

Processed Cheese Products

CHS-01

Benefits of Gelcarin® CH 7352 Carrageenan

- Increases cheese firmness to improve slicing and grating properties
- Allows formulating with reduced dairy solids while maintaining texture or structure
- Imparts excellent melting characteristics
- Improves cheese integrity
- Excellent cheese appearance, flavor release and mouthfeel

Comments

Food service, fast food restaurants and the general need for convenient, easy to prepare meals, continue to replace the traditional meals prepared and eaten at home. Processed cheese products are widely used for burgers, pizzas, salads and other convenient products. They are produced by grinding and emulsifying selected natural cheeses together with other ingredients to form a uniform structure which is then packaged in convenient form. This emulsification process usually requires the addition of ingredients such as water, emulsifying salts, dairy ingredients, stabilizers, flavors, colors and preservatives. Gelcarin CH 7352 carrageenan effectively stabilizes and imparts structure to processed cheese while retaining key parameters traditionally associated with processed cheese, such as firmness, melt, slicing properties, etc.

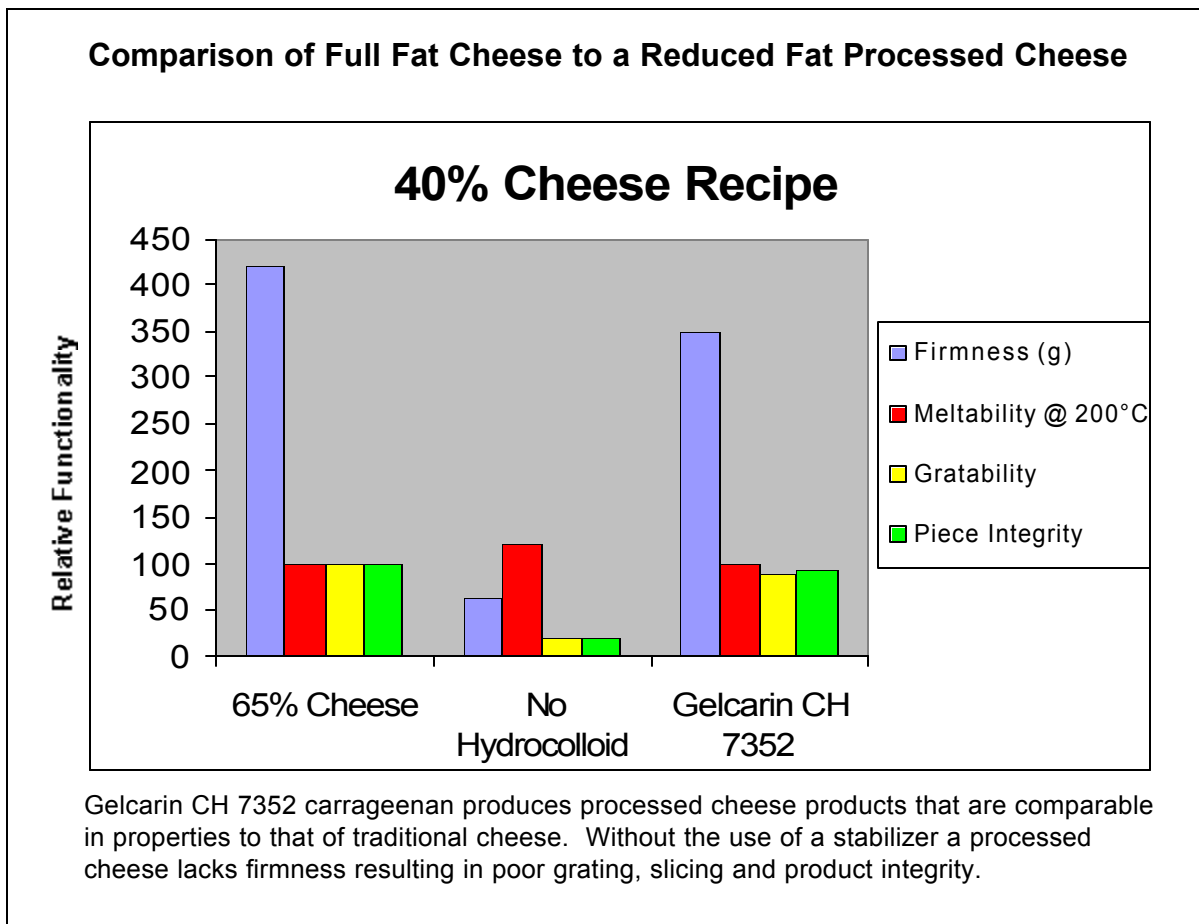
Formulation Guidelines

| <u>Ingredients</u> | <u>% by Weight</u> | |
|--------------------------------------|--------------------|-------------------------|
| | <u>Control</u> | <u>Gelcarin CH 7352</u> |
| Cheddar cheese | 65.00 | 40.00 |
| Salted butter | 7.00 | 9.00 |
| Rennet casein | 5.00 | 7.00 |
| Sweet whey powder | 1.00 | 1.00 |
| Gelcarin CH 7352 carrageenan* | -- | 2.00 |
| Salt | 0.80 | 0.80 |
| Potassium sorbate | 0.15 | 0.15 |
| Lactic Acid 90% Sol. | 0.30 | 0.40 |
| Trisodium citrate | 3.00 | 3.00 |
| Tricalcium phosphate | 0.30 | 0.40 |
| Tetrasodium pyrophosphate (TSPP) | 0.30 | -- |
| Water | <u>17.15</u> | <u>36.25</u> |
| | 100.00 | 100.00 |

* Gelcarin CH has a high tolerance for formula variations. Use levels can range from 0.8-3.5%, depending on the cheese content and the desired cheese structure and firmness. Contact your FMC representative for more details.

Typical Processed Cheese Procedure

- Dry blend Gelcarin® CH 7352 carrageenan with all of the dry ingredients and disperse in the water.
- Add finely ground cheese and butter and mix until homogeneous.
- Add lactic acid and heat treat as required.
- Form into slices or blocks and refrigerate.



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REGULATORY STATUS:

Carrageenan "chondrus extract" is generally recognized as safe [GRAS] (see 21 CFR 182.7255) by experts in accordance with FDA food and drug regulations. Carrageenan is approved as a food additive under 21 CFR-172.620. For European approvals refer to EEC number E407.

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TECHNICAL SERVICE:

The information contained in this bulletin is intended to be general in nature. Techniques and data pertaining to specific uses for FMC BioPolymer ingredients and new developments will be published periodically in the form of supplemental application bulletins.

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