PROCESS FOR THE MANUFACTURE OF A SOLUTION OF SALTS OF DIACIDS/DIAMINE(S)

[0001] The present invention relates to a process for the manufacture of a solution of a salt of diamine(s) and of diacids for the manufacture of polyamide.

[0002] Use is generally made, in order to obtain polyamides comprising diacid and diamine monomers of high molecular weight, of an aqueous solution of a salt formed by reaction between one molecule of diamine and one molecule of diacid. This solution is heated in order to evaporate the water, in a first step, and then in order to start the polymerisation by polycondensation, in order to obtain macromolecular chains comprising amide functional groups.

[0003] The salt solution generally comprises essentially stoichiometric amounts of diacid(s) and diamine(s). The concentration by weight of Nylon salt (hexamethylenediammonium adipate salt) used as starting material for the manufacture of polyamide, more specifically of PA66, is generally between 50% and 65%. This solution is generally stored before being transported, if appropriate, and then fed in polymerisation plants.

[0004] Several processes for the manufacture of a solution of salt of diacid(s) and of diamine(s) have been provided. For the manufacture of Nylon salt, these processes generally consist in adding the adipic acid to hexamethylenediamine, or vice versa, in the aqueous medium, while removing or not removing the heat produced by the neutralisation reaction.

[0005] A number of monomers of different natures are employed in the manufacture of copolyamides, in particular of copolyamides starting from aromatic diacids, from adipic acid and from hexamethylenediamine. Problems of dissolution of these different monomers are encountered upstream of the reaction for the polymerisation of these copolyamides, during the preparation of the solution of salt of diacids and of diamine(s) starting from these different monomers. For example, dissolution is sometimes impossible, or the dissolution time is very long, or it is necessary to employ very dilute solutions. This can cause problems of productive output, of quality of the product, of storage and transportation of the solution in the polymerisation plant.

[0006] A search is thus underway for processes for the preparation of a solution of acids and of diamine(s) not exhibiting these problems.

METHOD FOR MANUFACTURING A SOLUTION OF DIACID/DIAMINE SALTS

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