

## Ultreza series

### Ultreza LMC

#### **Dispersing and Leveling agent for 1:2 metal complex dyes.**

#### **INTRODUCTION**

Polyamides refer to various natural (polypeptides) and synthetic materials containing free amino groups. Examples of polyamides include nylons, wool, and silk. Nylon fiber is commonly dyed with acid dyes, including pre-metallized acid dyes, in a batch process referred to as exhaust dyeing. For example, nylon fiber which has been made into fabric may be dyed in a jet-dyeing machine, whereby a continuous loop of the fabric is circulated throughout the dye bath by impinging the dye bath liquor against the fabric in a venturi nozzle. Care must be taken during the dyeing process to obtain a uniform distribution of dye on the fabric, referred to as leveling.

Anionic leveling agents act by competing for the dye sites and are mainly used to counter-act fibre-oriented unlevelness due to physical and chemical irregularities in the fibre. As acid dyes are negatively charged, cationic leveling agents form complexes with acid dyes and may precipitate when used alone. Hence in order to counteract both the types of unlevelness it is necessary to use amphoteric leveling agent.

**Ultreza LMC** due to its substantivity for 1:2 metal complex dyes enforces a slow and even rate of absorption which results in excellent penetration and level dyeing. It is applicable in dyeing of wool, silk and polyamide fibers in weakly acid baths (pH 4-5) and also in Ammonium Sulphate (pH 6-6.5) process.

#### **FEATURES**

- Disperses the dye molecules and maintains an equilibrium dispersion of dye molecules
- Prevents agglomeration of dyestuffs at high temperature and facilitates dye migration
- Permits improvement of dyeing reproducibility
- Prevents precipitation of dyes with impurities in the fibre
- Improves dye solubility and provides uniform dyeing
- Prevents dye agglomeration induced by hard water or salt addition
- Promotes feasible conditions for level dyeing
- No draining effect with 1:2 metal complex dyes
- Facilitate printing of polyamide fibers with metal complex dyes
- Free from APEO

#### **STALWART ADVANCE MATERIAL INDS**

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## PROPERTIES

Appearance	Yellowish brown viscous liquid
pH	approx.8.0
Ionic character	Amphoteric
Compatibility with	
Cationic	Good
Anionic	Good
Non-ionic	Good

## SAMPLE RECIPE FOR DYEING OF TEXTURISED POLYESTER

Ultreza LMC is applied for dyeing of wool, silk and polyamide fibres in weakly acidic baths. It is especially suitable for 1:2 metal complex dyestuffs

### Dyeing of polyamide

To dye PA fibres in the form of loose stock or slubbing with 1:2 metal complex dyes, Ultreza LMC should be applied at pH 4.5. With rapid-dyeing polyamide fibres, the dye liquor should be set to a higher pH.

2.0 – 3.0 %	Neutracid AS
1.0 – 3.0 %	Sodium acetate
1.0 – 3.0 %	<b>Ultreza LMC</b>
	Raise the temperature to 50°C & run for 10 mins.
	Add
X %	1:2 Metal complex dyes
	Treat at 100°C for 50-60 mins
	Lower the temperature to 80°C and drain the bath.
	Rinse thoroughly for 20 mins
	Raise the temperature to 80-90°C
1.0 – 2.0 g/l	Evoran RC
1.0 – 2.0 g/l	Caustic Soda
	Treat for 10-15 mins.
	Cold wash for 15-20 mins. Drain

### Dyeing of wool and silk

Set the dye bath at 50°C -60°C with

1.0 – 3.0 %	<b>Ultreza LMC</b>
3.0 %	Sodium acetate
4.0-6.0 %	Acetic acid 40% (pH 4.5 – 5.0)
5-10 %	Glauber's salt (anhydrous)

OR

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Set the dye bath at 50°C -60°C with

1.0 – 3.0 %	<b>Ultreza LMC</b>
2.0-5.0 %	Ammonium Sulphate (pH 6.0 –6.5)
5-10 %	Glauber’s salt (anhydrous)

Enter the goods and work for 10 mins. Add the dissolved dyestuff & raise the temperature to boil and dye at boil for 45 mins. Rinse & dry. (While dyeing pure silk by any of the above method, dyeing temperature should not exceed 90°C)

#### Dyeing of wool

In the dyeing of wool with 1:2 metal-complex dyes, Ultreza LMC has proved extremely successful as a leveling agent and as an auxiliary for preventing skittery dyeings. It generally also has a shade deepening effect.

#### *Loose stock or slubbing:*

Add the products in the following order:

5 %	Ammonium sulfate,
3.0 – 5.0 %	Acetic acid (pH 5)
1.0 - 2.0 %	<b>Ultreza LMC</b>
X %	1:2 metal complex dye

#### *Yarn or piece-goods:*

Recipe as above, but pH 6 – 7

#### Dyeing bleached, chlorinated wool

To dye bleached, chlorinated wool in very pale shades (pastel or “baby” colours), somewhat higher amounts of Ultreza LMC should be used. Level dyeings are obtained by employing

2.0 – 3.0 %	<b>Ultreza LMC</b>
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with both 1 : 2 metal complex dyes and acid dyes. It is essential to start dyeing at a very low temperature, between 20°C and 30°C.

#### Printing polyamide (pale shades)

5 – 10g/kg (print paste)	<b>Ultreza LMC</b>
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Correction of faulty/unlevel dyeings

Dyeings which have turned out too heavy or unlevel can be partly stripped or leveled by treating in a blank bath with Ultreza LMC.

The goods are treated in a fresh bath at the boil with

2.0 – 4.0%	<b>Ultreza LMC</b>
2.0 – 4.0 %	Acetic acid 40% (pH 6.0)
10 - 15%	Glauber’s salt (anhydrous)
	30-60 mins at 98°C

Please note that Ultreza LMC should not be used for the pasting of dyestuffs.

**STORAGE AND HANDLING**

Precautions for safe handling	Do not eat, drink or smoke while handling the product.
Conditions for safe storage	Store in a cool, dry & ventilated area away from the sources of heat.
Shelf Life	6 months.

Note: Kindly refer SDS for further information on Storage & Handling.

**Ultreza is a registered trade name of Stalwart Advance Material Inds.**

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The information and recommendations presented here were based on our general experience and correspond to the state of our knowledge. They are intended to service as non-binding guidelines and must be adapted to the prevailing conditions. We cannot accept liability for any injury, loss or damage resulting from reliance upon such information.

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