EVANESSE™ CB6194 clean label emulsifier
Prepared for the March 2020 Clean Label Conference

Presentation by: Pat O’Brien, Regional Platform Leader, Clean & Simple Ingredients
Email: patrick.obrien@ingredion.com
The biggest megatrend from food and beverage to pet food and personal care is in clean, simple, “natural” and authentic products.

82% of consumers find it important to recognize the ingredients in the foods & beverages they buy.

81% find it important to have a short and simple ingredient list.

81% of manufacturers worldwide say they will reformulate for cleaner labels.

Sources: 1. 2019 Ingredion Proprietary Clean Label Research.
The “Clean” of Clean & Simple

Replacing undesirable ingredients

Helping you remove and replace ingredients that are perceived as undesirable by consumers while maintaining eating quality identical or as close as possible to the original product.

This is all about “cleaning up” labels and moving to the periphery of the store.
Using simple food ingredients

These ingredients enable you to design — from the start — recipes that are as close as possible to what consumers would expect. Think of homemade or restaurant foods; they contain what is needed, with no additives. However, those recipes still need to withstand mass production conditions, shelf life and food safety requirements. There can be no compromise on consumer expectations.
Ingredion’s Clean & Simple offerings

• **25+ years** of enabling the market to position foods as clean-label, natural and organic

• Comprehensive portfolio:
  – Corn, potato, rice, and tapioca functional native starches
  – Rice, tapioca, and pulses functional flours
  – Organic corn and tapioca starches
  – Proprietary hybrid bases

• Robust **Non-GMO IP** Program
EVANESSE™ CB6194 clean label emulsifier

Consumer-preferred ingredient label declaration: Chickpea broth

EVANESSE™ CB6194 clean label emulsifier is a hypoallergenic chickpea broth, that delivers similar emulsification performance of eggs, OSA modified starches and other artificial emulsifiers used in dressings and sauces.
• **EVANESSE™ CB6194** is a type of aquafaba, which labels as chickpea broth

• Aquafaba* is the liquid extract from cooked chickpeas which is composed of water, carbs and protein

*Aquafaba refers to any pulse broth, most commonly sourced from canned chickpeas (Latin def. “aqua”=water “faba”=bean)
Production

- Non-destructive process.
- Sustainable and Eco-Friendly extraction process.
- **Liquid product** composed of protein, carbohydrates.

**Physical & Simple Extraction**

- Receive clean chickpeas into mixing tank
- Rinse with water
- Cook chickpeas
- Extract broth and Filter
- Bag filling and hermetic sealing
- QA/QC Qualifications
- Sterilization & Inspection

4.0 kg Aluminum bag Liquid product

Copyright © 2020 by Ingredion Incorporated
EVANESSE™ CB6194 clean label emulsifier

Consumer friendly

Soluble plant derived protein for emulsification (chickpeas broth)

“Free from Egg” claim with Clean label vs OSA & PGA

“Vegan” and “vegetarian” claims

Not a major allergen

NON-GMO (Pending NON-GMO Project Verified seal)

Gluten Free

Easy to formulate with good shelf stability
Target applications

Primary, validated applications:

- Vegan dressings & spreads
- Pourable dressings (cold & hot processes)
- Cooking & creamy sauces (e.g., Vodka, Hollandaise, Sweet & Sour, Alfredo and ready meals with sauces)

Secondary, ongoing evaluations:

- Meringues & whips
- Bakery
- Dairy & alt dairy
Vegan Mayo base formula

**IDEA**
Create a delicious, vegan mayo that meets both consumer taste and need for clean and simple ingredients.

**SOLUTION**
Improve consumer acceptability with simple “chickpea broth” and “corn starch” label, by using EVANESSE™ CB6194 clean label emulsifier paired with NOVATION® LUMINA 600 functional native starch to create a shelf stable mayo.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% as is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil, soy bean</td>
<td>74.00</td>
</tr>
<tr>
<td><strong>EVANESSE™ CB6194 clean label emulsifier</strong></td>
<td><strong>18.48</strong></td>
</tr>
<tr>
<td>Vinegar, 120 grain</td>
<td>3.50</td>
</tr>
<tr>
<td>Salt</td>
<td>1.75</td>
</tr>
<tr>
<td>Sugar</td>
<td>1.50</td>
</tr>
<tr>
<td><strong>NOVATION® LUMINA 600 functional native starch</strong></td>
<td><strong>0.70</strong></td>
</tr>
<tr>
<td>Rosemary extract</td>
<td>0.07</td>
</tr>
</tbody>
</table>

**Total** 100.00
Vegan Zesty Aioli formula

**IDEA**
Create a delicious, vegan dip that meets both consumer taste and need for clean and simple ingredients

**SOLUTION**
Improve consumer acceptability with simple “chickpea broth” and “corn starch” label, by using EVANESSE™ CB6194 clean label emulsifier paired with NOVATION® LUMINA 600 functional native starch to create a shelf stable mayo base that can be flavored as consumer desires.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% as is</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegan Mayonnaise with EVANESSE™ CB6194 clean label emulsifier</strong></td>
<td>97.26</td>
</tr>
<tr>
<td>Vegan Mayonnaise with EVANESSE™ CB6194 clean label emulsifier</td>
<td>97.26</td>
</tr>
<tr>
<td>Liquid amino acids</td>
<td>1.30</td>
</tr>
<tr>
<td>Black pepper</td>
<td>1.20</td>
</tr>
<tr>
<td>Fire roasted garlic flavor</td>
<td>0.06</td>
</tr>
<tr>
<td>Paprika oleoresin</td>
<td>0.06</td>
</tr>
<tr>
<td>Lemon oil</td>
<td>0.04</td>
</tr>
<tr>
<td>Mustard oil</td>
<td>0.04</td>
</tr>
<tr>
<td>Liquid smoke</td>
<td>0.04</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
</tr>
</tbody>
</table>
IDEA

Vegan Meringue to address dietary needs and allergen concerns.

SOLUTION

Use **EVANESSE™ CB6194** to replace eggs. Create a similar eating experience that meets the vegetarian diet and removal of a major allergen.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>% as is</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EVANESSE™ CB6194</strong> clean label emulsifier</td>
<td>68.89</td>
</tr>
<tr>
<td><strong>PENPURE WR</strong> rice starch</td>
<td>2.15</td>
</tr>
<tr>
<td>Vanilla</td>
<td>1.34</td>
</tr>
<tr>
<td>Sugar</td>
<td>27.27</td>
</tr>
<tr>
<td>Cream of Tartar</td>
<td>0.35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
</tr>
</tbody>
</table>
Closing comments

✓ Consumer patterns continue to shift toward Clean & Simple
  • Trust
  • Nutrition
  • Sustainability

✓ Ingredion is making significant investments to provide the strongest portfolio of Clean & Simple solutions to address your needs
  – EVANESSE™ CB6194 clean label emulsifier, is a hypoallergenic chickpea broth, that delivers similar emulsification performance of eggs, OSA modified starches, and other artificial emulsifiers used in dressings and sauces.

✓ Ingredion is well prepared and ready to support your Clean & Simple growth
  • ATLAS Consumer Research
  • 25+ Years of Technical & Applications support
  • Comprehensive portfolio of functional native starches and flours, organic ingredients, functional simple food ingredients.