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PROCESSES FOR THE MANUFACTURE OF ARTIFICIAL TEXTILE FIBRES

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This invention concerns improvements in or relating to processes for the manufacture of artificial textile fibres.

Casein which has been produced by known methods is unsuitable for the subsequent treatment required during the manufacture of artificial textile fibres. In order to obtain a suitable form of casein it has been found necessary to coagulate the milk with a quantity of acid in excess of that normally employed.

According to the present invention there is provided in a process for the manufacture of artificial textile fibres, the step of preparing casein by the acid treatment of milk at a pH value less than 4.5.

The casein thus obtained is suitable for use in the manufacture either of textile fibres which are equivalent to natural wool, or when mixed with viscose, of mixed fibres having characteristics ranging between those of natural wool and of cotton. It is possible to add mineral substances such as colloidal metal solutions or finely divided metal oxides or dioxides to the casein in order to impart particular qualities to the resultant fibres.

The following example indicates typical quantities of milk and acid which may be employed in order to obtain coagulation at the required pH value:

100 litres of skimmed milk at a temperature of 20° C. are treated with 250 cubic centimetres of 66° Bè. sulphuric acid. The acidity of the serum

at the moment of coagulation is equal to 2.9-3 pH. A casein is obtained which can readily be converted into artificial textile fibres.

The acid employed is given by way of example only and any mineral or organic acid or combination thereof may be employed, the quantity thereof being varied according to the degree of concentration and to the greater or smaller neutralising power of the acid or acids, it being understood that it is necessary to effect coagulation with an excess of acid as indicated above in connection with sulphuric acid, that is at a pH value within the specified limit.

Casein of the desired quality can also be produced from casein obtained by known processes by acid treatment of milk at a pH value in excess of 4.5 by subjecting it to a further acid treatment at a pH value below 4.5 in order to compensate for the insufficient quantity of acid employed at the moment of coagulation.

The specification of my co-pending U. S. Patent application Serial N. 96,470 claims a process for the manufacture of artificial textile fibres consisting essentially of casein one of the steps of which is claimed generally in the present specification. The following claims are to be read as excluding the use of this step in the complete process which is the subject of co-pending application Serial N. 96,470.

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