regular stationary phases between an initial temperature of 15 to 25°C and a final temperature of 26 to 40°C.

A search is still underway for technical solutions which make it possible to minimize the production of secondary amine while controlling the plant sizes.

[**Summary**]

It is an aim of the disclosure to provide a solution to one or more of the abovementioned problems.

This is because the present disclosure is based on the unexpected observation that the increase in the titre of the aqueous ammonia solution above 35% by weight, in combination with an increase in the pressure above atmospheric pressure, makes it possible to accelerate the reaction while controlling the amount of secondary amine produced and thus to increase the yield.

Consequently, according to a first aspect, a subject-matter of the disclosure is a process for the manufacture of ω-aminoalkanoic acid of formula NH_2-$(CH_2)_n$-COOH, in which n is an integer from 9 to 11, by reaction of the corresponding bromoalkanoic acid with ammonia, comprising the following stages:

i) reaction of the ω-bromoalkanoic acid with an aqueous excess ammonia solution,

ii) separation of the ω-aminoalkanoic acid formed from the reaction mixture,

characterized in that the aqueous ammonia solution exhibits a concentration of 35% to 70% by weight and that stage i) is carried out under a pressure greater than atmospheric pressure, from 0.11 to 2.0 MPa absolute.

Preferably, stage i) is carried out at a temperature of between 0 and 60°C. It can be carried out at a constant temperature or at an increasing temperature. When it is carried out at an increasing temperature, stage i) can advantageously be carried out with an initial temperature ranging from 0 to 25°C and a final temperature ranging from 26 to 60°C.

Preferably, the aqueous ammonia solution exhibits a concentration of 36% to 60%, preferably of 38% to 45%, by weight.

Advantageously, the ratio by weight of the ω-bromoalkanoic acid at the start of stage i) to the aqueous ammonia solution is from 1:3 to 1:20.

Stage i) of the process according to the disclosure can be carried out in particular under a pressure of 0.125 to 0.5 MPa absolute, or also of 0.13 to 0.3 MPa absolute.

The process of the disclosure can be carried out continuously or batchwise.

Advantageously, the process according to the disclosure additionally comprises a stage iii) of washing and draining the ω-aminoalkanoic acid obtained on conclusion of stage ii).

It can also additionally comprise a stage iv) of purification of the crude ω-aminoalkanoic acid obtained on conclusion of stage ii) or iii), preferably by recrystallization from boiling water.

It can furthermore also comprise, in addition, a stage v) of recovery of the residual ω-aminoalkanoic acid in the various filtrates and aqueous washing liquors obtained in stages ii), iii) and/or iv), in particular by degassing the ammonia, liquid-liquid extraction, crystallization, filtration and washing.

Finally, the process of the disclosure can additionally comprise a stage vi) of drying the ω-aminoalkanoic acid obtained.

[**Description of the embodiments**]

Definition of the terms

Throughout this disclosure, the percentages are, unless otherwise mentioned, understood as being percentages by weight with respect to the composition under consideration.

Furthermore, the pressure values given in the present disclosure are, unless otherwise mentioned, understood as being absolute pressure values, that is to say with reference to the absolute vacuum.

The term “aqueous ammonia solution” is understood to mean a solution of NH_3 in water. Its ammonia content is expressed as weight of NH_3 with respect to the weight of solution (NH_3 and water).

According to the present invention, the process for the manufacture of ω-aminoalkanoic acid of formula NH_2-$(CH_2)_n$-COOH, in which n is an integer from 9 to 11, by reaction of the corresponding ω-bromoalkanoic acid with ammonia, thus comprises the following stages:

i) reaction of the ω-bromoalkanoic acid with an aqueous excess ammonia solution,

ii) separation of the ω-aminoalkanoic acid formed from the reaction mixture,

characterized in that the aqueous ammonia solution exhibits a concentration of 35% to 70% by weight and that stage i) is carried out under a pressure greater than atmospheric pressure, from 0.11 to 2.0 MPa absolute. The ω-bromoalkanoic acid can be 10-bromodecanoic acid, 11-bromoundecanoic acid or 12-bromododecanoic acid.