**Modified silica layers for HPTLC**

**Nano-SIL CN**
- Base material: nano silica 60, specific surface (BET) ~ 500 m²/g, mean pore size 60 Å, specific pore volume 0.75 ml/g, **particle size 2 – 10 μm**, pH stability 2 – 8
- Indicator: acid-resistant product with a pale blue fluorescence for short-wave UV (254 nm); UV-absorbing substances appear as dark-blue to black spots on a light-blue background
- Cyano-propyl modification, carbon content 5.5 %
- Order of polarity: silica > DIOL > NH₂ > CN > RP-2 > C 18-50 > RP-18 W > C 18-100
- Available as glass plates or ALUGRAM® aluminium sheets
- Normal phase or reversed phase separation modes depending on the polarity of the developing solvent (see figure below)
- Recommended application: steroid hormones, phenols, preservatives

**Rf values of different steroids as a function of eluent composition**

<table>
<thead>
<tr>
<th>Steroid</th>
<th>Cholesterol</th>
<th>Cortisone</th>
<th>Androsterone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rf</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Separation of preservatives**
- Layer: Nano-SIL CN/UV
- Sample volume: 400 nl
- Eluent: ethanol – water – glacial acetic acid 20:80:0.2 with 0.1 mol/l tetraethylammonium chloride
- Migration distance: 7.3 cm in 30 min
- Detection: TLC scanner, UV 254 nm

**Peaks:**
1. Propyl p-hydroxybenzoate
2. Ethyl p-hydroxybenzoate
3. Methyl p-hydroxybenzoate
4. Benzoic acid
5. Sorbic acid

**Ordering information**

<table>
<thead>
<tr>
<th>Plate size [cm]</th>
<th>4 x 8</th>
<th>10 x 10</th>
<th>10 x 20</th>
<th>20 x 20</th>
<th>Thickness of layer</th>
<th>Fluorescent indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pack of [plates]</td>
<td>50</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Glass plates**
- Nano-SIL CN/UV
  - 811115 811116 0.20 mm UV_{254}

**ALUGRAM® aluminium sheets**
- Nano-SIL CN/UV
  - 818184 818185 0.15 mm UV_{254}