## Notes

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EVERCION English Everlight Chemical Industrial Corporation

**Evercion®**
www.ecic.com

Better Chemistry
Better Life

# Evercion H-E
# Evercion ESL

Reactive Dyes

Dyes for cellulose &
regenerated cellulose fibers

Everlight Chemical

## Evercion H-E & Evercion ESL dyes

Evercion H-E & Evercion ESL dyes are reactive dyes for dyeing natural cellulose fibers or regenerated cellulose fibers and their blends.

## Evercion H-E & Evercion ESL dyes offer the following advantages:

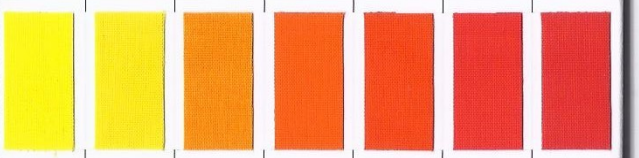
- cost-effectiveness, excellent build-up
- high exhaustion, high fixation
- excellent levelling properties
- high color yield
- easy wash-off
- versatile application
- excellent compatibility
- excellent fastness properties
- reliable reproducibility : "Right First Time"
- environmentally friendly leading to less waste water treatment

## Evercion H-E & Evercion ESL dyes application:

- piece dyeing
- package & hank dyeing
- jig dyeing

# Evercion H-E & Evercion ESL Colors on Cotton





| | | Yellow H-E6G | Yellow H-E4G | Yellow H-E4R | Orange E2G | Orange H-ER | Scarlet E2G | Scarlet H-E3G |
|---|---|---|---|---|---|---|---|---|
| Solubility(g/l) | 50°C | 70 | 50 | 100 | 100 | 40 | 90 | 100 |
| Lightfastness (Xenon test) ISO 105-B02 | Rating of 0.3% | 3-4 | 4-5 | 5 | 3 | 3 | 3-4 | 3-4 |
| | Rating of 3% | 5 | 5-6 | 6 | 5-6 | 4 | 5 | 4-5 |
| Light-fastness to Perspiration- Alkali (Xenon test) --------- Modified ISO 105-B02 | 3% | 5 | 5-6 | 5-6 | 5-6 | 3-4 | 5 | 4-5 |
| Fastness to Washing ---------- ISO 105-C02 (50°C x 45') | E | 5 | 5 | 5 | 4-5 | 4-5 | 4-5 | 5 |
| | C | 5 | 5 | 5 | 4 | 3-4 | 4 | 4-5 |
| | N | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Fastness to Washing ---------- ISO 105-C06-C2S (60°C x 30') | E | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 |
| | C | 5 | 5 | 5 | 3-4 | 4 | 4 | 4 |
| | N | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Fastness to Water ---------- ISO 105-E01 (37°C x 4hr) | E | 4-5 | 5 | 4-5 | 4 | 4-5 | 4-5 | 5 |
| | C | 5 | 5 | 5 | 4 | 4 | 5 | 3-4 |
| | N | 4-5 | 4-5 | 4 | 4-5 | 3 | 4-5 | 3-4 |
| Fastness to Perspiration (acid) ---------- ISO 105-E04 (37°C x 4hr) | E | 4-5 | 4-5 | 4-5 | 4 | 3-4Y | 4-5 | 4-5 |
| | C | 4-5 | 4-5 | 4 | 4 | 3-4 | 4 | 3-4 |
| | N | 4-5 | 5 | 4 | 4 | 3-4 | 5 | 3-4 |
| Fastness to Perspiration (alkali) ---------- ISO 105-E04 (37°C x 4hr) | E | 4-5 | 4-5 | 4-5 | 4-5 | 4Y | 4-5 | 4-5 |
| | C | 4-5 | 5 | 4 | 4 | 3-4 | 4 | 4-5 |
| | N | 4-5 | 5 | 5 | 4-5 | 3-4 | 5 | 5 |
| Fastness to Chlorinated Water(20ppm) ---- ISO 105-E03 (27°Cx1hr) | E | 4R | 3 | 4 | 4 | 4 | 4-5 | 3-4 |
| Fastness to Rubbing ---------- ISO 105-X12 | Dry | 5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 5 |
| | Wet | 4-5 | 4 | 3-4 | 3-4 | 3 | 2-3 | 3 |
| Fastness to Dry Cleaning -- ISO 105-D01 (27°C x 1hr) | E | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| Multicycle Laundering - M&S C10A(UK-TO)60°Cx30' | E | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

Remark: 1. E: effect on shade C: stain on cotton N: stain on nylon

2. All wet & rubbing fastness test for colored shades were performed at 3% dye o.w.f. Depths of colored shades for light-fastness testing were 0.3 & 3%. Depth of alkaline perspiration light-fastness test for colored shade was 3%.

| Evercion H-E | | | | | | | | | | | | | | Evercion ESL | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yellow H-E6G | Yellow H-E4G | Yellow H-E4R | Orange E2G | Orange H-ER | Scarlet E2G | Scarlet H-E3G | Red H-E3B | Red H-E7B | Blue H-EGN | Blue H-ERD | Navy Blue H-ER | Green H-E4BD | Turq. H-A | Yellow ESL | Deep Red ESL | Red ESL | Crimson ESL | Navy ESL | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 70 | 50 | 100 | 100 | 40 | 90 | 100 | 140 | 150 | 100 | 100 | 100 | 120 | 100 | 100 | 100 | 100 | 100 | 70 | |
| 3-4 | 4-5 | 5 | 3 | 3 | 3-4 | 3-4 | 4 | 3-4 | 5-6 | 5-6 | 3-4 | 3 | 4-5 | 5 | 3-4 | 3-4 | 4 | 3-4 | |
| 5 | 5-6 | 6 | 5-6 | 4 | 5 | 4-5 | 4-5 | 4-5 | 6 | 6 | 4-5 | 4 | 5 | 5-6 | 5 | 4-5 | 5-6 | 4-5 | |
| 5 | 5-6 | 5-6 | 5-6 | 3-4 | 5 | 4-5 | 4-5 | 4-5 | 5 | 5 | 4 | 3-4 | 4 | 5-6 | 4-5 | 5 | 4 | 4-5 | |
| 5 | 5 | 5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 | 5 | 4-5 | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 4-5 | |
| 5 | 5 | 5 | 4 | 3-4 | 4 | 4-5 | 4-5 | 3-4 | 4-5 | 3-4 | 4 | 4 | 3-4 | 4-5 | 4-5 | 3-4 | 4-5 | 4 | |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | 4-5 | 5 | 5 | 5 | 4-5 | 4-5 | |
| 5 | 5 | 5 | 3-4 | 4 | 4 | 4 | 4-5 | 4-5 | 4 | 4 | 4 | 4 | 3-4 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 4-5 | 5 | 4-5 | 4 | 4-5 | 4-5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | 5 | 4-5 | 5 | 4-5 | 5 | |
| 5 | 5 | 5 | 4 | 4 | 5 | 3-4 | 4 | 3 | 3-4 | 3-4 | 4 | 3-4 | 4-5 | 4 | 4 | 3-4 | 4-5 | 3-4 | |
| 4-5 | 4-5 | 4 | 4-5 | 3 | 4-5 | 3-4 | 3-4 | 2-3 | 3 | 5 | 3-4 | 3 | 3-4 | 4 | 4 | 5 | 4-5 | 5 | |
| 4-5 | 4-5 | 4-5 | 4 | 3-4Y | 4-5 | 4-5 | 4 | 4B | 4 | 4 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4B | 4-5 | 4B | |
| 4-5 | 4-5 | 4 | 4 | 3-4 | 4 | 3-4 | 4-5 | 3 | 3-4 | 3-4 | 4-5 | 2-3 | 4-5 | 4-5 | 4-5 | 3 | 4-5 | 3 | |
| 4-5 | 5 | 4 | 4 | 3-4 | 5 | 3-4 | 4-5 | 3-4 | 4 | 4 | 3-4 | 3 | 4-5 | 4-5 | 4-5 | 3-4 | 4-5 | 3-4 | |
| 4-5 | 4-5 | 4-5 | 4-5 | 4Y | 4-5 | 4-5 | 4 | 4-5 | 4 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | |
| 4-5 | 5 | 4 | 4 | 3-4 | 4 | 4-5 | 4-5 | 4 | 3-4 | 3-4 | 4-5 | 3 | 4-5 | 4-5 | 5 | 4 | 4-5 | 4 | |
| 4-5 | 5 | 5 | 4-5 | 3-4 | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 4R | 3 | 4 | 4 | 4 | 4-5 | 3-4 | 3B | 3-4B | 1 | 1 | 4-5 | 2 | 3 | 4Y | 3 | 3-4B | 4-5 | 3-4B | |
| 5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| 4-5 | 4 | 3-4 | 3-4 | 3 | 2-3 | 3 | 2-3 | 2-3 | 3 | 3 | 2-3 | 2-3 | 2-3 | 3-4 | 3 | 2-3 | 3 | 2-3 | |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | * | 4-5 | |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | |

3% dye o.w.f. Depths of colored shades for light-fastness testing
olored shade was 3%.

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- jig dyeing

# Evercion H-E & Evercion ESL Colors on Cotton

| | |
|---|---|
| 50°C | Solubility(g/l) |
| Rating of 0.3% | Lightfastness (Xenon test) ISO 105-B02 |
| Rating of 3% | |
| 3% | Light-fastness to Perspiration- Alkali (Xenon test) --------- Modified ISO 105-B02 |
| E | Fastness to Washing ---------- ISO 105-C02 (50°C x 45') |
| C | |
| N | |
| E | Fastness to Washing ---------- ISO 105-C06-C2S (60°C x 30') |
| C | |
| N | |
| E | Fastness to Water ---------- ISO 105-E01 (37°C x 4hr) |
| C | |
| N | |
| E | Fastness to Perspiration (acid) ---------- ISO 105-E04 (37°C x 4hr) |
| C | |
| N | |
| E | Fastness to Perspiration (alkali) ---------- ISO 105-E04 (37°C x 4hr) |
| C | |
| N | |
| E | Fastness to Chlorinated Water(20ppm) ---- ISO 105-E03 (27°Cx1hr) |
| Dry | Fastness to Rubbing ---------- ISO 105-X12 |
| Wet | |
| E | Fastness to Dry Cleaning -- ISO 105-D01 (27°C x 1hr) |
| E | Multicycle Laundering - M&S C10A(UK-TO)60°Cx30' |

# Notes

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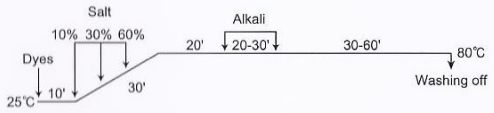
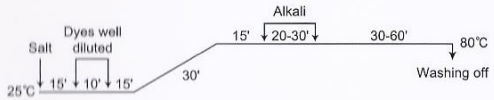
## 2. Exhaust dyeing method

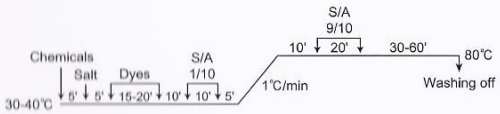
### 2-1. Portionwise addition of salt



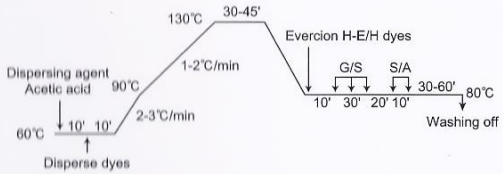

### 2-2. Salt at start




### 2-3. Evercion reference dyeing method




### 2-4. One-bath two-stage dyeing method of T/C blends




## Evercion H-E & Evercion ESL trichromatic dyes

| items | Evercion H-E trichromatic | Evercion ESL trichromatic |
|---|---|---|
| pale-shades | Evercion Yellow H-E4R<br>Evercion Red H-E3B<br>Evercion Blue H-ERD | |
| medium-heavy shades | Evercion Yellow H-E4R<br>Evercion Red H-E7B<br>Evercion Navy Blue H-ER | Evercion Yellow ESL<br>Evercion Red ESL<br>Evercion Crimson ESL<br>Evercion Navy ESL |
| scarlet | Evercion Red H-E3B<br>Evercion Orange H-ER<br>(or Evercion Scarlet E2G) | |
| jade, grass green | Evercion Yellow H-E6G<br>Evercion Turquoise H-A<br>(or Evercion Yellow H-E4G) | |
| aqua, turquoise | Evercion Turquoise H-A<br>Evercion Blue H-EGN | |
| royal | Evercion Blue H-EGN<br>Evercion Red H-E7B | |
| burgundy maroon | Evercion Yellow H-E4R<br>Evercion Red H-E3B<br>Evercion Navy Blue H-ER | Evercion Yellow ESL<br>Evercion Red ESL<br>Evercion Crimson ESL<br>Evercion Navy ESL |
| dark green | Evercion Green H-E4BD<br>Evercion Navy Blue H-ER<br>Evercion Yellow H-E4R | |
| deep navy | Evercion Yellow H-E4R<br>Evercion Red H-E7B<br>Evercion Navy Blue H-ER | |

## Fastness properties

1. Fastness properties were tested in accordance with SN-ISO 105 and carried out under our laboratory conditions.
2. All wet & rubbing fastness test for colored shades were performed at 3% dye o.w.f.
3. Depths of colored shades for light-fastness testing were 0.3 & 3%.
4. Depth of alkaline perspiration light-fastness test for colored shade was 3%.

## Salt and alkali recommendation of

**Evercion H-E & Evercion ESL dyes in exhaust dyeing**

| depth | Glauber's salt or common salt (g/l) | | Alkali (g/l) | | Fixing time (min) |
|---|---|---|---|---|---|
| | Unmercerized cotton | Mer. cotton, Viscose rayon | Soda ash | Soda ash + Caustic soda | |
| <0.5% | 30 | 20 | 10 | 5+0.2 | 30 |
| 0.5~1% | 40 | 30 | 15 | 5+0.2 | 45 |
| 1~2% | 50 | 40 | 15 | 5+0.2 | 45 |
| 2~3% | 60 | 50 | 20 | 5+0.2 | 60 |
| 3~4% | 70 | 60 | 20 | 5+0.2 | 60 |
| 4%< | 90 | 65 | 20 | 5+0.2 | 60 |

Remark : (1) The purity of Glauber's salt is 100%.
(2) Concentration of caustic soda : 38°B'e.

## Information about dyeing temperature

80°C: Suitable for all Evercion H-E & Evercion ESL dyes. For dyeing, precise temperature control and alkali addition will enhance the levellness and reproducibilit.

## General dyeing method introduction

### 1-1. Winch, jet dyeing

- dyes, salt and partial alkali are added to the dyebath at room temperature,
- heat to the desired temperature gradually.
- hold 10-20 min, add the rest of the alkali and dye over the next 60-90 min.

Remark:

Automatic dosing system for dyes and alkali will benefit the levelness and reproducibility.

### 1-2. Jig dyeing method

| passage | Temp.(°C) | Step |
|---|---|---|
| 1 | 30 | 1/2 dyes addition, wetting agent |
| 2 | 30 | 1/2 dyes addition |
| 3 | 30 | 1/2 salt addition |
| 4 | 30 | 1/2 salt addition |
| 5-6 | 50 | no additions |
| 7 | 80 | 1/2 soda ash addition |
| 8 | 80 | 1/2 soda ash addition |
| 9-12 | 80 | no additions(at least 40-60mins) |

### 1-3. Wash-off process (Recommended )

| Bath | Temp.(°C) | Time(min) | Function |
|---|---|---|---|
| 1 | 30-50 | 10-15 | cold rinsing or over-flow rinsing |
| 2 | 60-70 | 10-15 | warm rinsing |
| 3 | 80-98 | 10-15 | hot rinsing |
| 4 | 98 | 10-15 | soaping |
| 5 | 60-70 | 10-15 | warm rinsing |
| 6 | 30-50 | 10-15 | cold rinsing |
| 7 | 30-50 | 10-15 | softening & fixing |

Remark:

1. Depending on the depth of shade, bath liquor ratio and liquor retention on dyed substrate, the number of rinse baths at 30-50°C can be adjusted accordingly.
2. A sequestering agent with dispersing property is needed in soaping bath, if processing water is too hard.
3. Ensure that the final pH before finishing is weakly acid or neutral.

## Global Service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