POPLON
(INDIA)

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# POPACTIVE & POPREACTIVE HE DYES FOR COTTON

# POPACTIVE & POPREACTIVE HE DYES FOR COTTON

## POPACTIVE (VINYL SULFONE BASED REACTIVE) DYES

They posses very good solubility in water and they can be easily dissolved by pouring water over them while stirring. They react with cellulosic fibres and are recommended for the production of brilliant shades of high fastness properties on cotton.

## POPREACTIVE HE DYES

They are specially developed for exhaust dyeing. They react with cellulosic fibres and are recommended for the production of brilliant shades of high fastness properties on cotton.

### DYEING METHODS :

### 1. POPACTIVE DYES

**A. Exhaust Method** : The dye bath is heated to 50 $^0$C and then the dye solution and other additives are added in the bath. Dyeing is continued for 60 minutes after final alkali addition.

**ADDITIVES :**

| | | |
|---|---|---|
| Glauber's Salt | : | 50 g/l. |
| Caustic Soda Solution 72$^0$ Tw | : | 3-5 cc/l. |
| Soda Ash | : | 5 g/l. |

The entire dyeing is carried out at 50$^0$C strictly. The dyed goods are washed, neutralized with Acetic Acid (60%, 2 cc/l), followed by soaping at boil and hot and cold rinsing.

### B. SEMI CONTINUOUS AND CONTINUOUS METHODS

#### (1) SHORT TIME PAD BATCH

PAD DYE (Sodium Silicate 100-106$^0$ Tw → 100 g/l + Caustic Soda 72$^0$ Tw, 15-30 cc/l ) batch (4 hours) → wash.

### (II) ONE BATH - PAD BATCH PROCESS

PAD DYE (Sodium Silicate 100 -106$^0$ Tw, 100 g/l + Caustic Soda 72$^0$ Tw, 5-10 cc/l ) → BATCH (24 HOURS) → WASH.

### (III) ONE BATH PAD-DRY STEAM METHOD

PAD DYE (Urea 50 g/l+ Sodium Bicarbonate 20-50 g/l+ Resist Salt 10 g/l) → DRY → STEAM (100-105° C/3-4 Min.) → WASH.

### (IV) TWO BATH PAD-BATCH METHOD :

PAD DYE → DRY → CHEMICAL PAD (Glauber's Salt 250 g/l + Caustic Soda 30 cc/l) → batch (2-4 hours) → wash.

### PRINTING WITH POPACTIVE DYES

Popactive V. S. Dyestuffs give excellent colour yield by conventional one phase or by numerous Two phase methods.

### PRINT PASTE RECIPES

| | Parts | | Parts | |
|---|---|---|---|---|
| | One Phase Methods | | Two Phase Methods | |
| Popactive V. S. Dyestuffs | x | x | x | x |
| Hot Water (80$^0$C) | 25 | 25 | 25 | 25 |
| Urea | 2-10 | 15-20 | - | - |
| Neutral Alginate thickening | 45 | 40 | 45 | 45 |
| Sodium Bicarbonate | 2.5 | 2.5 | - | - |
| Resist Salt | 3 | 3 | 3 | 3 |
| Water or Thickening | Y | Y | Y | Y |

### PRINTING METHODS

(i) Print → Dry (80-100$^0$C) → Steamimg in Saturated Steam (2-5 min. in continuous Steamer or 10-15 min in a star ager).

(ii) Print → Dry → High Temperature Steam (150°C/5min)

(iii) Two phase cold Dwell Method : The goods are printed with a printing paste without alkali and urea, dried and nip-padded with Sodium Silicate Soution (950cc/l, 50° Be) and Caustic Soda Solution (50cc/l, 40° Be). The dwell time is usually for 16 to 24hours.

(iv) Two phase short time cold dwell method : The goods are printed with a printing paste are padded through a solution containing 800 cc of Sodium Sili cate (56° Be), 100 cc of Caustic Soda (38° Be) and 100 cc of water. The padded goods are kept in a covered condition for 2-3 hours and then washed in a soaper.

### WHITE COLOURED RESISTS UNDER PAD DYEINGS :

White and coloured resists can be produced easily by using non-volatile organic acid which neutralises alkali required for the fixation of dyestuffs.

### PRINT PASTE RECIPE (RESIST - WHITE)

6 -10 parts of Tartaric Acid / Citric Acid
10 parts of water.
10 parts of $TiO_2$ (1:1 with water).
74-70 parts of Acid resistant thickening such as British Maize starch thickening.

100 parts

The material printed with the above paste is dried and nip-padded through liquor containing the following.

1-40 g/l dyestuff
50 g/l urea
200 g/l water at 80-90°C
50 g/l Mild Oxiding agent
600 g/l Cold Water
10-25 g/l Sodium Bicarbonate.

After padding, the material is dried and steamed at 100-102°C for 5-7 minutes for fixation of the dyed shade and then washed thoroughly.

**AFTER TREATMENTS :**

The thorough washing of the printed fabric after fixation is required for removing the thickening and unfixed dye-stuff.

**2. POPREACTIVE HE DYES :**

**A) EXHAUST METHOD**

Set the dyebath at 40°C with dye and 1-2 parts Resist Salt for 1000 parts. Run for 10 minutes. Add portion wise common salt or calcined Glauber's salt. Raise temperature to 80-85°C slowly with addition of salt continue dyeing for 60 minutes at the final temperature. Wash off.

**SALT AND ALKALI REQUIREMENTS**

| Depth of Shade | HE Dyes Salt g/l | Soda Ash g/l |
|---|---|---|
| Upto 0.5 % | 30 | 10 |
| 0.5 - 2.0% | 50 | 15 |
| 2.0 - 4.0 % | 75 | 20 |
| Above 4.0% | 90 | 20 |

**(B) SEMI-CONTINUOUS AND CONTINUOUS METHODS :**

(I) PAD DYE (10-20 Parts Soda Ash + 10 parts Resist Salt +200parts Urea) → Dry → Thermofix (Bake 200°C/ 30 Sec) → Wash.

(II) PAD DYE (10 Parts Soda Ash + 10 Parts Resist Salt )→ Dry → Steam (100-105° C/3-10 Min) → Wash

(ii) PAD DYE (10 Parts Resist Salt) → DRY→ CHEMICAL PAD (10 Parts Caustic Soda + 200 Parts Salt) → Steam (100 - 105°C/60-75 Sec.) → Wash - 300 Parts

**ABBREVIATION**

Light : 1 to 8 increasing order.
Washing &
Other : 1 to 5 in increasing order 8 & 5 represent highest fastness.

L - Low, M-Medium, H-High, G - Good, P - Poor, F -Fair

*( Without Guarantee)*

## POPLON (INDIA)

### POPACTIVE DYES (VINYL SULFONE BASED)

| 1% 4% | |
|---|---|
|  | YELLOW FG. |
|  | GOLDEN YELLOW R |
|  | ORANGE 2R |
|  | ORANGE 3R |
|  | RED 5 BN |
|  | VIOLET 5 RN |
|  | TURQUOISE BLUE G |

### FASTNESS AND GENERAL PROPERTIES

| LIGHT | WASHING | PERSPIRATION | BLEACHING | | DISCHARGEABILITY |
|---|---|---|---|---|---|
| | | | HYPOCHLORITE | HYDROGEN PEROXIDE | |
| 5 | 4 | 4 | 1 | – | G |
| 6 | 3-4 | 5 | 1 | – | G |
| 4 | 3 | 3-4 | 1 | – | G |
| 5-6 | 3-4 | 4 | 1 | – | G |
| 4 | 3 | 5 | 1 | – | G |
| 6-7 | 2-3 | 3-4 | 3-4 | – | P |
| 6 | 5 | 5 | 3-4 | – | P |

## POPLON (INDIA)

### POPACTIVE DYES (VINYL SULFONE BASED)

| 1% 4% | |
|---|---|
|  | BLUE 3R |
|  | BROWN GR |
|  | BLACK BN |
|  | BLACK B CONC |
|  | BLACK G |
|  | BLACK N 150 |
| | |

### FASTNESS AND GENERAL PROPERTIES

| LIGHT | WASHING | PERSPIRATION | BLEACHING | | DISCHARGEABILITY |
|---|---|---|---|---|---|
| | | | HYPOCHLORITE | HYDROGEN PEROXIDE | |
| 7 | 3-4 | 5 | 3-4 | – | G |
| 6 | 3-4 | 4 | 1 | – | G |
| 5 | 4 | 5 | 1 | – | G |
| 5 | 4 | 5 | 1 | – | G |
| 7 | 4-5 | 5 | 3-4 | – | G |
| 6 | 4 | 5 | 3 | – | G |
| | | | | | |

## POPLON (INDIA)

**REACTIVE 'HE' DYES (CYANURIC CHLORIDE BASED)**

| 1% 4% | |
|---|---|
|  | YELLOW HE 4G. |
|  | GOLDEN YELLOW HER |
|  | ORANGE HE 2 R |
|  | RED HE 8B |
|  | NAVY BLUE HER |
|  | NAVY BLUE HE 2R |
|  | GREEN HE 4 BD |

## FASTNESS AND GENERAL PROPERTIES

| LIGHT | WASHING | PERSPIRATION | BLEACHING | | DISCHARGEABILITY |
|---|---|---|---|---|---|
| | | | HYPOCHLORITE | HYDROGEN PEROXIDE | |
| 4-5 | 4 | 4-5 | 1 | 2 | P |
| 5-6 | 5 | 4-5 | 2-3 | 4-5 | F |
| 3-4 | 4-5 | 4 | 4-5 | 4 | P |
| 4-5 | 4-5 | 4-5 | 3 | 4 | P |
| 5 | 4-5 | 4-5 | 3 | 4-5 | P |
| 6 | 3-4 | 4-5 | 3 | 3 | P |
| 4 | 4-5 | 4-5 | 1 | 2-3 | P |

## POPLON (INDIA)

**REACTIVE 'HE' DYES (CYANURIC CHLORIDE BASED)**

| 1% 4% | |
|---|---|
|  | TURQUOISE BLUE HA 5G |
|  | BLACK HEBL. |
| | |
| | |
| | |
| | |
| | |

## FASTNESS AND GENERAL PROPERTIES

| LIGHT | WASHING | PERSPIRATION | BLEACHING | | DISCHARGEABILITY |
|---|---|---|---|---|---|
| | | | HYPOCHLORITE | HYDROGEN PEROXIDE | |
| 5-6 | 4-5 | 4-5 | 3 | 2-3 | F |
| 5 | 4-5 | 4 | 1 | – | P |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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