



## Nano-SIL CN G A cyano-modified HPTLC silica layers

### 🔧 Technical characteristics

- Nano silica 60, mean pore size 60 Å, specific surface (BET) ~ 500 m<sup>2</sup>/g, specific pore volume 0.75 mL/g, pH stability 2–8, particle size 2–10 μm
- 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

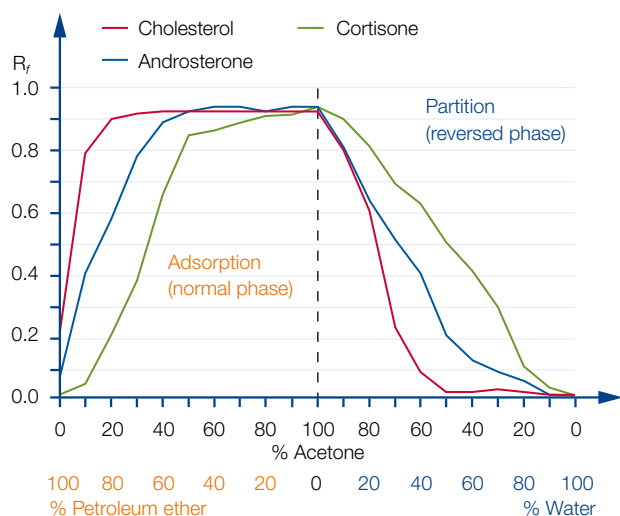
### 🔧 Modification

- Cyanopropyl modification, carbon content 5.5 %
- Order of polarity: silica > DIOL > NH<sub>2</sub> > CN > RP-2 > C18-50 > RP-18 W > C18-100

### ✅ Recommended application

- NP or RP separation modes depending on the polarity of the developing solvent (see figure below)
- Steroid hormones, phenols, preservatives

*R<sub>f</sub>* values of different steroids as a function of eluent composition



Layer: Nano-SIL CN/UV

Polarity of the eluent governs the type of separation mechanism:

**Eluent system petroleum ether (PE) – acetone (NP mode)**

the higher the concentration of PE, the stronger are the adsorptive interactions of the steroids with the stationary phase

**Eluent system acetone – water (RP mode)**

the sequence of elution of the steroids is reversed, the most nonpolar compounds are most strongly retained

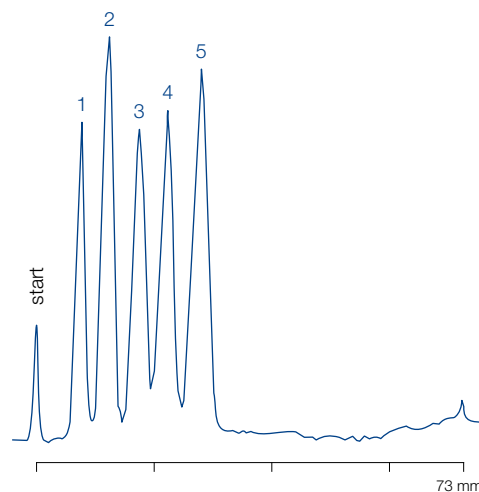
### Separation of preservatives

MN Appl. No. 401440

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: 73 mm 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

Plate size [cm]	4 x 8	10 x 10	10 x 20	Thickness of layer	Fluorescent indicator
Pack of [plates]	50	25	25		

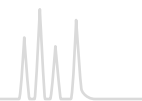
### Glass plates

Nano-SIL CN/UV	811115	811116	0.20 mm	UV <sub>254</sub>
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### ALUGRAM® aluminum sheets

Nano-SIL CN/UV	818184		0.15 mm	UV <sub>254</sub>
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# Index of reference numbers



REF	Page	REF	Page	REF	Page
814404	296	815410.1	260	818131	276
814405	271	815430.1	260	818132	276
814406	271	815510.1	261	818133	276
814407	271	815510.5	261	818141	281
814919	296	815530.1	261	818143	281
814920	296	815530.5	261	818144	284
814921	296	815540.1	261	818145	284
814922	296	815540.5	261	818146	284
814923	296	815550.1	261	818147	284
815010.1	260	815550.5	261	818152	284
815010.25	260	815560.1	261	818153	289
815010.5	260	815560.5	261	818155	289
815020.1	260	815600.1	262	818156	289
815020.25	260	815600.5	262	818157	289
815020.5	260	815610.1	262	818160	276
815030.1	260	815610.5	262	818161	276
815030.25	260	815620.1	262	818162	276
815030.5	260	815620.5	262	818163	276
815050.1	262	815650.1	260	818171	284
815050.25	262	815650.25	260	818182	286
815050.5	262	815650.5	260	818184	285
815060.1	262	815710.1	261	818230.20	275
815060.25	262	815710.5	261	818232	275
815060.5	262	816250.1	297	818233	275
815070.1	262	816250.5	297	818240	281
815300.1	260	816310.1	297	818241	281
815300.25	260	816310.5	297	818261	275
815300.5	260	816320.1	297	818329	275
815310.1	260	816320.5	297	818330.20	275
815310.25	260	816330.1	297	818331	275
815310.5	260	816330.5	297	818332	275
815320.1	260	816340.1	297	818333	275
815320.25	260	816340.5	297	818342	281
815320.5	260	816380.1	297	818343	281
815330.1	260	816380.5	297	818360	275
815330.25	260	816400.1	297	818362	275
815330.5	260	816400.5	297	818412	279
815340.1	260	816410.1	297	818413	279
815340.25	260	816410.5	297	818422	279
815340.5	260	816610.1	297	818423	279
815350.1	260	816620.1	297	818432	279
815350.25	260	816710.01	296	818442	279
815350.5	260	816720.01	296	818666	295
815360.1	260	817001	294	821005	274
815360.25	260	817002	294	821010	274
815360.5	260	817003	294	821010.200	274
815380.1	260	817004	294	821015	274
815380.25	260	817005	294	821020	274
815380.5	260	817006	294	821025	274
815381.1	260	817007	294	821030	274
815381.25	260	817008	294	821040	274
815381.5	260	818023	288	821040.200	274
815390.1	260	818024	288	821050	274
815390.25	260	818030.20	276	821060	274
815390.5	260	818032	276	821110	281
815400.1	260	818033	276	821120	281
815400.25	260	818129	276	821140	281
815400.5	260	818130.20	276	821150	281