α- Amylase
from Bacillus globigii (Bacillus licheniformis)

Product Number  A4551
Storage Temperature  2-8 °C

Product Description
Enzyme Commission (EC) Number:  3.2.1.1
CAS Number:  9000-85-5
Molecular Weight:  62 kDa (SDS-PAGE).¹

This product has a pH range for activity of 5-9 with the optimal pH range of 7-9. It is stable between pH 7 and 10. This product is stable from 40 to 60 °C at pH 7. Maximal activity was displayed at 90 °C and 60% of activity remained at 100 °C.¹

α-Amylase hydrolyzes the α-(1,4) glucan linkages in polysaccharides of three or more α-(1,4) linked D-glucose units. The α-(1,6) bond is not hydrolyzed. Starch or glycogen, the "natural" substrates, can be replaced to a limited extent by low molecular weight compounds.²

The product is supplied as a lyophilized powder containing potassium phosphate.

Precautions and Disclaimer
For Laboratory Use Only.  Not for drug, household or other uses.

Preparation Instructions
Clear to slightly hazy, colorless to light yellow solution at 1 mg/ml in 20 mM sodium phosphate, 6.7 mM NaCl, pH 6.9

Storage/Stability
α-Amylase is stable in 25 mM Tris-HCl, pH 7.5, with 100 mM KCl at 0 °C or at -20 °C for at least 9 days.³
Another recommended storage condition is 1 mM phosphate, pH 7.3, with 30 mM CaCl₂ at -15 °C.

This enzyme maintains over 98% of activity after 60 minutes at pH 6.2 at 85 °C¹ and maintained 100% of activity after storage for 1 hour at 91 °C.⁴

Solutions in 20 mM sodium phosphate, pH 6.9 with 6.7 mM NaCl were stored for 2 weeks at different temperatures with the following results:

<table>
<thead>
<tr>
<th>Temperature</th>
<th>% Activity Remaining</th>
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<tbody>
<tr>
<td>-20 °C</td>
<td>65%</td>
</tr>
<tr>
<td>5 °C</td>
<td>80%</td>
</tr>
<tr>
<td>Room Temp</td>
<td>70%</td>
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</tbody>
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Under all three conditions, activity loss occurred in the first 5 days with no additional loss of activity thereafter.

References

MES/AJH 1/08