SCHOTT Vitryxx® Bioactive Glass
In Nail Care

Vitryxx® Bioactive Glass is a new mineral enrichment ingredient that can build a mineral layer on keratin surfaces. Used in nail care products, Vitryxx® will help to:

- Strengthen and protect nails
- Smoothen nail ridges
- Reduce chipping of the nail enamel

The mineral enrichment efficacy of Vitryxx® is observed in the results of the following in-vitro studies.

**Tested on a glass side**

This picture shows a glass slide on a 1µm scale. The microscope slide was treated with an aqueous solution of Vitryxx® in tris-buffer in a concentration of 0.15 wt.% for 20 hours.

- **Nail surface reacted with tris buffer and 100 ppm Calcium**
- **Nail surface reacted with Vitryxx® Bioactive Glass**
**SCHOTT Vitryxx® Bioactive Glass**

**In Nail Care**

**Tested on a finger nail (Keratin)**

Vitryxx® Bioactive Glass significantly reduces the chipping and wear of nail enamel

A panel test, showed significantly better scores for enamel wear after seven days on 22 female subjects.

**Formulations and recommendation on LF**

Example of nail enamel formulation LF* 0.15% – 1 mass % Vitryxx®

<table>
<thead>
<tr>
<th>Phase</th>
<th>Ingredients</th>
<th>Mass [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Suspending Lacquer SLF-2</td>
<td>78.00</td>
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<tr>
<td></td>
<td>Red 7 Lake (4.6% Dispersion in Nitrocellulose Base)</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>Lacquer 127P</td>
<td>14.00</td>
</tr>
<tr>
<td>B.</td>
<td>Suspending Lacquer SLF-2</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>SCHOTT Vitryxx® M</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>(Calcium Sodium Phosphosilicate (and) Mica)</td>
<td></td>
</tr>
</tbody>
</table>

*Loading factor depending on formulation*

**Procedure:**

I. Combine all the components in Phase A in an appropriate size vessel.

II. Pre-mix Phase B ingredients using high shear.

III. Add B to A and continue mixing until batch is uniform.