VIPULORGANICS

Interconnected Chemistry

# SunACTIVE™

## Reactive Dyes For Textile

*Colours*

that breathe life into

*fabrics*

SunACTIVE™
Reactive Dyes For Textile

## SUNACTIVE COLD 'M' / HOT 'H' Dyes

**Dyeing with Cold 'M' type & Hot 'H' Dyes:**

**Cold Brands:** Are highly reactive and are employed in dyeing under mild alkaline conditions (30-40° C).

**Hot Brands:** Are less reactive and are employed both in dyeing and printing under stronger alkaline conditions and high temperature (60-80° C).

Exhaustion (open beck, winch, jigger or package), pad-Jig fixation, pad-dry bake, pad batch and pad-dry steam are common methods of application.

**Dissolving of Dyestuff:** The dye is pasted with equal weight of cold water and dissolved by using warm water at 50° C.

**Dyeing Methods:**

**Exhaust Dyeing:** Set the dye-bath at 30-35° C with common salt or glauber's salt, enter the goods run for 10 mins. Add the dissolved dye and run for 30 mins. Finally add the dissolved alkali and raise temp. (30-40° C) for cold brands and (80-90° C) for hot brands. Finally goods are washed off.

### Salt and Alkali Requirement for Hot Brand

| Depth of Shade (% on weight of goods) | Salt g/l | Soda Ash g/l |
|---|---|---|
| upto 0.5 | 30 | 10 |
| 0.51-1.0 | 45 | 15 |
| 1.01-2 | 60 | 15 |
| 2.01-4 | 70 | 20 |
| Above 4 | 90 | 20 |

### Salt and Alkali Requirement for Cold Brand

| Depth of Shade (% on weight of goods) | g/l | Soda Ash | | |
|---|---|---|---|---|
| | | L:R 15:1 | L:R 20:1 | L:R 30:1 |
| upto 0.5 | 25 | 5 | 3 | 2 |
| 0.51-2.0 | 35 | 5 | 4 | 2 |
| 2.01-4.0 | 45 | 10 | 8 | 4 |
| Above 4 | 55 | 15 | 10 | 5 |

**PRINTING COLD AND HOT BRAND:**

Only hot brands are preferred for printing as stated below; however cold brand can also be printed

| | Cold Brand | | Hot Brand | |
|---|---|---|---|---|
| Dye | 40 | Parts | 40 | Parts |
| Urea | 50 | " | 100 | " |
| Hot Water | 300 | " | 300 | " |
| Sodium Alginate (4% Paste) | 585 | " | 520 | " |
| Resist Salt | 10 | " | 10 | " |
| Soda-bi-carb | 15 | " | 30 | " |
| | 1000 | Parts | 1000 | Parts |

Print (with Soda-bi-carb), dry and steam for 10 mins. at 102° C. Wash in cold and hot water & soap at boil with neutral soap for better results.

## SUNACTIVE DYES (VINYL SULPHONE BASED)

**INTRODUCTION:-**

These dyes possess very good light and wash fastness, easy to apply on cellulosic fibre by normal exhaust, batch-wise, continuous and thermo-fixation process, suitable for printing and give brilliant and attractive shades. They have excellent white effect on dyed grounds by discharge and resist printing method, unfixed dyes are easily washed off and have high stability in dry state and in neutral solution.

The entire dyeing or printing process consists of mainly the following 3 stages:-

1. Application of the dyestuff to the fiber.
2. Fixation of the dyestuff on the fiber.
3. Removal of any unfixed dyestuff from the fiber.

**PREPARATION OF THE GOODS:-**

The goods to be dyed or printed should be thoroughly desized, scoured and preferably mercerized or causticized to retain deep and bright shades. Traces of residual chlorine, peroxide and alkali should be removed by treating the goods with very dilute acetic acid.

**DYEING METHOD:-**

**1. Jigger Dyeing**

**Procedure:-**

Set the dye-bath at the required temperature and add well dissolved dye solution over two passages, followed by Glauber salt or common salt over two passages. After two more passages add required amount of alkali solution over two passages and continue dyeing at prescribed temperature for further period of 60-90 mins. depending on the depth of the shade.

**Following table gives the quantities of chemicals recommended:-**

| Dyeing temperature | | 40° C | | 60° C | | 80° C | |
|---|---|---|---|---|---|---|---|
| Liquor ratio | | 1:2 to 1:3 | 1:4 to 1:6 | 1:2 to 1:3 | 1:4 to 1:6 | 1:2 to 1:3 | 1:4 to 1:6 |
| Glauber salt (Cal.) or common salt | g/l | 50 | 50 | 50 | 50 | 50 | 50 |
| Caustic soda solution ($38^0$ B'e/$72^0$ Tw /32.5%) + Soda ash | cc/l | 4-6 | 3-4 | 3-5 | 2-3 | - | - |
| or | g/l | 5 | 5 | 5 | 5 | 25 | 15-20 |
| Trisodium phosphate | g/l | - | 30 | 30 | 20-25 | - | - |
| Dyeing period (After minutes final alkali addition) | | 90 | | 60 | | 60 | |

**PADDING PROCESS:-**

**1. One bath - pad batch process:-**

A well scoured, cold fabric is padded at room temperature (25° C-30° C). As it is desirable to replace the liquor at faster rate, higher speed of fabric padding and smaller capacity trough is recommended. The liquor pick-up should be 60-70% for cotton and 90-100% for viscose fabric. Speed of the padding should be adjusted in such a way that whole lot of dye solution should be used up within 20-30 mins. Alkali should be added to the dye solution just before commencement of the padding.

**1 (a)Long time pad batch process :-**

| Sodium silicate | | Sodium silicate g/l | Caustic soda solution (38° B'e/72° Tw/32.5% w/w) (cc) | |
|---|---|---|---|---|
| °Be/°Tw | Weight ratio $Na_2O : SiO_2$ | | Upto 30 g/l dyestuff | Above 30 g/l dyestuff |
| 37-40/69-77 | 1 : 3.3 | 135 | 13 | 18 |
| 40-47/77-82 | 1 : 3.3 | 120 | 11 | 16 |
| 48-50/100-106 | 1 : 2.6 | 100 | 5 | 10 |
| 58-60/134-142 | 1 : 2.1 | 85 | - | 4 |

**2. One Bath - > Pad - > Dry - > Steam Method:-**

This process is carried out on a padding mangle attached with either hot flue or float dryer. To fix the dyestuff, the dyed, dry material is steamed in the normal continuous steamer for 4-7 mins. at 100° -103° C. The steam should be free from acid.

**Following table will help to prepare padding liquor:-**

| SunActive dyes | g/l | 10 | 20 | 30 | 40 | 50 | 50-70 |
|---|---|---|---|---|---|---|---|
| Urea | g/l | 0-50 | 0-50 | 0-50 | 50-75 | 50-75 | 50-70 |
| Sodium bi-carbonate | g/l | 5 | 10 | 15 | 15-18 | 20 | 20-25 |
| Resist salt | g/l | 10 | 10 | 10 | 10 | 10 | 10 |

## DIRECT PRINTING WITH SUNACTIVE DYESTUFFS

**1. Steaming Method:-**

**Printing paste recipe:-**

| | | | | | |
|---|---|---|---|---|---|
| X | Parts | SunActive dyestuff is mixed with | 20 | Parts | Sodium bi-carbonate |
| 50-100 | Parts | Urea | 10 | Parts | Resist salt |
| 200 | Parts | Water | Y | Parts | Water or thickening and bulk to |
| 500 | Parts | Thickening (Sodium Alginate) | 1000 | Parts | |

The above thickening could be replaced by half emulsioin thickening as follows:-

**Emulsion thickening:-**

| | | |
|---|---|---|
| 500 | Parts | Thickening (Sodium Alginate) |
| 100 | Parts | Water |
| 10 | Parts | Emulsifier |
| 390 | Parts | Kerosene |
| 1000 | Parts | |

Print - dry - steam at 103° C for 10-15 mins. in star ager or 5-7 mins. in a continuous steamer. Hot and cold washing - soap at boil for 15-20 minutes with neutral detergent. Finally rinse hot and cold.

**2. Cold silicate pad batch method:-**

Print paste recipe is same as per steaming method, but the use of alkali is avoided. After printing and drying the fabric is nip padded with 102°-104° Tw sodium silicate solution ($Na_2O$ : $SiO_2$ 1 : 2.1) and 4 - 6 cc/litre Caustic soda - 72° Tw.

The batch is covered with Polythene sheet and kept for 20 hours.

## AFTER TREATMENTS

1. Cold rinse with overflow.
2. Neutralising at about 40° C with 2-3 cc/litre of acetic acid (60%). (Not for silicate pad method).
3. Hot rinsing wih sodium hexametaphosphate 2-3 g/l at 60° C-70° C.
4. Soaping at boil with neutral detergent.
5. Hot rinsing/Cold rinsing.

## WHITE DISCHARGE PRINTING WITH SUNACTIVE DYESTUFF

SunActive dyestuff are suitable for preparing wash and light fast discharge grounds. The fabric should be treated with a mild oxidising agent before discharge printing. This will protect the ground from the reductive effect of the printing paste.

Preparation of the white discharge printing paste.

| | | |
|---|---|---|
| 20 | Parts | Rongolite C |
| 10 | Parts | Titanium dioxide (1:1) |
| 8 | Parts | Discharge Salt W/Leucotrop W (BASF) |
| 40 | Parts | Thickening |
| 20 | Parts | Caustic soda - 38° B'e/72° Tw |
| 2 | Parts | Water |
| 100 | Parts | |

Print - > dry at 90° C -> steam 15-20 minutes in a star ager at 100° -103° C. Then the material is rinsed twice in cold water - hot rinse at 40° C -> soap at 90°C with a neutral detergent. Finally hot and cold rinse.

## RESIST PRINTING UNDER SUPRA DYESTUFF

The printing paste used for resist printing is highly acidic, the suitable acid resistant thickener should be used. British Gum/Indalca AGBV are acid resistant hence are suitable choice for resist printing.

**Printing recipe**

| | | |
|---|---|---|
| 100 | Parts | Uncooked starch (1 : 1) |
| 100 | Parts | Citric acid |
| 10 | Parts | Optical Brightner (Resistant to acid) |
| 500 | Parts | Thickening |
| 290 | Parts | Water/Thickening |
| 1000 | Parts | |

Print -> dry - > nip pad through following dye solution at room temperature (25-30° C)

| | | |
|---|---|---|
| X | Parts | SunActive dyestuff |
| 200 | Parts | Boiling water |
| 100 | Parts | Urea |
| 10 | Parts | Resist salt |
| 60 | Parts | Sodium bi-carbonate (just before padding) |
| Y | Parts | Water |
| 1000 | Parts | |

## SUNACTIVE 'HE' DYES

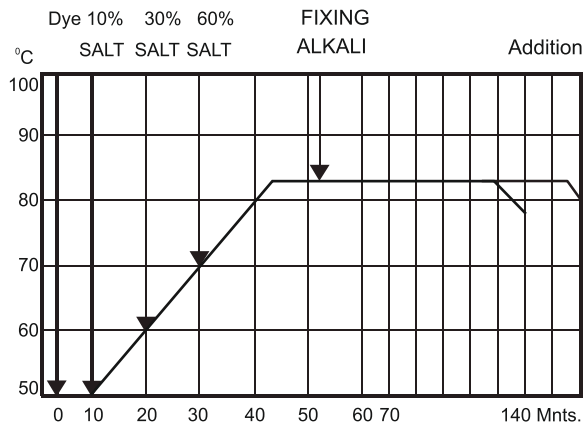
They have high substantivity and superior exhaustion properties and are mainly used for dyeing of cottons by batch-wise method on conventional machines HE dyes are mainly suited for dyeing of mixed shade as they are less sensitive to variation in Liquor to goods ratio and concentration of electrolytes in the dye bath as compared to cold or hot brands.

The main advantage of HE dyes are excellent build-up, high fixation, good compatibility, consistency of colour yield and excellent wet fastness properties.

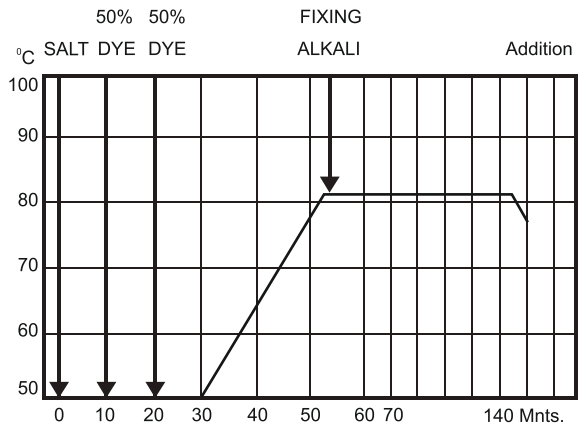
HE dyes are applied by same method using same recipe as used for dyeing of Hot brand mainly by exhaust on winch or Jigger. Dyeing results are even and fastness properties are better. These are suitable for dyeing hosiery, knitwear and blends where cellulose part of polyester/cellulose is to be dyed.'HE' dyes are suited for dyeing mixed shades as they are less sensitive to variation in liquor ratio and concentration of salt.

## Method of Application

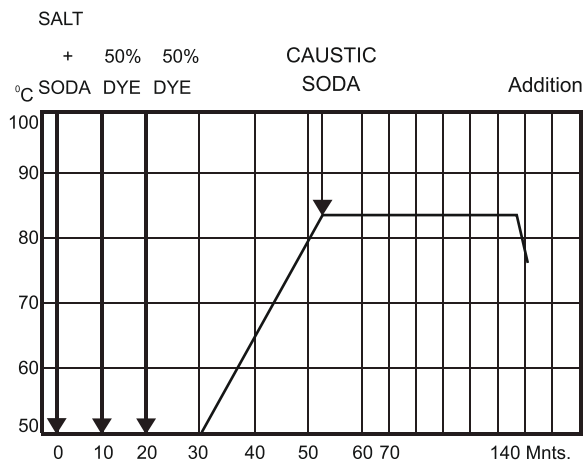
### 1. Piece Goods Dyeing



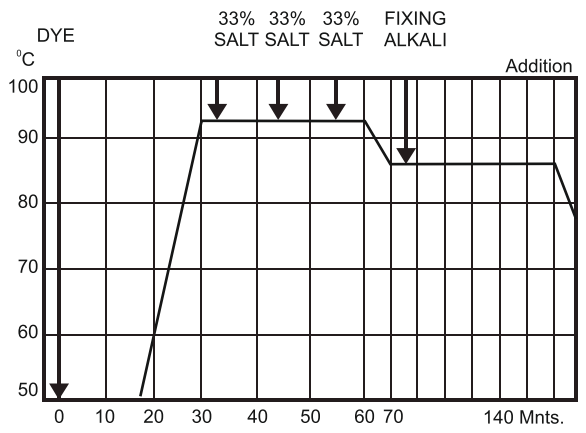

**Standard method for application to all types of piece goods on jiggers.**




**Suitable for dyeing unmercerised and mercerised material on circulating machines or winches.**




**Suitable for dyeing unmercerised material on circulating machines.**




**Suitable for mercerised piece goods on winches.**

## SUNACTIVE BIFUNCTIONAL DYESTUFF

The SunActive Bifunctional Dyestuffs are used for Exhaust dyeing at a low temperature. These dyestuffs have very high exhaustion properties, better levelling properties and a very good alkaline stability. These dyes can also be applied by cold pad batch method, hence these dyes are real energy saving dyes.

**DYEING METHODS:-**

**(i) EXHAUST DYEING:** Dyestuff is dissolved in water and run for 20 mts. Salt is introduced and temperature raised to 60 °C in about 20 mts. Alkali is introduced at 60° C and temperature is maintained for 60 mts.

The following parameter is applied :

Glauber 's Salt - 50 gm/l

Soda Ash - 20 gm/l

**(ii) PADDING METHOD:**

(1) Pad [SunActive Bifunctional Dyes + Urea + Sodium Silicate 85 gm/l

(134 - 142° Tw $Na_2$ O : $SiO_2$: 1 : 2.1) + Caustic Soda 33% 4 gm/l]

- Batch (20 hours) - Wash.

(2) Pad [SunActive Bifunctional Dyes + Urea + $NaHCO_3$ (10 - 20 gm/l)]

- dry-normal steam for 5 mts. or Thermofix at 140° C for 4 mts.

- Wash.

These dye stuff can also be used for printing by steaming and/or by Silicate method.

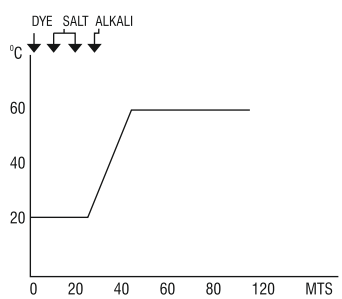
(i) Print (dyestuff + alkalli) - dry - steam.

(ii) Print (dyestuff + alkali) - dry - Thermofix at 150° C for 3 to 5 min.

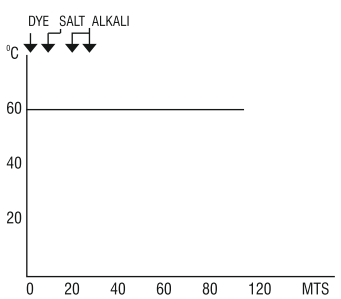
(iii) Print (dyestuff) - dry - Nip pad through Sodium Silicate - Batch (20 hours).

The print is washed by cold water to remove unfixed dyes and then washed with suitable detergent then washed with cold water till it is colourless.

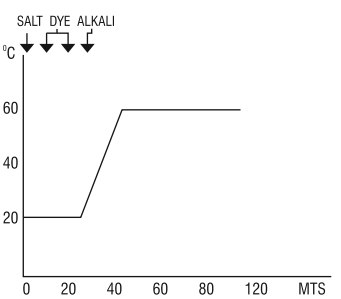
1. Normal method




2. Constant temperature method




3. "All - in" method



**AFTER TREATMENT:-**

A thorough soaping and washing is required to clear off the unfixed dye and to obtain maximum fastness properties and brightness of shade.

Washing off is done by thoroughly rinsing in cold water followed by hot water.

Then it is soaped at boil for 15 mins. using 2 gpl detergent. Finally again it is rinsed in hot water and cold water subsequently.

**ABBREVIATIONS:-**

| | | |
|---|---|---|
| Light | : | 1 to 7 in increasing order where 7 represents highest fastness. |
| Washing & others | : | 1 to 5 in increasing order where 5 represents highest fastness. |
| Dischargeability | : | G - Good<br>M - Moderate<br>P - Poor |
| Substantivity | : | ○ Suitable<br>△ Not suitable<br>L - Low<br>M - Medium<br>H - High |

This information mentioned herein is provided in good faith but without warranty. It is the responsibility of the user to test our products to their suitability for any application.

No statement is intended or should be construed as a recommendation to infringe any patent and the responsibility to observe any such patent right rest with the user.

(without Guarantee)

SunACTIVE®
Reactive Dyes For Textile

| "M" DYES (Dichloro Triazine) | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Dyeing | 4% Dyeing | C.I. Reactive | ☀ | 90 | | | | | gm/litre at 30° C |
| | | Yellow M4-G<br>Yellow 22 | 6 | 4 | 5 | 1 | M | G | 80 |
| | | Yellow M8G<br>Yellow 86 | 6-7 | 5 | 5 | 2 | M | M | 100 |
| | | Yellow M4R<br>Orange 14 | 5 | 4-5 | 4 | 1 | M | P | 100 |
| | | Golden Yellow<br>MR<br>Yellow 44 | 5 | 4-5 | 4 | 2 | H | P | 100 |
| | | Orange M2R<br>Orange 4 | 4 | 5 | 4 | 4 | M | P | 100 |
| | | Red M5B<br>Red 2 | 4-5 | 4-5 | 3-4 | 1 | H | P | 80 |
| | | Red M8B<br>Red 11 | 4-5 | 4-5 | 2 | 3 | H | P | 80 |
| | | Magenta MB<br>Violet 13 | 4-5 | 5 | 4-5 | 1 | H | P | 80 |
| | | Violet C4R<br>Violet 14 | 4 | 5 | 4 | 3 | M | P | 80 |
| | | Turq. Blue<br>MGN Blue 140 | 5 | 4 | 4 | 1 | H | P | 130 |
| | | Blue M4GD<br>Blue 168 | 4-5 | 4 | 4 | 1 | M | P | 80 |
| | | Blue MR<br>Blue 4 | 5 | 4-5 | 4 | 1 | H | P | 100 |
| | | Blue M2R<br>Blue 81 | 5 | 4 | 4 | 3 | H | P | 80 |

SunACTIVE™
Reactive Dyes For Textile

| "H" DYES (Monochloro Triazine) | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Print | 4% Print | C.I. Reactive | ☀ | 90 | ♨ | ⚗ | ⚖ | ◧ | gm/litre at 30° C |
| | | Yellow H4G<br>Yellow 18 | 6-7 | 4-5 | 4-5 | 2-3 | L | G | 120 |
| | | Golden Yellow HR<br>Orange 12 | 6 | 4-5 | 5 | 3 | M | G | 120 |
| | | Orange H2R<br>Orange 13 | 4-5 | 5 | 4 | 4 | M | M | 130 |
| | | Red H8B<br>Red 31 | 5-6 | 5 | 4 | 4 | H | P | 100 |
| | | Red 6BX<br>Red 76 | 5 | 4 | 5 | 3-4 | M | P | 100 |
| | | Magenta HB<br>Violet 13 | 6 | 4 | 4 | 3-4 | M | M | 80 |
| | | Purple H3R<br>Violet 1 | 6-7 | 5 | 4 | 4 | L | M | 100 |
| | | Navy Blue RX<br>Blue 59 | 3 | 3-4 | 4-5 | 1 | H | P | 60 |
| | | Blue 5RH<br>Blue 13 | 6 | 5 | 4 | 3-4 | M | P | 100 |
| | | Turq. Blue H5G<br>Blue 25 | 5-6 | 4-5 | 3 | 3-4 | H | P | 90 |
| | | Red Brown H4R<br>Brown 9 | 5 | 5 | 4-5 | 4-5 | L | P | 90 |
| | | Black HN<br>Black 8 | 6 | 4-5 | 3 | 4 | L | P | 80 |

90 Washing Method: DIN 54011 ☀ Light Fastness ⚗ Hypochlorite (Effect) ⚖ Substantivity ♨ Perspiration Method: DIN 54020

◧ Dischargeability ◎ Solubility

SunACTIVE®
Reactive Dyes For Textile

| "H" DYES (New 'P' Type) (Monochloro Triazine) | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Print | 4% Print | C.I. Reactive | ☀ | 90 | | | | | gm/litre at 30° C |
| | | Yellow P8G<br>Yellow 85 | 5 | 4-5 | 4 | 3 | M | M | 100 |
| | | Yellow P6G<br>Yellow 95 | 6-7 | 5 | 4-5 | 2 | M | M | 100 |
| | | Golden Yellow P3R<br>Orange | 6 | 4-5 | 5 | 3 | M | M | 120 |
| | | Orange P4R<br>Orange 35 | 5 | 4 | 3-4 | 2 | M | M | 100 |
| | | Red PX4B<br>Red 3:1 | 5 | 4-5 | 3-4 | 3 | M | M | 100 |
| | | Red PB<br>Red 24 | 5-6 | 4-5 | 5 | 2 | H | M | 100 |
| | | Red P3B<br>Red 45 | 5 | 4-5 | 3-4 | 2-3 | M | M | 100 |
| | | Red P4B<br>Red 245 | 4-5 | 4-5 | 4-5 | 3-4 | M | P | 100 |
| | | Brown P6R<br>Brown 11 | 5-6 | 4 | 4-5 | 2 | M | M | 100 |
| | | Blue P3R<br>Blue 49 | 5 | 4-5 | 3 | 3 | H | P | 100 |
| | | Navy Blue<br>Black 39 | 5-6 | 5 | 5 | 2 | H | P | 100 |
| | | Black PGR<br>Black Mix | 5 | 5 | 4-5 | 2 | H | P | 100 |

SunACTIVE™
Reactive Dyes For Textile

| "VINYL SULPHONE BASED" DYES | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Dyeing | 4% Dyeing | C.I. Reactive | ☀ | 90 | ♨ | ⚗ | | | gm/litre at 30° C |
| | | Yellow FG<br>Yellow 42 | 5 | 5 | 5 | 1 | L | G | 120 |
| | | Yellow GR<br>Yellow 15 | 6 | 5 | 5 | 1 | H | G | 120 |
| | | Yellow GL<br>Yellow 37 | 6 | 4-5 | 4-5 | 1 | M | M | 100 |
| | | Golden Yellow G<br>Yellow 17 | 6 | 5 | 5 | 1 | H | G | 100 |
| | | Golden Yellow R<br>Yellow 77 | 5 | 4-5 | 5 | 3 | H | G | 100 |
| | | Yellow RNL<br>Orange 107 | 6 | 5 | 5 | 1 | H | G | 150 |
| | | Orange 2R<br>Orange 7 | 5-6 | 5 | 5 | 1 | H | G | 100 |
| | | Orange 3R<br>Orange 16 | 5-6 | 5 | 5 | 1 | H | G | 120 |
| | | Golden Yellow RR<br>Orange 78 | 5-6 | 5 | 5 | 1 | H | G | 100 |
| | | Red C2G<br>Red 106 | 4 | 5 | 5 | 1 | L | G | 100 |
| | | Red 5B<br>Red 35 | 4 | 5 | 5 | 1 | M | G | 100 |
| | | Red HRBL<br>Red 198:1 | 5-6 | 4-5 | 5 | 2-3 | H | P | 100 |

90 Washing Method: DIN 54011 ☀ Light Fastness ⚗ Hypochlorite (Effect) Substantivity ♨ Perspiration Method: DIN 54020

Dischargeability Solubility

SunACTIVE®
Reactive Dyes For Textile

| "VINYL SULPHONE BASED" DYES | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Dyeing | 4% Dyeing | C.I. Reactive | ☀ | 90 | | | | | gm/litre at 30° C |
| | | Violet 5R<br>Violet 5 | 6-7 | 4 | 4-5 | 3-4 | M | M | 100 |
| | | Blue BB<br>Blue 220 | 5-6 | 4-5 | 3-4 | 2 | H | M | 150 |
| | | Blue R<br>Blue 19 | 7 | 5-6 | 5 | 4 | H | P | 100 |
| | | Blue 3R<br>Blue 28 | 6-7 | 4 | 3-4 | 4-5 | H | M | 100 |
| | | Turq. Blue G<br>Blue 21 | 6 | 4-5 | 5 | 3-4 | H | G | 100 |
| | | Green 6B<br>Blue 38 | 7 | 3-4 | 4 | 2-3 | H | M | 100 |
| | | Blue H2GL<br>Blue 203 | 6 | 6 | 5 | 2-3 | H | G | 100 |
| | | Blue RGB<br>Blue 250 | 6 | 4 | 5 | 2-3 | H | G | 100 |
| | | Brown GR<br>Brown 18 | 6 | 5 | 4-5 | 1 | H | G | 80 |
| | | Black RL<br>Black 31 | 5-6 | 4-5 | 5 | 3-4 | H | M | 100 |
| | | Black B<br>Black 5 | 5 | 4-5 | 5 | 1 | H | G | 150 |
| | | Deep Black<br>N-150 | 5 | 4-5 | 4-5 | 2-3 | H | G | 120 |
| | | Black WNN<br>Black Mix | 5 | 4-5 | 5 | 2-3 | H | G | 120 |

90 Washing Method: DIN 54011 ☀ Light Fastness Hypochlorite (Effect) Substantivity Perspiration Method: DIN 54020

Dischargeability Solubility

SunACTIVE™
Reactive Dyes For Textile

| "HE" "HIGH EXHAUST" DYES | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Dyeing | 4% Dyeing | C.I. Reactive | ☀ | 90 | | | | | gm/litre at 30° C |
| | | Yellow HE6G Yellow 135 | 5 | 4 | 4 | 4 | H | M | 100 |
| | | Yellow HE4G Yellow 81 | 5-6 | 5 | 4-5 | 3 | H | M | 150 |
| | | Golden Yellow HE4R Yellow 84 | 5 | 5 | 4-5 | 4 | H | G | 100 |
| | | Orange HER Orange 84 | 4-5 | 5 | 4 | 4 | H | P | 80 |
| | | Red HE3B Red 120 | 5 | 5 | 4-5 | 3 | H | P | 140 |
| | | Red HE7B Red 141 | 4-5 | 4-5 | 4-5 | 3-4 | H | P | 150 |
| | | Red HE8B Red 152 | 4-5 | 4-5 | 4-5 | 3-4 | H | P | 100 |
| | | Turq. Blue HA Blue 71 | 6 | 4-5 | 4-5 | 4 | M | G | 100 |
| | | Navy Blue HER Blue 171 | 5 | 4-5 | 4-5 | 3 | H | G | 150 |
| | | Navy Blue HE2R Blue 172 | 5 | 4-5 | 4-5 | 3 | H | G | 150 |
| | | Green HE4B Green 19 | 4-5 | 4-5 | 4-5 | 2 | H | P | 100 |
| | | Blue HEGN Blue 198 | 5 | 4-5 | 5 | 1 | H | P | 100 |
| | | Blue HERD Blue 160 | 6 | 4-5 | 4-5 | 4 | H | G | 80 |

SunACTIVE™
Reactive Dyes For Textile

| "BI-FUNCTIONAL" 'ME' DYES | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Dyeing | 4% Dyeing | C.I. Reactive | ☀ | 90 | | ⚗ | | | gm/litre at 30° C |
| | | Brill Yellow 4GF 150% Yellow 160 | 5 | 4-5 | 4-5 | 2 | H | G | 100 |
| | | Yellow 3RF 150% Yellow 145 | 5 | 4 | 5 | 3 | H | G | 120 |
| | | Orange 2RF 150% Orange 122 | 5 | 5 | 5 | 2 | M | M | 100 |
| | | Red F4BL 150% Red 195 | 5 | 4 | 5 | 3 | M | P | 150 |
| | | Red F6BL 150% Red 250 | 5 | 4-5 | 4-5 | 3 | M | P | 100 |
| | | Scarlet RED 2GF Red 222 | 4-5 | 4-5 | 4 | 3-4 | M | M | 100 |
| | | Blue BRF Blue 221 | 5-6 | 4 | 4 | 3 | H | G | 100 |
| | | Navy Blue F2GL Blue 194 | 6 | 5 | 5 | 1 | H | G | 120 |
| | | Navy Blue BF Blue 222 | 4-5 | 5 | 4 | 1 | H | G | 100 |
| | | Blue ME 2RL Blue 248 | 4-5 | 5 | 4 | 1 | H | G | 100 |
| | | Black HFGR | 4-5 | 4-5 | 4-5 | 1 | H | M | 120 |
| | | Super Black R Black (Mix) | 5 | 4-5 | 4-5 | 2 | H | G | 120 |
| | | Super Black G Black Mix | 5 | 4-5 | 4-5 | 2 | H | G | 120 |

SunACTIVE®
Reactive Dyes For Textile

| VRGBN Series / MIX BLACK | | | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1% Dyeing | 4% Dyeing | C.I. Reactive | ☀ | 90 | ♨ | ⚗ | ⚖ | ◧ | gm/litre at 30° C |
|  |  | R. Yellow VRGBN | 5 | 4-5 | 4 | 1 | H | M | 100 |
|  |  | R. Red VRGBN | 5 | 4-5 | 4 | 2 | H | P | 100 |
|  |  | R. Deep Red VRGBN | 5 | 4-5 | 4-5 | 3 | H | P | 100 |
|  |  | R. Blue VRGBN | 5 | 5 | 5 | 4 | H | G | 120 |
|  |  | R. Navy Blue VRGBN | 5-6 | 5 | 5 | 3 | H | G | 120 |
|  |  | R. Ultra YELLOW VRGBN | 5 | 4 | 4 | 3 | H | M | 100 |
|  |  | R. Ultra ORANGE VRGBN | 5 | 4 | 4 | 3 | H | G | 100 |
|  |  | R. Ultra CARMINE VRGBN | 5-6 | 5 | 5 | 4 | H | M | 100 |
|  |  | R. Ultra Red VRGBN | 5-6 | 4-5 | 4-5 | 4 | H | P | 100 |
|  |  | R. Deep Black VRGBN | 5-6 | 4-5 | 4-5 | 4 | H | M | 100 |
|  |  | R. Black GSP (R. BLACK F3DBP) | 5 | 5 | 4-5 | 2 | H | G | 120 |

90 Washing Method: DIN 54011 ☀ Light Fastness ⚗ Hypochlorite (Effect) ◧ Substantivity ♨ Perspiration Method: DIN 54020

Dischargeability Solubility

SunACTIVE™
Reactive Dyes For Textile

# SunActive RR

For warm exhaust suitable for medium shades, cost effective & higher productivity.

| 4% Dyeing | SunActive | Fastness to | | | | | | gm/litre at 30° C |
|---|---|---|---|---|---|---|---|---|
| | | ☀ | 90 | | | | | |
| | Yellow RR | 4 | 4-5 | 4 | 4-5 | H | G | 100 |
| | Orange RR | 4-5 | 4-5 | 4 | 4-5 | H | P | 100 |
| | Red RR | 4 | 4 | 3-4 | 3-4 | H | P | 100 |
| | Blue RR | 4-5 | 4-5 | 5 | 4 | H | M | 150 |

# SunActive LX

For warm exhaust suitable for pale shades with perfect reproducibility

| 0.5% Dyeing | SunActive | Fastness to | | | | | | gm/litre at 30° C |
|---|---|---|---|---|---|---|---|---|
| | | ☀ | 90 | | | | | |
| | Yellow LX | 5 | 5 | 4-5 | 4-5 | H | M | 120 |
| | Red LX | 5 | 5 | 4-5 | 4-5 | H | P | 120 |
| | Blue LX | 5 | 4-5 | 4-5 | 4-5 | H | M | 120 |
| | Navy LX | 4-5 | 4-5 | 4 | 4-5 | H | M | 100 |

SunACTIVE™
Reactive Dyes For Textile

# SunActive ED

Multifunctional warm exhaust for deep shades with cost effective and higher productivity.

| 4% Dyeing | SunActive | Fastness to | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 90 | | | | | gm/litre at 30° C |
| | Yellow ED-2G | 5 | 5 | 4 | 4 | H | P | 100 |
| | Yellow ED | 4 | 4-5 | 4 | 4-5 | H | G | 100 |
| | Orange ED2R | 4-5 | 4-5 | 4 | 4-5 | H | P | 100 |
| | Red ED | 4-5 | 4 | 4 | 3 | H | P | 100 |
| | Red ED-3B | 4-5 | 4-5 | 4-5 | 4 | H | P | 120 |
| | Red ED-7B | 5 | 5 | 5 | 4-5 | H | M | 120 |
| | Blue ED | 4-5 | 4-5 | 5 | 4 | H | M | 150 |
| | Navy Blue ED | 5 | 4-5 | 5 | 4 | H | M | 150 |
| | Black ED | 5-6 | 5 | 4 | 4 | H | G | 120 |

90 Washing Method: DIN 54011 | Light Fastness | Hypochlorite (Effect) | Substantivity | Perspiration Method: DIN 54020

Dischargeability | Solubility

VIPULORGANICS

Interconnected Chemistry

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