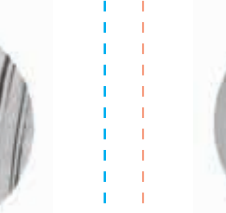
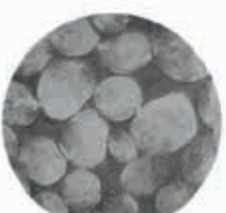
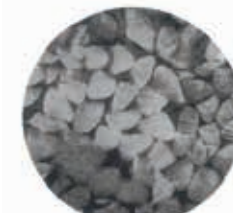
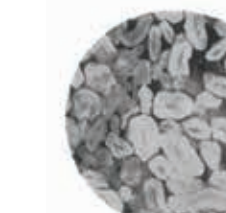
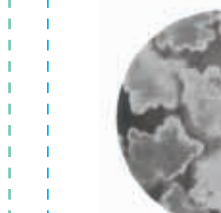
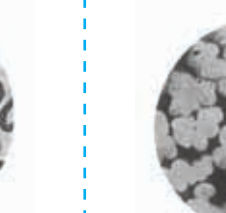
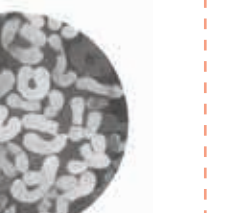
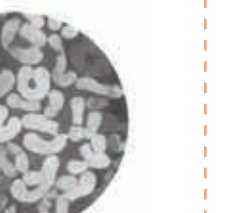
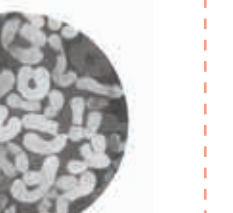
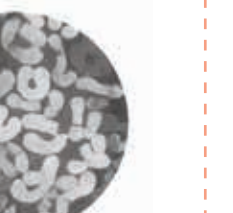
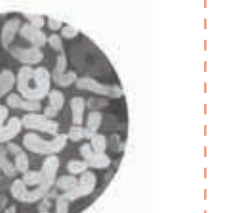
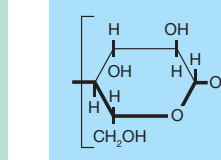
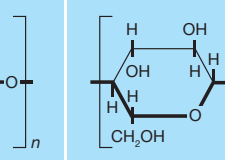
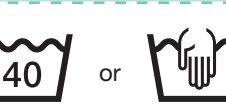
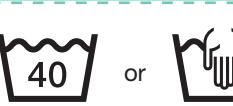
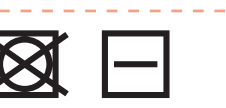


Microscopic views

The microscopic views relate to a typical fibre, but with synthetic fibre, the view can be very different, as result of the manufacturing process.

REGENERATED CELLULOSIC FIBRES

SYNTHETIC FIBRES

GENERIC NAME	WOOL	SILK	COTTON	FLAX	VISCOSE	MODAL	ACETATE TRIACETATE	POLYAMIDE NYLON	ACRYLIC	MODACRYLIC	POLYESTER	CHLOROFIBRE	POLYETHYLENE POLYPROPYLENE	GLASS	ELASTANE
CHEMICAL COMPOSITION	Natural protein	Natural protein	Natural cellulose	Natural cellulose	Regenerated cellulose	Regenerated cellulose with high tensile strength and high modulus of elasticity in wet condition	Acetylated cellulose Acetate 74-92% Triacetate >92%	Polyamide	Polyacrylonitrile	Polyvinyl chloride 15 - 50% Acrylonitrile 50-85%	Polyethylene glycol terephthalat	Polyvinyl Polyvinyl chloride	Aliphatic polymers	Glass	Compound of polyurethane (glycol and diisocyanate)
Microscopic views The microscopic views relate to a typical fibre, but with synthetic fibre, the view can be very different, as result of the manufacturing process.															
															
CHEMICAL FORMULA	Protein Keratin	Protein Fibroin (70% - 80%) B-Keratin Sericin (20% - 30%)	Cellulose	Cellulose			$[C_6H_7O_2-(OCH_2O)_n]$	$[NH-(CH_2)_n-CO]_n$	$[CH_2-CH(CN)]_n$	$[(CH_2-CH(CN))_m-(CH_2-CH(CN))_n]$	$[OC-C_6H_4-CO-O-CH_2-CH_2-O]_n$	$[CH_2-CHCl]_n$	$[CH_2-CH_2]_n$ <i>Polyethene</i> $[CH_2-CH_3]_n$ <i>Polypropene</i>	$(SiO_2)_n$	$(OR-OCO-NH-R_1-NHCO)_n$
Identification (pure fibre) Caution mix fibre content	Microscopic view Scales. Flammable, but extinguishing. Smell of burned hair. Black ash. Dissolves in boiling 5% NaOH. Dissolves not in cold HCl (35%), H ₂ SO ₄ (80%) and HNO ₃ (60%). Dissolves in 37% hypochlorite.	Microscopic view. Flammable, but extinguishing. Smell of burned hair. White ash. Dissolves in boiling 5% NaOH. Dissolves in cold HCl (35%), except when tin-weighted. Dissolves in cold H ₂ SO ₄ (80%) and HNO ₃ (60%). Dissolves in 37% hypochlorite.	Microscopic view. Burns easily. Smell of burned paper. Little ash. Does not dissolve in boiling NaOH (5%). Dissolves in cold H ₂ SO ₄ (80%). Also identifiable cotton: recognizable on shine.	Microscopic view. Fibre test as cotton. Does not dissolve in boiling NaOH (5%). Dissolves in cold H ₂ SO ₄ (80%). Also identifiable with long fibre (5-10cm).	Microscopic view. Burns easily. Smell and ashes as cotton. Does not dissolve in boiling NaOH (5%). Dissolves in cold H ₂ SO ₄ (80%). Also recognizable on shine (except when shine is treated). Less strong in wet condition.	The same as viscose, but different microscopic views and greater resistance in wet condition.	Microscopic view. Burns easily under partially melt. Vinegar odor. Dissolves in acetone and in cold H ₂ SO ₄ (80%). Does not dissolve in NaOH (5%). Also recognizable on shine (except when shine is treated). Triacetat damages in acetone and dissolves in methylene chloride.	Burns slowly under melting and sizzles. Melted drops fall from the burning fibres. Smell of celery. Does not dissolve in acetone. Dissolves in cold phenol (90%) H ₂ SO ₄ (80%), HCl (20%) and in formic acid. Also recognizable to the strength of the fibres.	Microscopic view. Burns easily and melts. Does not dissolve in acetone, phenol and HCl (20%) in the cold. Dissolves in dimethylformamide.	Microscopic view. Very difficult to burn and melt. Smell of solder. Dissolves in acetone and phenol (90%). Dissolves not in H ₂ SO ₄ (80%) and HCl (20%). Dissolves in dimethylformamide.	Burns difficult and irregular, melts. Does not dissolve in acetone, phenol (90%) and HCl (20%) in the cold. Dissolves in boiling phenol (90%).	Microscopic view. Melts and chars but doesn't burn. Does not dissolve in acetone, phenol, H ₂ SO ₄ (80%) and HCl (20%) in the cold. Dissolves in phenol (90%) in the warmth. Dissolves in cyclohexanone.	Melts and burns easily. Greasy feel. Melting point Polyethylene: 130°C, Melting point polypropylene: 170°C.	Melt Incombustible.	Microscopic view. Burning and melting under formation of drops, disseminates a smell of bitter almonds, occurs in the form of elastic, rubbery thread. Dissolves in H ₂ SO ₄ (80%) and boiling dimethylformamide. Does not dissolve in acetone, benzene, HCl (35%) and ice acetic acid.
NORMAL MOISTURE CONTENT: (RELATIVE HUMIDITY 65%)	17%	11%	Cotton : 8,5% Mercerized cotton : 10,5%	12%	13%	13%	Acetate: 9% Triacetate: 7%	6,5%	2%	2%	1,5%	2%	Polyethylene: 1,5% Polypropylene: 2%	2% - 3%	1,5%
Washing (see also remark 1)															
Bleaching (see also remark 1)			 (see remark 1)	 (see remark 1)		 (see remark 1)		 (see remark 1)	 (see remark 1)	 (see remark 1)	 (see remark 1)	 (see remark 1)	 (see remark 1)		
Drying (see also remark 1)															
Ironing (See also remark 2)															
Professional cleaning (see also remark 3)															
Alkaline action (See also remark 2)	Felting and resolving. To be avoided.	Resolving. To be avoided.	No degradation.	No degradation.	Degradation by concentrated solutions of caustic alkalis.	No degradation.	Degradation. To be avoided.	No degradation.	Light degradation.	No degradation.	Light degradation in warm conditions.	No degradation.	No degradation.	Degradation. To be avoided.	No degradation in normal conditions.
Colorants commonly used	Acid, direct, metal complex, reactive and pigment colours.	Acid, chrome, direct, metal complex, vat dyes, indigosol, azo, reactive and pigment colours.	Direct, sulphur, vat dyes, indigosol, azo, phthalocyanine, reactive and pigment colours.	Direct, sulphur, vat dyes, indigosol, azo, phthalocyanine, reactive and pigment colours.	Direct, basic, sulphur, vat dyes, indigosol, azo, phthalocyanine, reactive dyes and pigment colours.	Direct, basic, sulphur, vat dyes, indigosol, azo, phthalocyanine, reactive dyes and pigment colours.	Basic, disperse, azo dyes and pigment colours.	Metallic dispersion dyes, acid, chrome, direct, metal complex, vat, indigosol, azo, reactive dyes and pigment colours.	Basic, vat, indigosol, metallic, dispersion dyes and pigment colours.	Disperse, acid, direct, basic, metalcomplex, vat dyes and pigment colours.	Disperse dyes and pigment colours.	Polyvinylchloride: dispersion and spun dyeing (pigments) Polyvinylidene chloride: spun dyeing (pigments).	Spun dyeing (pigments). Meraklon can be dyed with acid, chrome and reactive colours.	Pigments (Special process).	Disperse dyes, low affinity for all dye classes.

[illegible][illegible]

Product Type	Composition	Textile	Temperature	Efficiency	Fibre Diameter			
Powder (classic and compact).	Contains: oxygen bleach and optical whitener.	Large washes, white textiles. Special for cotton.	From 40°C to 95°C. Particularly suitable for >60°C Machine wash.	All stains and specially coloured stains (wine, tea, fruit, coffee ...).				
All over washproducts.	Contains: optical whitener but no oxygen bleach.	White and colourfast textile. Used for mix textiles (cotton and synthetic materials).	From 30°C to 60°C. Machine and hand wash.	Specially for grease stains (sauce, make-up). Less efficient on coloured stains.	micro fibre 6 µm	Silk 12 µm	Cotton 13 µm	Cashmere 16 µm
Colour products: powder, and liquids.	No oxygen bleach or optical whitener.	Colourfast textile. Used for mix textiles (cotton and synthetic materials.).	From 30° until 60°C. Machine wash.	Common stains and grease stains. Less efficient on coloured stains.				
Delicat textiles: powder, and liquids.	No oxygen bleach or optical white. Contains ingredient for colour protection.	Fragile fibres (wool, silk) and sensitive colours.	From 30°C to 60°C. Machine and hand wash.	Common stains.				
Hand wash.	No oxygen bleach nor optical whitener.	Fragile fibres (wool, silk) and sensitive colours.	Hand wash only.	Textiles not very polluted.	Virgin wool 17 µm	Polyester 18 µm	Rough Wool 22 µm	