Natural Cosmetic Ingredients

Partnering with BioAmber to promote natural silicone alternatives.
Inolex’s History & Evolution

- More than 100 years in oleochemistry.
- More than 50 years manufacturing esters and polyesters.
- Current owners, the Plimpton Family, since early 80s.
- Since 2007, globalization & innovation program — goal is to be a *global* leader in personal care ingredient innovation.
- First to market and IP driven.

Several market firsts:
- Natural silicone replacements
- Natural cationic hair conditioner
- Natural broad spectrum preservation
Our Market: End-users you may or have heard of
Our Market: End-users that are emerging
Ingredient Innovation Philosophy

Consumer Values, Demographics, Shifting Wealth

Lifestyles (e.g. LOHAS)

- Lifestyle driven

- Must enhance the lifestyle effect

- Inolex as a *lifestyle chemical company*
Inolex’s LOHAS Innovations

- Silicone Replacements (LexFeel D4/D5)
- Palm-free *Brassica* derivatives (ProCondition22)
- Paraben-free solutions (Spectrastat)

**Natural Silicone Replacements (LexFeel N-Series)**
- Fully natural & ecological conditioners (Emulsense)
- Non-endocrine disrupting technologies

Increasing level of LOHAS commitment

Increasing Complexity
LOHAS and All Natural

- 100% non-petrochemical inputs
- Green chemistry
e.g. esterification

\[
\text{Poly (or mono) acid} \quad + \quad \text{Poly (or mono) alcohol} \quad \rightarrow \quad \text{Ester or Polyester} \quad + \quad \text{HOH} \uparrow
\]
Partnerships for LOHAS Cosmetic Ingredients

Partnerships are the ideal way to meet the needs of this market.

- Variety: cosmetic industry needs huge number of ingredient
- End-Use Expertise: formulation, claims, regulatory, certification
- Integrity in the supply-chain
Partnership Needs

What Inolex requires for our green chemistry innovation:

- 100% non-petrochemical inputs (fully natural)
- Transparency around the supply chain (bumpy introductions)
- Price/value proposition
- Medium-term thinking

Ingredient Introduction
BioAmber – Inolex Partnership

• Since 2005, multiple Inolex projects for replacing silicones in personal care (polymer and poly-esters)
• 2008 Inolex discussions with BioAmber predecessor company
• 2008 Inolex developed bio-succinic ester options
• 2010 on-streaming of BioAmber Pomacle plant
• 2011 Inolex completes formulations, claims, certification, and safety
• 2012 Launch
• 2013 Joint marketing

LexFeel N Series
Natural fluids that match the sensory and performance attributes of silicone fluids in personal care.
Why Silicone Replacement?

- LOHAS mega trend
- Silicones are perceived as too technical, too chemical, and not holistic
LexFeel N Series

diheptyl succinate

capryloyl glycerin/sebacic acid copolymer

A  heptyl alcohol, from pyrolysis of castor oil
B  succinic acid, from fermentation
C  sebacic acid, from oxidation of castor oil
D  glycerin, from coconut oil
E  caprylic acid, from coconut oil
The LexFeel N Benefits

1. The slip, the feel, the non-greasiness that consumers expect

2. Every natural claim imaginable (COSMOS, NaTrue, sustainability, etc)

3. Non irritating, non sensitizing, non toxic by all the recognized testing requirements

4. “Readily Biodegradable” and “Non Toxic to the Aquatic Environment”
All of the benefits and all of the claims reflected in one global, targeted campaign.

Inolex clearly selling and supporting the product, with the benefits of “BioAmber inside”.
Green is good, but LOHAS is better.

SMEs like Inolex may be best partners for first-to-market penetration in niche markets.

BioAmber/Inolex partnership hit all the key criteria, and LexFeel N a massive success in cosmetics.