

# INTERNATIONAL STANDARD

**ISO  
2076**

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## **Textiles — Man-made fibres — Generic names**

*Textiles — Fibres chimiques — Noms génériques*

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Reference number  
ISO 2076:1999(E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 2076 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This fourth edition cancels and replaces the third edition (ISO 2076:1989) which has been technically revised.

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# Textiles — Man-made fibres — Generic names

## 1 Scope

This International Standard lists the generic names used to designate the different categories of man-made fibres currently manufactured on an industrial scale for textile and other purposes, together with the distinguishing attributes that characterize them. The term *man-made fibres* has been adopted for those fibres obtained by a manufacturing process, as distinct from materials which occur naturally in fibrous form.

## 2 General

The entries in Table 1 are organized into the four following principle elements.

### 2.1 Generic name (e.g. acetate)

This is the name to be used for the fibre whose attributes are described under the heading **Distinguishing attribute** in Table 1. Use of this name shall be limited to those fibres that contain not more than 15 % (*m/m*) of fibre-forming additives (no limit is placed upon the proportion of additives that are not fibre-forming). In both the English and the French languages, the generic name shall be written without capital letters. The generic name may also be used to describe textile products (yarns, fabrics etc.) made from man-made fibres, in which case it is accepted that the manufacturing process may have modified the distinguishing attribute.

### 2.2 Code (e.g. CA)

This is a two- to four-letter designation used to facilitate the naming of man-made fibres, e.g. in sales and technical literature. In some cases the coding system given to textile fibres is different from the one used for plastics.

### 2.3 Distinguishing attributes

These are attributes that differentiate one fibre from all others. Chemical difference, which often results in distinctive property differences, is the main basis for classification in this International Standard; other attributes are used where necessary to differentiate between otherwise similar man-made fibres. The distinguishing attributes are not necessarily those by which the fibres might be identified or the same as those used for naming chemical molecules, nor are they necessarily suitable for the analysis of fibre mixtures.

NOTE In these descriptions the concepts "group", "linkage" and "unit" have been used in the following manner:

- "group" is used to denote, eg., hydroxyl groups on acetate;
- "linkage" is used to denote a chemical bond;
- "unit" is used to denote a repeating element.

### 2.4 Examples of chemical formulae

These are an indication of the chemical structure of the fibre. The examples do not comprise mandatory elements of this International Standard given that in some cases the same chemical formula may be shared by more than one type of fibre; e.g. cellulose II is shared by cupro, lyocell, modal and viscose.

3 Generic names

Table 1

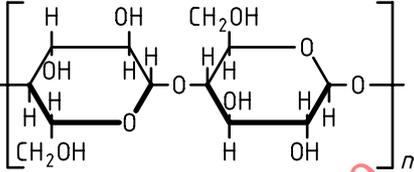
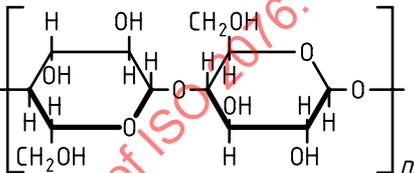
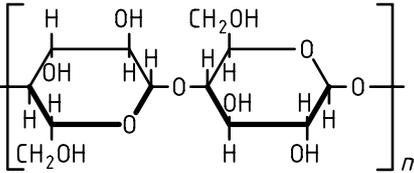
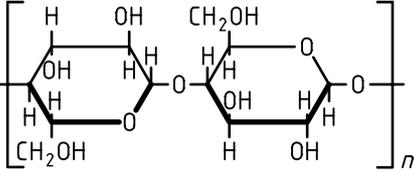
	Generic names	Code	Distinguishing attribute	Examples of chemical formulae
3.1	cupro <sup>a</sup>	CUP	Cellulose fibre obtained by the cuprammonium process.	Cellulose II: 
3.2	lyocell	CLY	A cellulose fibre obtained by an organic solvent spinning process. It is understood that: 1) an "organic solvent" means essentially a mixture of organic chemicals and water and 2) "solvent spinning" means dissolving and spinning without the formation of a derivative.	Cellulose II: 
3.3	modal <sup>a</sup>	CMD	Cellulose fibre having a high breaking strength and a high wet modulus. The breaking strength $B_c$ in the conditioned state and the force $B_w$ required to produce an elongation of 5 % in its wet state are  $B_c \geq 1,3\sqrt{LD} + 2 LD$ $B_w \geq 0,5\sqrt{LD}$ where LD is the mean linear density (mass per unit length) in decitex.  $B_c$ and $B_w$ are expressed in centinewtons.	Cellulose II: 
3.4	viscose <sup>a</sup>	CV	Cellulose fibre obtained by the viscose process.	Cellulose II: 
3.5	acetate	CA	Cellulose acetate fibre in which less than 92 %, but at least 74 %, of the hydroxyl groups are acetylated.	Secondary cellulose acetate:  $\left[ C_6H_7O_2(OX)_3 \right]_n$ where X = H or CH <sub>3</sub> CO and the degree of esterification is at least 2,22 but less than 2,76.

Table 1 (continued)

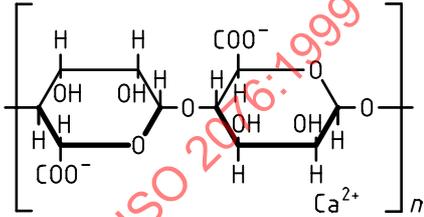
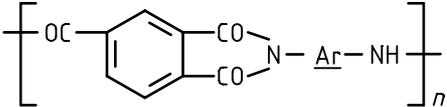
	Generic names	Code	Distinguishing attribute	Examples of chemical formulae
3.6	triacetate	CTA	Cellulose acetate fibre in which at least 92 % of the hydroxyl groups are acetylated.	Cellulose triacetate: $\left[ C_6H_7O_2(OX)_3 \right]_n$ where X = H or CH <sub>3</sub> CO and the degree of esterification is between 2,76 and 3.
3.7	alginate	ALG	Fibre obtained from the metal salts of alginic acid	Calcium alginate: 
3.8	acrylic	PAN	Fibre composed of linear macromolecules having in the chain at least 85 % by mass of acrylonitrile repeating units	Polyacrylonitrile: $\left[ CH_2 - \underset{\substack{  \\ CN}}{CH} \right]_n$ and acrylic copolymers: $\left[ (CH_2 - \underset{\substack{  \\ CN}}{CH})_m - (CH_2 - \underset{\substack{  \\ Y}}{\overset{\substack{X \\  }}{C}}) \right]_p$
3.9	aramid	AR	Fibre composed of linear macromolecules made up of aromatic groups joined by amide or imide linkages, at least 85 % of the amide or imide linkages being joined directly to two aromatic rings and the number of imide linkages, if the latter are present, not exceeding the number of amide linkages.	EXAMPLE 1: $\left[ OC - \underline{Ar} - CO - NH - \underline{Ar} - NH \right]_n$ EXAMPLE 2:  NOTE - In example 1, the aromatic groups may be the same or different.
3.10	chlorofibre	CLF	Fibre composed of linear macromolecules having in the chain more than 50 % by mass of vinyl chloride or vinylidene chloride units (more than 65 % in the case in which the rest of the chain is made up of acrylonitrile, the modacrylic fibres being thus excluded).	Poly(vinyl chloride): $\left[ CH_2 - CHCl \right]_n$ and poly(vinylidene chloride): $\left[ CH_2 - CCl_2 \right]_n$



Table 1 (continued)

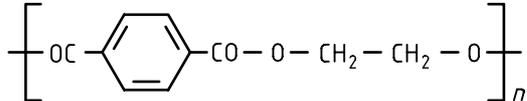
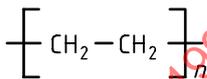
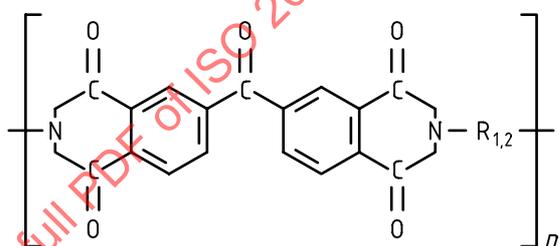
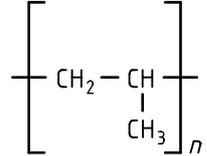
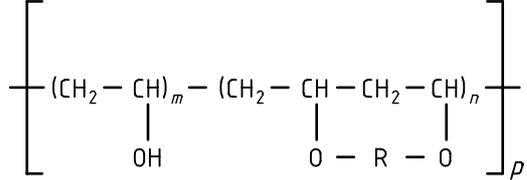
	Generic name	Code	Distinguishing attribute	Examples of chemical formulae
3.16	polyester	PES <sup>e</sup>	Fibre composed of linear macromolecules having in the chain at least 85 % by mass of an ester of a diol and terephthalic acid.	Poly(ethylene glycol terephthalate): 
3.17	polyethylene <sup>f</sup>	PE	Fibre composed of linear macromolecules of unsubstituted saturated aliphatic hydrocarbons.	Polyethylene: 
3.18	polyimide	PI	Fibre of synthetic linear macromolecules having in the chain recurring imide units.	Polyimide:  R <sub>1</sub> = Aryl R <sub>2</sub> = Alkyl
3.19	polypropylene <sup>f</sup>	PP	Fibre composed of linear macromolecules made up of saturated aliphatic hydrocarbon units in which one carbon atom in two carries a methyl side group, generally in an isotactic configuration and without further substitution.	Polypropylene: 
3.20	glass <sup>g</sup>	GF	Fibre, in textile form, obtained by drawing molten glass.	
3.21	vinylal	PVAL	Linear macromolecules of poly(vinyl alcohol) with different levels of acetalization.	Acetalized poly(vinyl alcohol):  where $n > 0$
3.22	carbon	CF	Fibre containing at least 90 % by mass of carbon obtained by thermal carbonization of organic fibre precursors.	
3.23	metal fibre <sup>h</sup>	MTF	Fibre obtained from metal	

Table 1 (continued)

- a The name "rayon", in French "rayonne", has not been used by ISO in this International Standard because this name, used generically for cellulose fibres in some countries, does not have the same meaning everywhere. Each Member Body should determine its own position on this question and, should it be deemed necessary, define that position in its national standards.
- b Forms part of the elastofibre class.
- c The term "rubber" is used in some cases.
- d The definition of the name "polyamide" given in this International Standard concerns only the technical and commercial uses (e.g. nylon) of the man-made fibres to which it applies: it is not intended to cover all polyamide compounds (of which the products called "aramids" represent a special kind, it is merely the continuation of a fibre name established at a time when polyamide fibres other than aliphatic had not yet been developed.
- e Same code used for polyether sulfone in ISO 1043 (plastics).
- f Forms part of the polyolefin class.
- g In some European countries, this product is also called "silionne" when it is in the form of continuous filaments and "veranne" when in the form of staple fibres.
- h Fibres can be coated with metals, in which case they are described as "metallized fibres" and not "metal fibres".

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## Index of generic names in English and in French

English	French	Clause number	Code
acetate	acétate	3.5	CA
acrylic	acrylique	3.8	PAN
alginate	alginate	3.7	ALG
aramid	aramide	3.9	AR
carbon	carbone	3.22	CF
chlorofibre	chlorofibre	3.10	CLF
cupro	cupro	3.1	CUP
elastane	élasthane	3.11	EL
elastodiene	élastodiène	3.12	ED
fluorofibre	fluorofibre	3.13	PTFE
glass	verre	3.20	GF
lyocell	lyocell	3.2	CLY
metal fibre	fibre de métal	3.23	MTF
modacrylic	modacrylique	3.14	MAC
modal	modal	3.3	CMD
polyamide	polyamide	3.15	PA
polyester	polyester	3.16	PES <sup>a</sup>
polyethylene	polyéthylène	3.17	PE
polyimide	polyimide	3.18	PI
polypropylene	polypropylène	3.19	PP
triacetate	triacétate	3.6	CTA
vinylal	vinylal	3.21	PVAL
viscose	viscose	3.4	CV

<sup>a</sup> The same code is used for plastics in ISO 1043 to indicate polyether sulfone.