FD-DVS CHN-11
Product Information

Description
Mesophilic Aromatic Culture, type LD. Multiple mixed strain culture containing Lactococcus lactis subsp. cremorii, Lactococcus lactis subsp. lactis, Leuconostoc mesenteroides subsp. cremorii and Lactococcus lactis subsp. diacetylactis. The culture produces flavor and CO₂.

CHN-11 is packed in a convenient freeze-dried form.

Application
The culture is primarily used in the manufacture of Continental cheese types (Gouda, Edam, Leerdam, Samsoe).

Packing

<table>
<thead>
<tr>
<th>Packing size</th>
<th>Item number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 x 50U</td>
<td>100099</td>
</tr>
<tr>
<td>25 x 200U</td>
<td>100126</td>
</tr>
<tr>
<td>20 x 500U</td>
<td>100160</td>
</tr>
</tbody>
</table>

Availability
In addition to CHN-11, other cultures in this series include CHN-19, CHN-120, FLORA-DANICA and B-11.

Storage and shelf life
Freeze-dried cultures should be stored at -18°C (0°F) or below. If the cultures are stored at -18°C (0°F) or below, the shelf life is at least 24 months. At +5°C (41°F) the shelf life is at least 6 weeks.

Instructions for use
Remove the cultures from the freezer just prior to use. DO NOT THAW THESE CULTURES. Sanitize the top of the pouch with chlorine. Open the pouch and pour the freeze-dried granules directly into the pasteurized product using slow agitation. Agitate the mixture for 10-15 minutes to distribute the culture evenly.

Dosage
Recommended dosage of freeze-dried DVS cultures in units to liters:

<table>
<thead>
<tr>
<th>DVS inoculation percentage</th>
<th>Amount of milk to be inoculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 l</td>
<td>1000U 200U 50U 250U</td>
</tr>
<tr>
<td>5,000 l</td>
<td>1000U 500U 125U 750U</td>
</tr>
<tr>
<td>10,000 l</td>
<td>2000U 1000U 500U 300U</td>
</tr>
<tr>
<td>15,000 l</td>
<td>3000U 1500U 750U 450U</td>
</tr>
</tbody>
</table>
Recommended dosage of freeze-dried cultures in units to US lbs:

<table>
<thead>
<tr>
<th>DVS inoculation percentage</th>
<th>Amount of milk to be inoculated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,270 lbs</td>
</tr>
<tr>
<td>1000U/11,350 lbs</td>
<td>200U</td>
</tr>
<tr>
<td>500U/11,350 lbs</td>
<td>100U</td>
</tr>
<tr>
<td>250U/11,350 lbs</td>
<td>50U</td>
</tr>
</tbody>
</table>

As a principal rule 1000U of freeze-dried DVS culture will correspond to 100 l of active bulk starter. However, specific usage rates should be determined experimentally before a new application.

**Incubation temperature**

Recommended incubation temperature is 35-45°C (95-113°F). For more information please use Chr. Hansen’s suggested recipes.

**Kosher status**

CHN-11 is Kosher approved (Circle K D) for year-round use, excluding Passover.

**Technical Information**

- **Flavor and gas production**
  - Flavor: High
  - Gas: High (CO₂)

- **Salt sensitivity**
  - 50% inhibition: 3.5% NaCl
  - 100% inhibition: 5.8% NaCl
Figure 1. The effect of temperature on acidification

FD-DVS CHN-11

Fermentation conditions:
Lab milk 9.5% T.S.: 140 °C/8 sec. - 100 °C/30 min
500U/5000 l Inoculation

NB: Note that the accuracy of these curves is relative and subject to experimental error.

Technical service
Chr. Hansen's world-wide facilities and the personnel of our application and technology center are at your disposal with assistance and instruction.

References
References and analytical methods are available upon request.

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