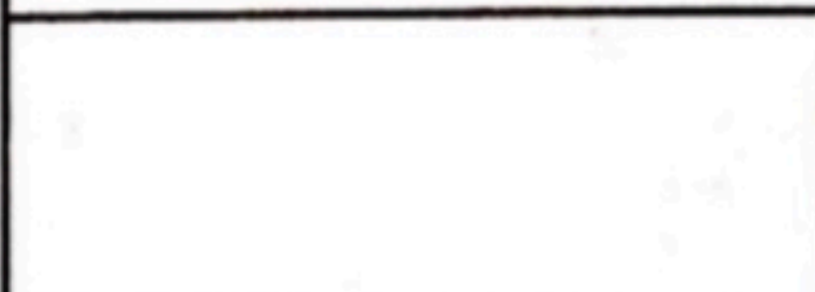
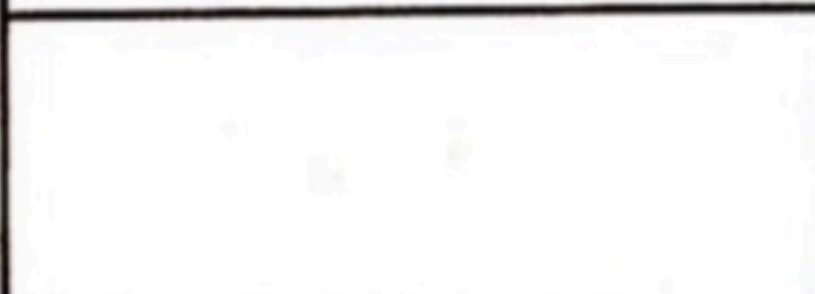
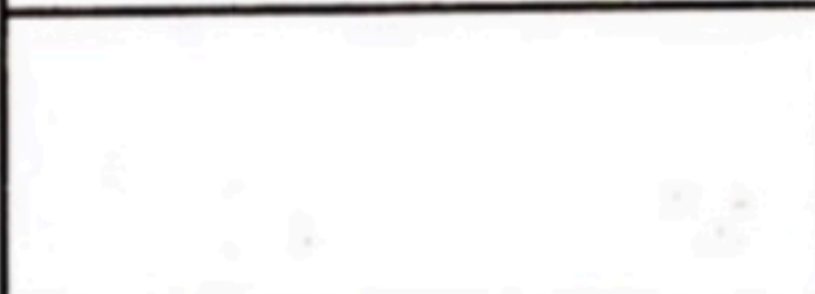
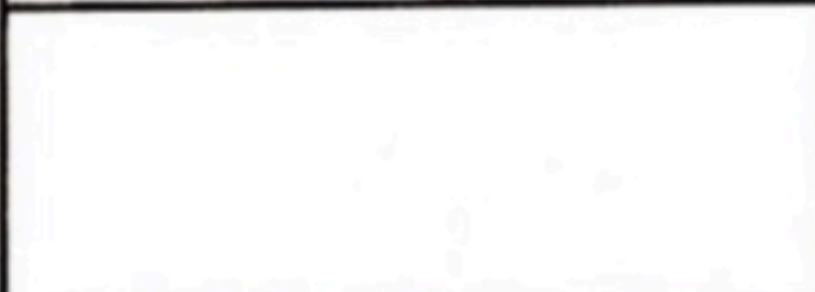
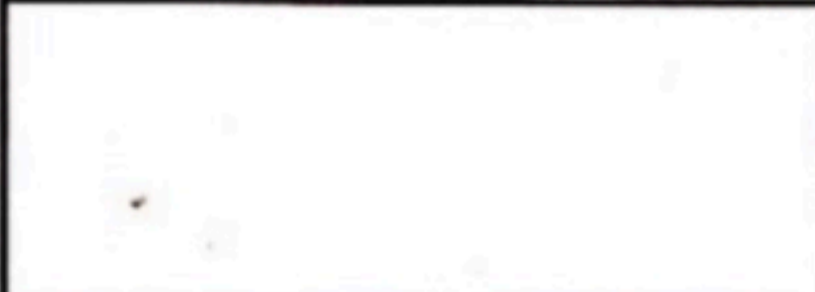
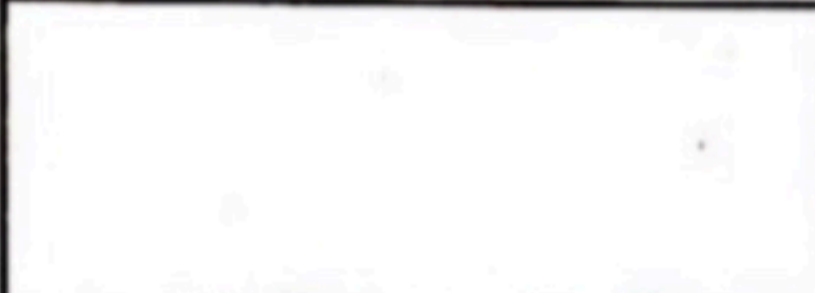
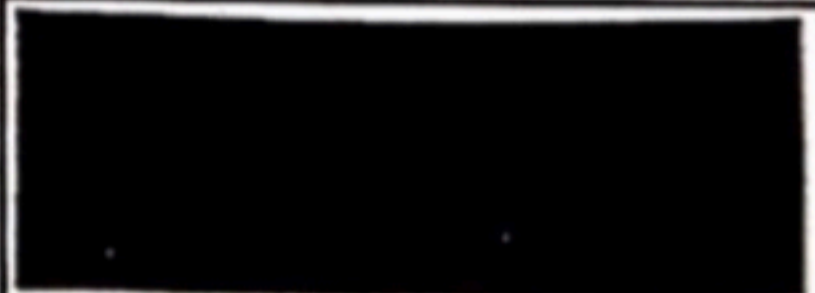
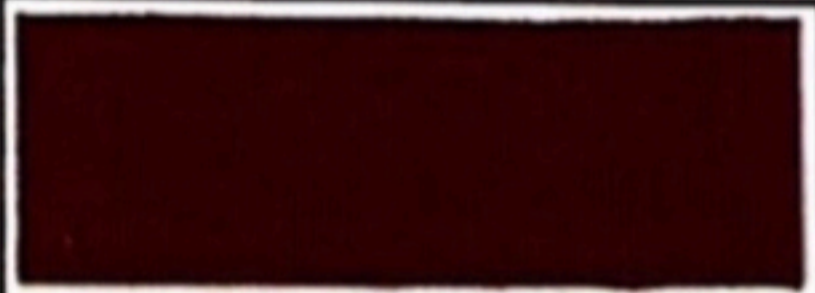
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4

5

5

4-5



MONICA INDUSTRIES

4.0%

'ME' DYES

**PRODUCT NAME
C.I. REACTIVE**

Solubility At 30°C

Fastness to

Light

Washing

Hypochlorite

Perspiration

Yellow ME4GL
Yellow 160

120

5

5

3

5

Gold. Yellow MERL
Yellow 145

100

5-6

5

3-4

4

Orange ME2RL
Orange 122

70

4-5

4

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4

Red ME4BL
Red 194

100

5

4-5

4

3-4

Red ME6BL
Red 250

80

5

4-5

1

3-4

Blue ME2RL
Blue 248

70

5

4-5

2

3-4

Red RB
Red 198A

80

5

4

1

4-5

Red BS
Red 111

110

5

4

1

4-5

Red RR

100

5

4-5

4

3-4

Yellow RR

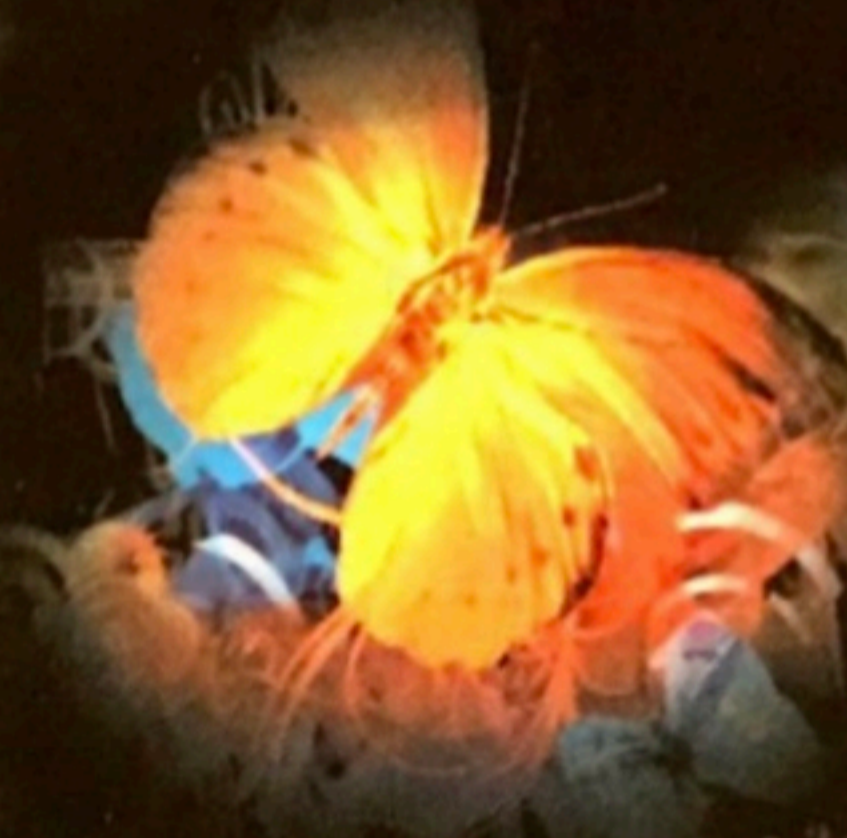
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5

3

5



MONICA INDUSTRIES

C/1, 421, 422, Phase - II
G.I.D.C., Vatva,
Ahmedabad - 382 445

Ph. No. : +91 - 79 - 25833511
Fax No. : +91 - 79 - 25836117
E-mail : monica_industries@yahoo.com