**Function:**
Smoothes and freshens the skin

**Definition:**
Product of the fermentation of sweet black tea by the symbiosis of two microorganisms

**Properties:**
Antiglycation activity, re-densifying effect on the adipocyte population, improves overall skin quality by enhancing skin smoothness, radiance, and color

**Characteristics:**
Rich in organic acids and vitamins (group B)

**Points of interest:**
Kombucha, also called "long-life fungus", is well known as a beverage in Russia and China and believed to confer longevity

**Origin:**
Tradition originated in Russia, Manchuria and Bohemia

**INCI name:**
Saccharomyces/Xylinum Black Tea Ferment - Glycerin - Hydroxyethylcellulose

**Applications:**
Skin care, particularly anti-ageing or skin smoothing type products

**Formulation:**
Water-soluble
Incorporation at room temperature or at 45°C in the case of emulsions

**Recommended use level:**
3%
**In vitro tests**

- **Anti-glycation power of Kombuchka™**
  
  Inhibition of glycation reaction with 3% Kombuchka™ 79%

- **“Lipofilling” by adipocyte differentiation**
  Culture of fibroblasts in presence of a differentiation cocktail and 3% Kombuchka™
  Measurement of G3PDH (marker for adipocyte maturation from fibroblasts) activity
  G3PDH activity increase by 136%

**In vivo tests**

- **Decrease of skin roughness**
  14 volunteers. Twice daily application (to the face) of a cream containing 3% Kombuchka™ against placebo for 29 days. Evaluation with image analysis at D0, D14 and D29
  Kombuchka™ significantly smooths the micro-depresssionary network of the skin by 16.2% after 29 days

- **Improvement of radiance by sensory analysis**
  16 women. Twice daily application (to the face) of a cream containing 3% Kombuchka™. Evaluation in standardised environment at D0 and D29 by 3 trained experts. Quantified analysis of 3 separate parameters thought to characterize a fresh and radiant complexion: luminosity, clarity and skin colour (validated method, Spincontrol).

**Skin colour**

<table>
<thead>
<tr>
<th>Colours</th>
<th>Results</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>n.s.</td>
<td>no generation of blotchiness</td>
</tr>
<tr>
<td>Beige</td>
<td>n.s.</td>
<td>no modification of pigmentation</td>
</tr>
<tr>
<td>Olive</td>
<td>-23%</td>
<td>skin tone less dull</td>
</tr>
<tr>
<td>Clear pink</td>
<td>+20%</td>
<td>fresher-looking complexion</td>
</tr>
</tbody>
</table>

With less of the olive and more of the pink colour component, skin has lost some of its tired look and acquires a more glowing complexion

**Formulation**

**Fresh Complexion Cream with Kombuchka™**

<table>
<thead>
<tr>
<th>Part</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water deionized</td>
<td>q.s 100</td>
</tr>
<tr>
<td>Ultrez 10 (Carbomer, BF Goodrich)</td>
<td>0.40</td>
</tr>
<tr>
<td>Part B</td>
<td>%</td>
</tr>
<tr>
<td>Glycerin</td>
<td>5.00</td>
</tr>
<tr>
<td>Nipastat (Mixed Parabens)</td>
<td>0.20</td>
</tr>
<tr>
<td>Part C</td>
<td>%</td>
</tr>
<tr>
<td>Cyclomethicone</td>
<td>3.00</td>
</tr>
<tr>
<td>Pemulen TR2 (Acrylates/C 10-30 Alkyl Acrylate, cross polymer, B F Goodrich)</td>
<td>0.20</td>
</tr>
<tr>
<td>Part D</td>
<td>%</td>
</tr>
<tr>
<td>Crodamol OP (Ethyl hexyl Palmitate, Croda)</td>
<td>4.00</td>
</tr>
<tr>
<td>Crodaol CS90 (Cetearyl Alcohol, Croda)</td>
<td>1.00</td>
</tr>
<tr>
<td>Crodamol ML (Myristyl Lactate, Croda)</td>
<td>0.30</td>
</tr>
<tr>
<td>Crillet 1 (Polysorbate 20, Croda)</td>
<td>1.00</td>
</tr>
<tr>
<td>Part E</td>
<td>%</td>
</tr>
<tr>
<td>Potassium sorbate</td>
<td>0.10</td>
</tr>
</tbody>
</table>

**Part F**: Water deionized 6.00
Sodium Hydroxide 30% 0.60

**Part G**: KOMBUCHKA™ (Sederma) 3.00

**Part H**: Fragrance 0.10

**Protocol**


Non-guarantee: This formulation has been subjected to limited stability tests and has been shown to perform well. However, formulators adopting this approach should ensure to their own satisfaction that the long-term stability and functionality. It is good practice to conduct safety tests on all final formulations prior to marketing. Suggested uses should not be taken as an inducement to infringe any existing patents.

**CLAIM SUBSTANTIATION**

- **In vitro**
  - Stimulation of adipocyte differentiation
  - Control
  - Kombuchka™ 3%

  **Kombuchka™ increases adipocytes population in the skin and thus restores volume of the deficient zones**

- **In vivo**
  - D0
  - D14

  **Improvement of luminosity and clarity**

  The increase of luminosity and clarity was perceived for 75% and 81.3% of volunteers