

The Chemistry of Textiles

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- Spinning
- Weaving, Knitting
- Preparation (Bleaching)
- Dyeing and Printing
- Washing-off
- Finishing
- Making-up



Ammonium chloride

Ammonium sulphate

Mono-ammonium-disulphhydrogenphosphate

Methanol

Ammonium nitrate

Magnesium chloride

Zinc nitrate

Urea formaldehyde

Dicyandiamide

Melamine formaldehyde

Butadiene polymer

Di-hydroxy ethylene urea formaldehyde

Polyvinyl acetate

Nylon terpolymer

Polyvinyl chloride

Polyvinyl alcohol

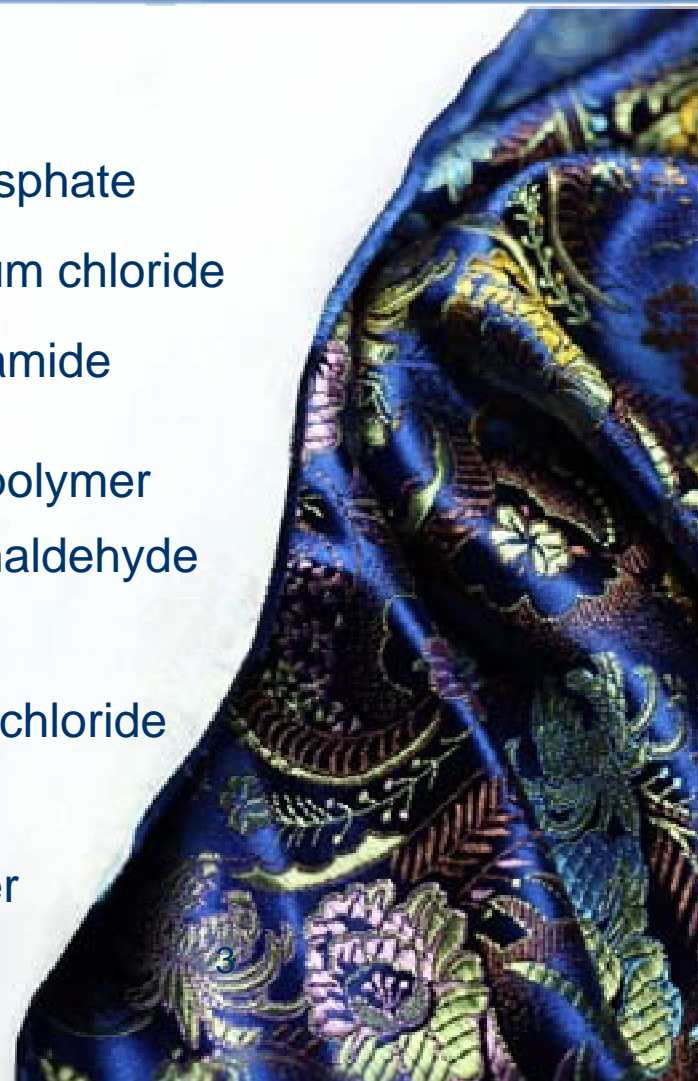
Ammonium chloride

Silicone elastomer

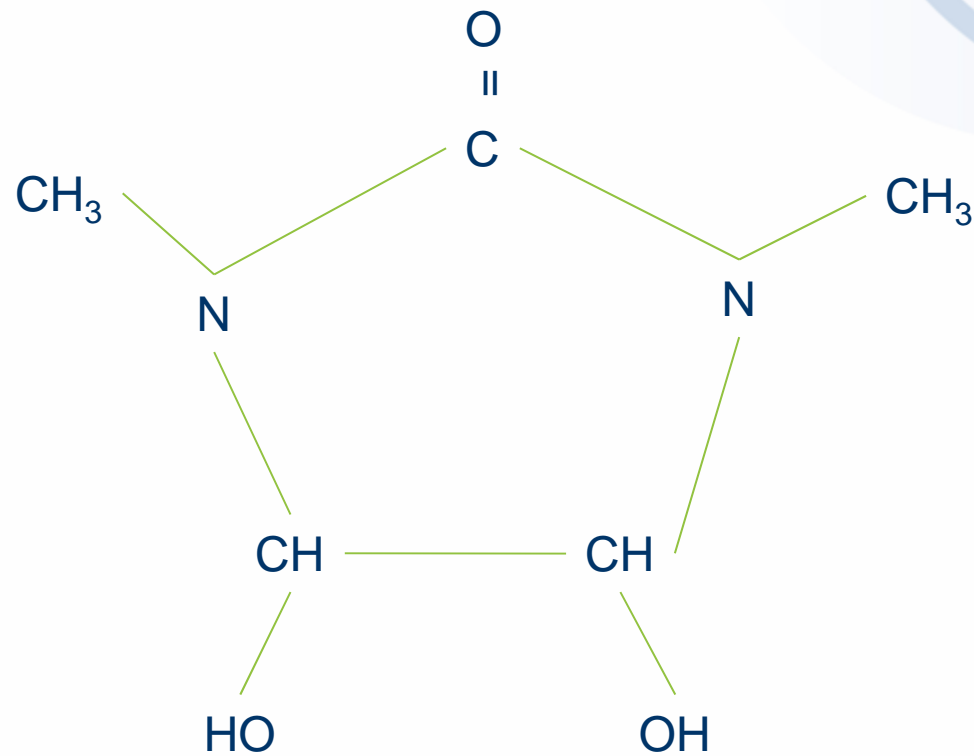
Polythene copolymer

Melamine steramide

Optical brightening agents



Structure of DHDMI

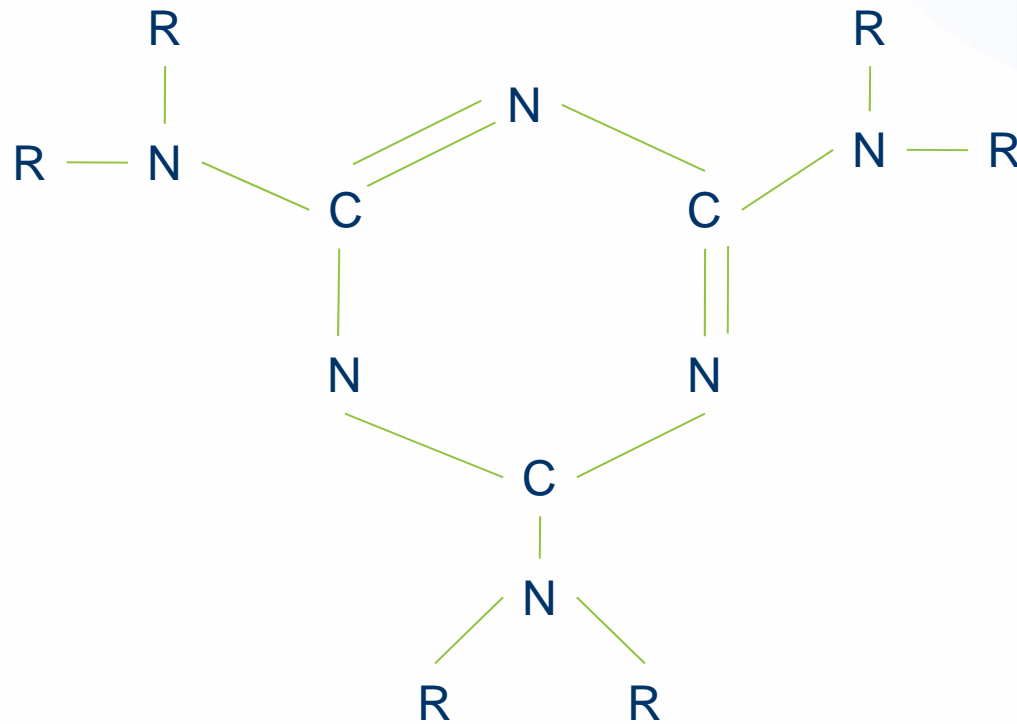


Typical Recipes for Zero Formaldehyde add-on levels on fabric

	Pad-dry-cure of 100% cotton single jersey	Pad-dry-cure of 100% cotton woven shirting
DHDMI type resin*	80 g l ⁻¹	200 g l ⁻¹
Catalyst	24 g l ⁻¹ MgCl ₂ solution (30% anh.)	60 g l ⁻¹ MgCl ₂ solution (30% anh.)
Softener	40 gl ⁻¹ silicone elastomer (30% solids)	40 gl ⁻¹ silicone elastomer (30% solids)
Water	To one litre	-
Pick-up	100%	-

* DMDHI resins are usually prepared with an active solids level of around 30%

Structure of generic melamine formaldehyde



Wool Structure

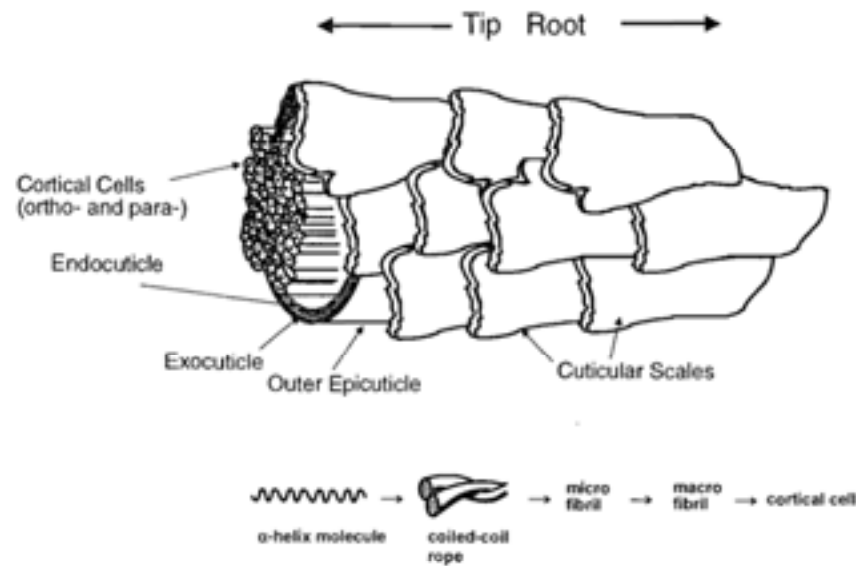
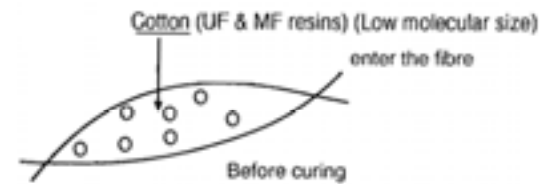


Figure 1.2 Highly simplified view of a wool fibre, showing cortical cells and cuticular scales.

CHEMISTRY OF THE TEXTILES INDUSTRY



Cotton (Reactant resin)





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