

Claims

1. Process for the preparation of D,L-methionine in which an alkali methioninate solution is
5 obtained by alkaline hydrolysis of 5-(2-methylmercaptoethyl)hydantoin, the process
comprising the consecutive steps of (a) neutralizing the alkali methioninate solution at a
temperature of between 65 °C and 95 °C by turbulent mixing with carbon dioxide in order to
obtain a neutralized process solution and (b) crystallizing the D,L-methionine product in the
10 presence of D,L-methionine seed crystals by cooling the process solution to a temperature
in the range of 25 °C to 35 °C.
2. The process according to claim 1, wherein the alkali methioninate solution is a potassium
methioninate solution, the potassium optionally being replaced by up to 30% sodium.
- 15 3. The process according to claim 2, wherein the potassium concentration in the neutralized
process solution of step (a) is between 8 wt.% and 11 wt.%.
4. The process according to any one of the preceding claims, wherein the methionine
concentration in the neutralized process solution of step (a) is between 10 wt.% and 17 wt.%.
- 20 5. The process according to any one of the preceding claims, wherein during process steps (a)
and (b) the pressure is adjusted to be between 100 kPa and 400 kPa and the pH is adjusted
to be between 7.5 and 8.5.
- 25 6. The process according to any one of the preceding claims, wherein the D,L-methionine seed
crystals used in step (b) have average particle sizes of between 125 µm and 1000 µm.
7. The process according to any one of the preceding claims, wherein the amount of D,L-
methionine seed crystals in the neutralized process solution in step (b) is between 5 wt.%
30 and 15 wt.%.
8. The process according to any one of the preceding claims, wherein the neutralized process
solution from which the crystallization takes place additionally comprises a defoamer
formulation.
- 35 9. The process according to claim 8, wherein the defoamer formulation is present in an amount
of between 10 ppm and 2000 ppm.

10. The process according to any one of claims 8 or 9, wherein the defoamer formulation comprises a silicone oil, preferably having a kinematic viscosity of 0.65 to 10000 mm²/s (measured at 25°C in accordance with DIN 53018).
- 5 11. The process according to any one of claims 8 to 10, wherein the defoamer formulation comprises ionic or non-ionic surfactants, or mixtures thereof, as emulsifiers.
12. The process according to any one of the preceding claims, wherein the cooling period applied in step (b) is at maximum 360 min.
- 10 13. The process according to any one of the preceding claims, wherein the process is a batch process.
14. The process according to any one of claims 1 to 12, wherein the process is a continuous process.
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