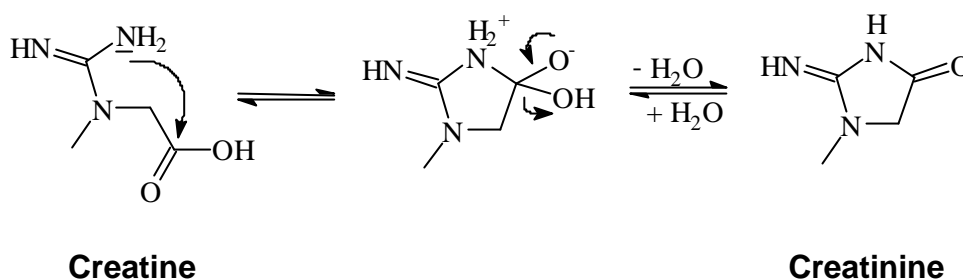


- Stability of Creatine in aqueous solution -

Creatine is not stable in aqueous solution due to an intramolecular cyclisation:



The speed of degradation is:

- not depending on the concentration
- depending on the pH (the lower the pH the faster the degradation)
- depending on the temperature (the higher the temperature the faster the degradation)

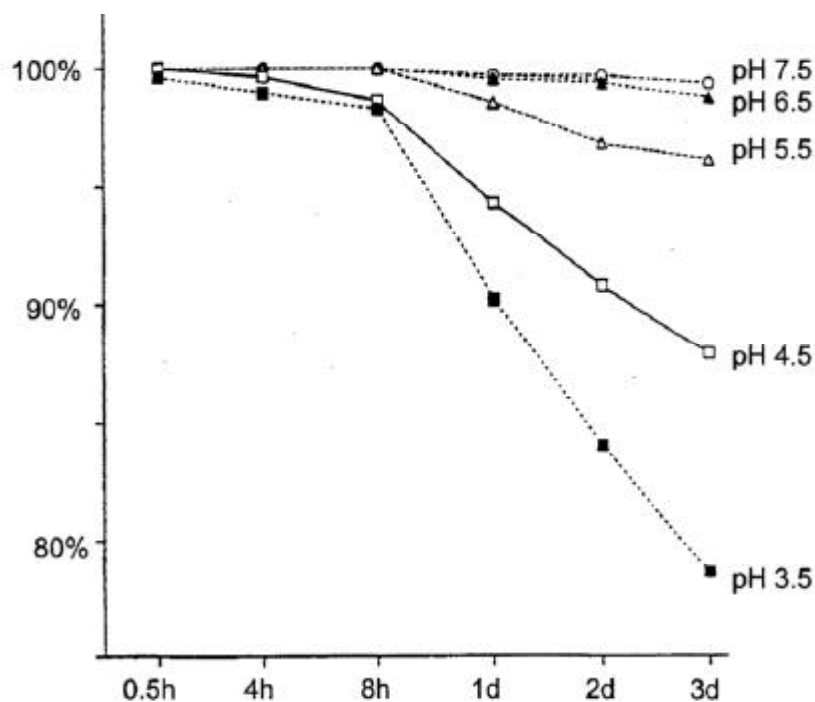


Figure 1. Degradation of Creatine at 25°C, after 0.5h, 4h, 8h, 1d, 2d, 3d at different pH values (7.5, 6.5, 5.5, 4.5, 3.5). The pH of the samples was adjusted to the desired values using 50% acetic acid or 5N KOH. The pH of the samples was also tested to ensure that pH did not alter during the experiment (cf. A.N. Howard, R.C. Harris, US 5,968,544).

CREAPURE[®]

(Creatine Monohydrate)

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Creatine in aqueous solution is reasonably stable for up to 8h at 25°C, pH 7.5 or 6.5. Breakdown after 3 days at pH 5.5, 4.5 and 3.5 was 4%, 12% and 21% respectively.

If Creatine is not used immediately after it is dissolved in water it should be stored at a low temperature to slow down the degradation. The solubility of Creatine Monohydrate is 14 g per liter at 25°C (1.4%) and 8.5 g at 4°C.

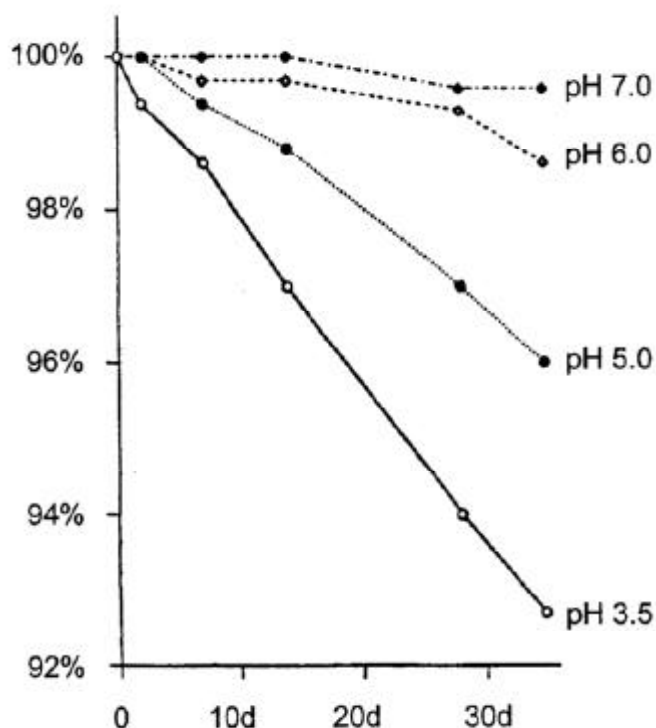


Figure 2. Degradation of Creatine at 4°C, after 2d, 7d, 14d, 28d, 35d at different pH values (7.0, 6.0, 5.0, 3.5). The pH of the samples was also tested to ensure that pH did not alter during the course of experiment (cf. A.N. Howard, R.C. Harris, US 5,968,544).

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