



Application Data Sheet

HAZYME[®] DCL

Amyloglucosidase for starch hydrolysis in apple & pear processing

DSM Food Specialties B.V.

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BENEFITS

- Prevents starch haze formation
- Easy to use
- Improved filtration

PRODUCT DESCRIPTION

HAZYME[®] DCL is liquid amyloglucosidase from *Aspergillus niger*.

FUNCTION

Apples contain starch at the beginning of season. The starch content decreases as the season progresses and apples ripen. Starch is present as granules in apple and pear raw juices: it must be gelatinized during pasteurization or during mash thermo break at a temperature above 85°C before being hydrolyzed. If starch is not broken down, it may retrograde and give a haze in the juice that could precipitate in concentrate.

HAZYME[®] DCL is has been developed especially for starchy apple and pear juice clarification. It contains an amyloglucosidase stable in apple and pear juices. Its application results in the total breakdown of soluble starch in glucose, this avoids ultra-filter blocking and haze formation in final concentrate.

APPLICATION AND RECOMMENDED DOSE RATES

HAZYME[®] DCL can be used in apple mash during maceration when it occurred after thermo break treatment; or in juice during the clarification treatment after pasteurization providing starch jellification.

HAZYME[®] DCL is easy to use. It must be added either directly or with a metering pump during the filling of the tank. Just before use, to ensure adequate mixing, it should be diluted in 10 to 20 times its volume of water.

Application	Dosage	Recommendation
Apple or pear mash	30-50 g/ton	1 to 2 hours at 50-55°C (122-131°F)
Apple or pear juice clarification	2 to 4 g/hl 3 to 6 fl.oz./1000 gal	1 to 2 hours at 45-50°C (113-122°F)

Note: A higher dose is sometimes necessary at the beginning of the season depending on fruit.

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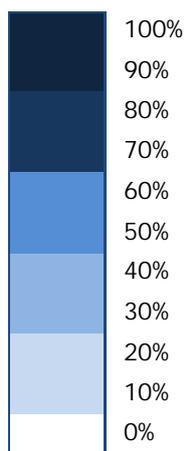
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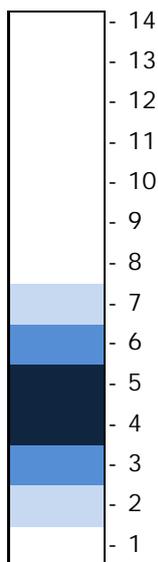
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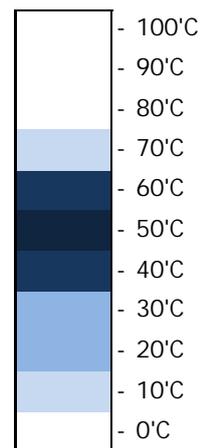
pH Effect on Enzyme Activity

% pH



Temperature Effect on Enzyme Activity

% Temperature



TECHNICAL SERVICE

This product was developed by our dedicated team of experts. We can help you maximize the efficiency of your process by utilizing our extensive biochemical knowledge and many years of enzyme experience. Please contact your local DSM Food Specialties technical sales representative to receive additional information on meeting your needs.

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