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

*Textiles — Fibres chimiques — Noms génériques*



## Foreword

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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

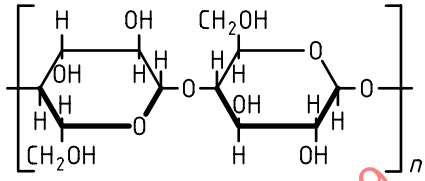
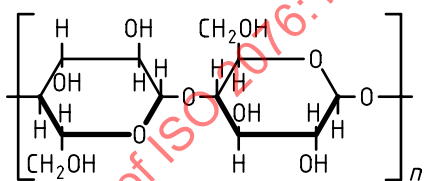
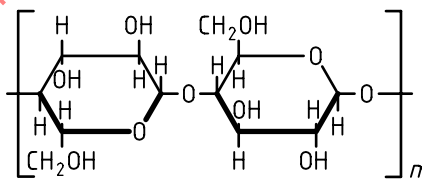
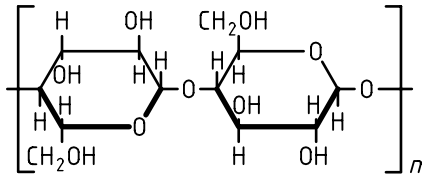
|     | Generic names        | Code | Distinguishing attribute                                                                                                                                                                                                                                                                                                                                                                                                        | Examples of chemical formulae                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----|----------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.1 | cupro <sup>a</sup>   | CUP  | Cellulose fibre obtained by the cuprammonium process.                                                                                                                                                                                                                                                                                                                                                                           | Cellulose II:<br> $\left[ \begin{array}{c} \text{H} \quad \text{OH} \quad \text{CH}_2\text{OH} \\   \quad   \quad   \\ \text{---} \text{C} \text{---} \text{C} \text{---} \text{C} \text{---} \\   \quad   \quad   \\ \text{OH} \quad \text{H} \quad \text{O} \\   \quad   \quad   \\ \text{H} \quad \text{H} \quad \text{H} \\   \quad   \quad   \\ \text{CH}_2\text{OH} \quad \text{O} \quad \text{H} \end{array} \right]_n$   |
| 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:<br> $\left[ \begin{array}{c} \text{H} \quad \text{OH} \quad \text{CH}_2\text{OH} \\   \quad   \quad   \\ \text{---} \text{C} \text{---} \text{C} \text{---} \text{C} \text{---} \\   \quad   \quad   \\ \text{OH} \quad \text{H} \quad \text{O} \\   \quad   \quad   \\ \text{H} \quad \text{H} \quad \text{H} \\   \quad   \quad   \\ \text{CH}_2\text{OH} \quad \text{O} \quad \text{H} \end{array} \right]_n$   |
| 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<br><br>$B_c \geq 1,3\sqrt{\text{LD}} + 2 \text{ LD}$ $B_w \geq 0,5\sqrt{\text{LD}}$ where LD is the mean linear density (mass per unit length) in decitex.<br><br>$B_c$ and $B_w$ are expressed in centinewtons. | Cellulose II:<br> $\left[ \begin{array}{c} \text{H} \quad \text{OH} \quad \text{CH}_2\text{OH} \\   \quad   \quad   \\ \text{---} \text{C} \text{---} \text{C} \text{---} \text{C} \text{---} \\   \quad   \quad   \\ \text{OH} \quad \text{H} \quad \text{O} \\   \quad   \quad   \\ \text{H} \quad \text{H} \quad \text{H} \\   \quad   \quad   \\ \text{CH}_2\text{OH} \quad \text{O} \quad \text{H} \end{array} \right]_n$ |
| 3.4 | viscose <sup>a</sup> | CV   | Cellulose fibre obtained by the viscose process.                                                                                                                                                                                                                                                                                                                                                                                | Cellulose II:<br> $\left[ \begin{array}{c} \text{H} \quad \text{OH} \quad \text{CH}_2\text{OH} \\   \quad   \quad   \\ \text{---} \text{C} \text{---} \text{C} \text{---} \text{C} \text{---} \\   \quad   \quad   \\ \text{OH} \quad \text{H} \quad \text{O} \\   \quad   \quad   \\ \text{H} \quad \text{H} \quad \text{H} \\   \quad   \quad   \\ \text{CH}_2\text{OH} \quad \text{O} \quad \text{H} \end{array} \right]_n$ |
| 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:<br>$\left[ \text{C}_6\text{H}_7\text{O}_2(\text{OX})_3 \right]_n$ 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)

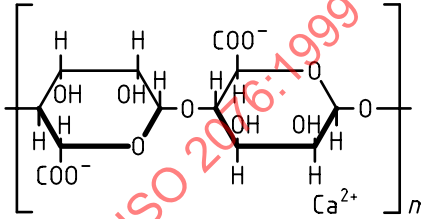
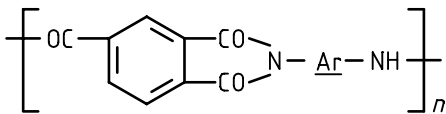
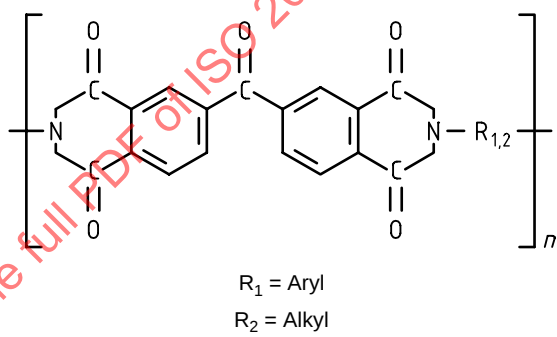
|      | Generic names | Code | Distinguishing attribute                                                                                                                                                                                                                                                                                | Examples of chemical formulae                                                                                                                                                                                                                                                                    |
|------|---------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.6  | triacetate    | CTA  | Cellulose acetate fibre in which at least 92 % of the hydroxyl groups are acetylated.                                                                                                                                                                                                                   | Cellulose triacetate:<br>$\left[ \text{C}_6\text{H}_7\text{O}_2(\text{OX})_3 \right]_n$ <p>where X = H or CH<sub>3</sub>CO and the degree of esterification is between 2,76 and 3.</p>                                                                                                           |
| 3.7  | alginate      | ALG  | Fibre obtained from the metal salts of alginic acid                                                                                                                                                                                                                                                     | Calcium alginate:<br>                                                                                                                                                                                          |
| 3.8  | acrylic       | PAN  | Fibre composed of linear macromolecules having in the chain at least 85 % by mass of acrylonitrile repeating units                                                                                                                                                                                      | Polyacrylonitrile:<br>$\left[ \text{CH}_2 - \underset{\text{CN}}{\text{CH}} \right]_n$ <p>and acrylic copolymers:</p> $\left[ (\text{CH}_2 - \underset{\text{CN}}{\text{CH}})_m - (\text{CH}_2 - \underset{\text{Y}}{\overset{\text{X}}{\text{C}}})_n \right]_p$                                 |
| 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:<br>$\left[ \text{OC} - \text{Ar} - \text{CO} - \text{NH} - \text{Ar} - \text{NH} \right]_n$ <p>EXAMPLE 2:<br/> </p> <p>NOTE - In example 1, the aromatic groups may be the same or different.</p> |
| 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):<br>$\left[ \text{CH}_2 - \text{CHCl} \right]_n$ <p>and<br/> poly(vinylidene chloride):<br/> <math display="block">\left[ \text{CH}_2 - \text{CCl}_2 \right]_n</math></p>                                                                                                   |

Table 1 (continued)

|      | Generic name                          | Code | Distinguishing attribute                                                                                                                                                                                                                                                                  | Examples of chemical formulae                                                                                                                                                                                                                                                               |
|------|---------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.11 | elastane <sup>b</sup>                 | EL   | Fibre composed of at least 85 % by mass of a segmented polyurethane and which, if stretched to three times its unstretched length, rapidly reverts substantially to the unstretched length when the tension is removed.                                                                   | Macromolecules having alternate elastic and rigid segments with repetition of the group<br>$-O-CO-NH-$                                                                                                                                                                                      |
| 3.12 | elastodiene <sup>b, c</sup>           | ED   | Fibre composed of natural or synthetic polyisoprene, or of one or more dienes polymerized with or without one or more vinyl monomers, and which, if stretched to three times its unstretched length, rapidly reverts substantially to the unstretched length when the tension is removed. | Natural polyisoprene extracted from the latex of <i>Hevea brasiliensis</i> , vulcanized:<br>$\begin{array}{c} -CH_2-CH-C-CH_2- \\   \quad   \\ S_x \quad CH_3 \\   \quad   \\ CH_3 \quad CH_3 \\ -CH_2-CH-C-CH_2- \\   \\ \end{array}$                                                      |
| 3.13 | fluorofibre                           | PTFE | Fibre composed of linear macromolecules made from aliphatic fluorocarbon monomers.                                                                                                                                                                                                        | Polytetrafluoroethylene:<br>$\left[ CF_2 - CF_2 \right]_n$                                                                                                                                                                                                                                  |
| 3.14 | modacrylic                            | MAC  | Fibre composed of linear macromolecules having in the chain at least 50 % and less than 85 % by mass of acrylonitrile.                                                                                                                                                                    | Acrylic copolymers:<br>$\left[ (CH_2 - \underset{\substack{  \\ CN}}{CH})_m - (CH_2 - \overset{\substack{  \\ X}}{\underset{\substack{  \\ Y}}{C}})_n \right]_p$<br>If X = H and Y = Cl: poly(acrylonitrile or vinyl chloride)<br>If X = Y = Cl: poly(acrylonitrile or vinylidene chloride) |
| 3.15 | polyamide <sup>b</sup><br>or<br>nylon | PA   | Fibre composed of linear macromolecules having in the chain recurring amide linkages, at least 85 % of which are joined to aliphatic or cycloaliphatic units.                                                                                                                             | Polyhexamethylene adipamide (polyamide 6-6):<br>$\left[ NH - (CH_2)_6 - NH - CO - (CH_2)_4 - CO \right]_n$<br>Polycaproamide (polyamide 6):<br>$\left[ NH - (CH_2)_5 - CO \right]_n$                                                                                                        |
|      |                                       |      |                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                             |

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):<br>$\left[ \text{OC} - \text{C}_6\text{H}_4 - \text{CO} - \text{O} - \text{CH}_2 - \text{CH}_2 - \text{O} \right]_n$                                                                             |
| 3.17 | polyethylene <sup>f</sup>  | PE               | Fibre composed of linear macromolecules of unsubstituted saturated aliphatic hydrocarbons.                                                                                                                                      | Polyethylene:<br>$\left[ \text{CH}_2 - \text{CH}_2 \right]_n$                                                                                                                                                                         |
| 3.18 | polyimide                  | PI               | Fibre of synthetic linear macromolecules having in the chain recurring imide units.                                                                                                                                             | Polyimide:<br> <p><math>R_1 = \text{Aryl}</math><br/> <math>R_2 = \text{Alkyl}</math></p>                                                          |
| 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:<br>$\left[ \text{CH}_2 - \underset{\text{CH}_3}{\text{CH}} \right]_n$                                                                                                                                                  |
| 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):<br>$\left[ \underset{\text{OH}}{\text{CH}_2 - \text{CH}} - \underset{\text{O} - \text{R} - \text{O}}{\text{CH}_2 - \text{CH} - \text{CH}_2 - \text{CH}} \right]_p$ <p>where <math>n &gt; 0</math></p> |
| 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".

## 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.