



# MACHEREY-NAGEL

“Made in Germany“ since 1911



**Filtration Products  
Chromatography  
Rapid Tests  
Water Analysis**

**Price List 2022-23**

# Index

---

## Filtration

|   |     |
|---|-----|
| 1. Standard filter papers for qualitative analysis          | -04 |
| 2. Qualitative hardened filter papers - Wet-strengthened    | -09 |
| 3. Ashless filter papers - For quantitative analysis        | -11 |
| 4. Ashless hardened filter papers - Wet-strengthened        | -15 |
| 5. Filtering aids   | -17 |
| 6. Glass fiber filters without binder                       | -18 |
| 7. Extraction thimbles standard quality made from cellulose | -23 |
| 8. Extraction thimbles made from high purity glass fibres   | -25 |
| 9. Membranes - PORAFIL membranes for microfiltration        | -26 |
| 10. Filter products for electro plating                     | -27 |
| 11. Chromatography paper                                    | -28 |
| 12. Technical filter papers                                 | -29 |
| 13. Lens paper  | -33 |
| 14. Phase separation paper                                  | -34 |
| 15. Weighing aids   | -35 |
| 16. Surface protection paper                                | -36 |

## Chromatography

|   |     |
|---|-----|
| 1. Standard silica layers for TLC                     | -38 |
| 2. TLC / HPTLC plates and sheets                      | -48 |
| 3. Modified silica layers                             | -51 |
| 4. TLC adsorbents and accessories                     | -52 |
| 5. Vials and caps for analysis and for sample storage | -54 |

## Sample filtration

|                                |     |
|--------------------------------|-----|
| 1. CHROMAFIL - Syringe filters | -57 |
|--------------------------------|-----|

## Rapid Tests

|                                    |     |
|------------------------------------|-----|
| 1. pH-tests                        | -64 |
| 2. Qualitative test papers         | -70 |
| 3. Semi - quantitative test strips | -74 |

## Water Analysis

|  |     |
|--|-----|
| 1. Visual test kits - Colorimetric and titrimetric test kits | -80 |
|--|-----|

# Filtration

---



We are pleased that you are interested in our range of high quality filtration products. In a new design, we present our filter papers, filter membranes and extraction thimbles for a broad range of applications as well as special products made from filter paper. Our catalogue "Filtration" also includes pH indicator papers, as well as test papers for qualitative and semi-quantitative analysis. This will give you an overview of the extensive range of applications for these products. Perhaps you may find a convenient solution to one of your analytical tasks. For more than 9 decades, since 1911, MACHEREY-NAGEL produces high quality filter papers, which represent the roots of the company. Even today, only the best raw materials are used in production, following long-proven recipes. This guarantees our continuous high quality. Since 1996, MN has established a quality management system in accordance with ISO 9001. We hope that you enjoy our catalogue and that our products will help to make your lab-life easier.

# Standard filter papers for qualitative analysis

Qualitative filter papers are manufactured from the same raw materials as the ashless grades and are particularly suited for general laboratory filtrations. The average ash content is about 0.1%, the amount of  $\alpha$ -cellulose is about 95%.

## Technical data

| Grade             | Properties                                | Particle retention( $\mu\text{m}$ ) | Thickness | Filtration speed | Basis weight        |
|-------------------|---|-------------------------------------|-----------|------------------|---------------------|
| MN 617 we ≈ No. 4 | extra soft, fast filtration, smooth       | 15-22                               | 0.22 mm   | 5 s              | 85 g/ $\text{m}^2$  |
| MN 617            | soft, fast filtration, smooth             | 8-12                                | 0.2 mm    | 9 s              | 85 g/ $\text{m}^2$  |
| MN 615A ≈ No. 1   | medium speed, for general application     | 10-12                               | 0.2 mm    | 20 s             | 80 g/ $\text{m}^2$  |
| MN 615            | medium fast filtration, smooth            | 4-12                                | 0.16 mm   | 22 s             | 70 g/ $\text{m}^2$  |
| MN 616 ≈ No. 2    | medium fast filtration, smooth            | 5-10                                | 0.2 mm    | 27 s             | 85 g/ $\text{m}^2$  |
| MN 618 ≈ No. 3    | medium fast filtration, smooth            | 6-8                                 | 0.32 mm   | 22 s             | 140 g/ $\text{m}^2$ |
| MN 616 md         | medium to slow filtration, smooth         | 5-7                                 | 0.2 mm    | 55 s             | 85 g/ $\text{m}^2$  |
| MN 619            | dense, slow filtration, smooth            | 3-5                                 | 0.17 mm   | 100 s            | 75 g/ $\text{m}^2$  |
| MN 619 eh ≈ No. 6 | dense, slow filtration, smooth            | 3                                   | 0.17 mm   | 140 s            | 85 g/ $\text{m}^2$  |
| MN 619 de ≈ No. 5 | extra dense, very slow filtration, smooth | 2.5                                 | 0.2 mm    | 195 s            | 100 g/ $\text{m}^2$ |

## MN615A = No-1



Medium fast filtration, for general laboratory use Basis weight 85 g/ $\text{m}^2$  Thickness 0.2 mm Filtration speed 20 s Surface smooth Average retention capacity 4–12  $\mu\text{m}$

| Cat NO.      | Diameter MM     | Pack size | HS code  | GST | Price (₹) |
|--------------|-----------------|-----------|----------|-----|-----------|
| 400615A00425 | 42.5 MM CIRCLE. | 100       | 48232000 | 18% | POR       |
| 400615A005   | 55 MM CIRCLE.   | 100       | 48232000 | 18% | 730       |
| 400615A007   | 70 MM CIRCLE.   | 100       | 48232000 | 18% | 760       |
| 400615A009   | 90 MM CIRCLE.   | 100       | 48232000 | 18% | 790       |
| 400615A011   | 110 MM CIRCLE.  | 100       | 48232000 | 18% | 890       |
| 400615A012   | 125 MM CIRCLE.  | 100       | 48232000 | 18% | 990       |
| 400615A015   | 150 MM CIRCLE.  | 100       | 48232000 | 18% | 1190      |

| Cat NO.      | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|--------------|--------------------|-----------|----------|-----|-----------|
| 400615A018   | 185 MM CIRCLE.     | 100       | 48232000 | 18% | 1690      |
| 400615A024   | 240 MM CIRCLE.     | 100       | 48237090 | 18% | 3290      |
| 400615A027   | 270MM CIRCLE.      | 100       | 48237090 | 18% | POR       |
| 400615A032   | 320MM CIRCLE.      | 100       | 48237090 | 18% | 5690      |
| 100615A004.1 | 460 x 570MM Sheets | 100       | 48054000 | 12% | 8090      |
| 100615A010.1 | 580 x 580MM Sheets | 100       | 48054000 | 12% | 10890     |

## **MN616 = No-2**

MN 616, Qualitative, Medium fast (27 s), Smooth MN 616 is a filter paper with medium retention and flow rate. This filter paper covers a wide range of filtration applications

| Cat NO.                | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">432005</a> | 55 MM CIRCLE.      | 100       | 48232000 | 18% | 1090      |
| <a href="#">432007</a> | 70 MM CIRCLE.      | 100       | 48232000 | 18% | 1190      |
| <a href="#">432009</a> | 90 MM CIRCLE.      | 100       | 48232000 | 18% | 1390      |
| <a href="#">432011</a> | 110 MM CIRCLE.     | 100       | 48232000 | 18% | 1690      |
| <a href="#">432012</a> | 125 MM CIRCLE.     | 100       | 48232000 | 18% | 2090      |
| <a href="#">432015</a> | 150 MM CIRCLE.     | 100       | 48232000 | 18% | 2590      |
| 132002.1               | 460 x 570MM Sheets | 100       | 48054000 | 12% | 20190     |

## **MN618 = No-3**

MN 618 is a thick filter paper with medium flow rates and finer retention. It's higher loading capacity than thinner papers makes it especially useful for the filtration of large quantities of liquids.

| Cat NO.                | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">436009</a> | 90 MM CIRCLE.      | 100       | 48232000 | 18% | 1690      |
| <a href="#">436011</a> | 110 MM CIRCLE.     | 100       | 48232000 | 18% | 2390      |
| <a href="#">436012</a> | 125 MM CIRCLE.     | 100       | 48232000 | 18% | 3090      |
| <a href="#">436032</a> | 320 MM CIRCLE.     | 100       | 48232000 | 18% | 15390     |
| 136040.1               | 460 x 570MM Sheets | 100       | 48054000 | 12% | 20790     |

## **MN617WE = No-4**

MN 617 we is the fastest qualitative filter paper with highest flow rate. This very soft filter paper is used for example in routine clean up of large volumes of sample with coarse particles.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| 4350047                | 47 MM CIRCLE.      | 100              | 48232000       | 18%        | POR              |
| <a href="#">435007</a> | 70 MM CIRCLE.      | 100              | 48232000       | 18%        | 1090             |
| <a href="#">435009</a> | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 1390             |
| <a href="#">435011</a> | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 1690             |
| <a href="#">435012</a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 2090             |
| <a href="#">435015</a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 2590             |
| <a href="#">435018</a> | 180 MM CIRCLE.     | 100              | 48232000       | 18%        | 3590             |
| <a href="#">435040</a> | 400 MM CIRCLE.     | 100              | 48054000       | 12%        | 15490            |
| 135001                 | 460 x 570MM Sheets | 100              | 48054000       | 12%        | POR              |

## **MN619DE = No-5**

MN 619 de is an extra dense filter paper for excellent clarification of cloudy suspensions. Maximum retention capacity in qualitative range for fine particle filtration e.g. in chemical analysis.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">439009</a> | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 1390             |
| <a href="#">439011</a> | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 1690             |
| <a href="#">439012</a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 2090             |

## **MN619EH - No- 6,**

MN 619 eh is slightly more dense than MN 619 with high particle retention and slow flow rate.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">438005</a> | 55 MM CIRCLE.      | 100              | 48232000       | 18%        | 1090             |
| <a href="#">438009</a> | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 1390             |

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">438011</a> | 110 MM CIRCLE. | 100       | 48232000 | 18% | 1690      |
| <a href="#">438012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 2090      |

## MN616md

MN 616 md is slightly more retentive than MN 615 with a corresponding increase in filtration time.

| Cat NO.                 | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|-------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">433005</a>  | 55 MM CIRCLE.      | 100       | 48232000 | 18% | 1090      |
| <a href="#">433011</a>  | 110 MM CIRCLE.     | 100       | 48232000 | 18% | 1790      |
| <a href="#">433012</a>  | 125 MM CIRCLE.     | 100       | 48232000 | 18% | 2090      |
| <a href="#">133010A</a> | 580 x 580MM Sheets | 100       | 48054000 | 12% | 26290     |

## MN615 1/4

Folded filter papers, MN 615, Qualitative, Medium fast (22 s), Smooth, is the most widely used general purpose filter paper with medium retention and flow rate. This filter paper covers a wide range of laboratory applications and is frequently used for clarifying liquids.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">531018</a> | 185 MM CIRCLE. | 100       | 48232000 | 18% | 4190      |
| <a href="#">531024</a> | 240 MM CIRCLE. | 100       | 48232000 | 18% | 6190      |
| <a href="#">531025</a> | 250 MM CIRCLE. | 100       | 48232000 | 18% | POR       |

## MN615FF 1/4

MN 615 ff is a medium fast, fat-free filter paper. This paper is particularly suited for the analysis of fats. A special treatment with organic solvents guarantees that these filters are practically free of fats and resins (ether soluble residue < 0.1 mg for a 27 cm filter circle).

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">591005</a> | 55 MM CIRCLE.  | 100       | 48232000 | 18% | 8990      |
| <a href="#">591012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 8990      |
| <a href="#">591015</a> | 150 MM CIRCLE. | 100       | 48232000 | 18% | 8990      |

## **MN616MD 1/4 = No-2V**

MN 616 md is slightly more retentive than MN 615 with a corresponding increase in filtration time.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">533012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 4290      |
| <a href="#">533018</a> | 185 MM CIRCLE. | 100       | 48232000 | 18% | 5290      |
| <a href="#">533024</a> | 240 MM CIRCLE. | 100       | 48232000 | 18% | 7890      |
| <a href="#">533032</a> | 320 MM CIRCLE. | 100       | 48232000 | 18% | 11990     |

# Qualitative hardened filter papers - Wet-strengthened

## Filter papers for qualitative analysis

### Wet-strengthened filter papers

Hardened analytical filter papers are manufactured from refined pulp and linters and feature a content of cellulose of more than 95%. The smooth surface of these papers allows fibre-free filtration. They feature a high wet strength and can also be used in the filtration of strongly alkaline or strongly acidic solutions. Due to their high mechanical strength in wet condition they are particularly suited for applications, where the residue is removed from the filter e.g. with a spatula or a jet of water.



#### Technical data

| Grade   | Properties                                       | Thickness | Filtration speed | Basis weight        |
|---------|--|-----------|------------------|---------------------|
| MN 1670 | wet-strengthened, fast filtration, smooth        | 0.13 mm   | 9 s              | 85 g/m <sup>2</sup> |
| MN 1672 | wet-strengthened, medium fast filtration, smooth | 0.13 mm   | 35 s             | 85 g/m <sup>2</sup> |
| MN 1674 | wet-strengthened, slow filtration, smooth        | 0.13 mm   | 110 s            | 85 g/m <sup>2</sup> |

## MN1674 = No-50

MN 1674 is a wet-strengthened dense filter paper with very high particle retention and slow flow rate. The smooth surface allows fiber-free filtration, even for highly acidic and basic media.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">474011</a> | 110 MM CIRCLE. | 100       | 48232000 | 18% | 2590      |
| <a href="#">474012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 3290      |
| <a href="#">474015</a> | 150 MM CIRCLE. | 100       | 48232000 | 18% | 4290      |

## MN1672 = No-52

MN 1672 is a wet-strengthened general purpose filter paper with medium retention and flow rate. The smooth surface allows fiber-free filtration, even for highly acidic and basic media.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">472012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 3290      |

## **MN1670 = No-54**

MN 1670 is a wet-strengthened, very fast filter paper with excellent retention of coarse particles and gelatinous precipitates. The smooth surface allows fiber-free filtration, even for highly acidic and basic media

| <b>Cat NO.</b>                | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#"><u>470012</u></a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 3290             |
| <a href="#"><u>470015</u></a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 4290             |

# Ashless filter papers - For quantitative analysis

## Technical data

| Grade     | Color code | Properties                   | Thickness                         | Filtration speed | Basis weight         |                     |
|-----------|------------|------------------------------|-----------------------------------|------------------|----------------------|---------------------|
| MN 640 we |            | very fast filtration, smooth | 0.22 mm                           | 5 s              | 85 g/m <sup>2</sup>  |                     |
| MN 640 w  | ≡ No. 41   | grey label ≡ black ribbon    | fast filtration, smooth           | 0.2 mm           | 9 s                  | 85 g/m <sup>2</sup> |
| MN 640 m  | ≡ No. 43   | white label ≡ white ribbon   | medium fast filtration, smooth    | 0.2 mm           | 27 s                 | 85 g/m <sup>2</sup> |
| MN 640 md | ≡ No. 40   | yellow label ≡ red ribbon    | medium to slow filtration, smooth | 0.2 mm           | 55 s                 | 85 g/m <sup>2</sup> |
| MN 640 dd | ≡ No. 44   | blue label ≡ green ribbon    | slow filtration, smooth           | 0.16 mm          | 100 s                | 70 g/m <sup>2</sup> |
| MN 640 d  | ≡ No. 42   | green label ≡ blue ribbon    | slow filtration, smooth           | 0.17 mm          | 140 s                | 85 g/m <sup>2</sup> |
| MN 640 de |            | very slow filtration, smooth | 0.2 mm                            | 195 s            | 100 g/m <sup>2</sup> |                     |

MACHEREY NAGEL manufactures a broad range of ashless filter papers that are refined and purified in a highly developed clean-up process to remove organic and inorganic impurities. This ensures a low ash content of < 0.01 %, consistent performance and safe results in gravimetric analyses.

## **MN640MD = No-40**

MN 640 md is an ashless filter paper, which is slightly more retentive than MN 640 m with corresponding increase in filtration time.

| Cat NO.                  | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|--------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">20400127</a> | 12.5 MM CIRCLE.    | 100       | 48232000 | 18% | 1090      |
| <a href="#">20400425</a> | 42.5 MM CIRCLE.    | 100       | 48232000 | 18% | 1390      |
| 2040047                  | 47 MM CIRCLE.      | 100       | 48232000 | 18% | 1390      |
| <a href="#">204007</a>   | 70 MM CIRCLE.      | 100       | 48232000 | 18% | 1990      |
| <a href="#">204009</a>   | 90 MM CIRCLE.      | 100       | 48232000 | 18% | 2990      |
| <a href="#">204011</a>   | 110 MM CIRCLE.     | 100       | 48232000 | 18% | 4190      |
| <a href="#">204012</a>   | 125 MM CIRCLE.     | 100       | 48232000 | 18% | 4090      |
| <a href="#">204015</a>   | 150 MM CIRCLE.     | 100       | 48232000 | 18% | 6690      |
| <a href="#">204018</a>   | 185 MM CIRCLE.     | 100       | 48232000 | 18% | 9890      |
| <a href="#">204024</a>   | 240 MM CIRCLE.     | 100       | 48232000 | 18% | 14690     |
| <a href="#">204032</a>   | 320 MM CIRCLE.     | 100       | 48232000 | 18% | 25090     |
| 204101.1                 | 460 x 570MM Sheets | 100       | 48054000 | 12% | 44290     |



## **MN640WE = No-41**

MN 640 we is the fastest quantitative filter paper with highest flow rate. It is used for example in analytical procedures of samples with coarse or gelatinous particles.

| <b>Cat NO.</b>           | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|--------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">20100425</a> | 42.5 MM CIRCLE.    | 100              | 48232000       | 18%        | 1490             |
| <a href="#">201005</a>   | 55 MM CIRCLE.      | 100              | 48232000       | 18%        | 1490             |
| <a href="#">201007</a>   | 70 MM CIRCLE.      | 100              | 48232000       | 18%        | 1990             |
| <a href="#">201009</a>   | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 2990             |
| <a href="#">201011</a>   | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 4190             |
| <a href="#">201012</a>   | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 4090             |
| <a href="#">201015</a>   | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 6690             |
| <a href="#">201018</a>   | 185 MM CIRCLE.     | 100              | 48232000       | 18%        | 9890             |
| <a href="#">201024</a>   | 240 MM CIRCLE.     | 100              | 48232000       | 18%        | 14690            |
| 201111.1                 | 460 x 570MM Sheets | 100              | 48054000       | 12%        | 49890            |

## **MN640DE = No-42**

MN 640 de is an ashless, very slow filter paper for the filtration of finest particles in quantitative range.

| <b>Cat NO.</b>           | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|--------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">20700425</a> | 42.5 MM CIRCLE.    | 100              | 48232000       | 18%        | POR              |
| <a href="#">207005</a>   | 55 MM CIRCLE.      | 100              | 48232000       | 18%        | 1790             |
| <a href="#">207007</a>   | 70 MM CIRCLE.      | 100              | 48232000       | 18%        | 2390             |
| <a href="#">207009</a>   | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 3490             |
| <a href="#">207011</a>   | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 4790             |
| <a href="#">207012</a>   | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 4890             |
| <a href="#">207015</a>   | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 7790             |
| <a href="#">207018</a>   | 185 MM CIRCLE.     | 100              | 48232000       | 18%        | 11690            |
| <a href="#">207024</a>   | 240 MM CIRCLE.     | 100              | 48232000       | 18%        | 18290            |
| 207112.1                 | 460 x 570MM Sheets | 100              | 48054000       | 12%        | 50990            |

## **MN640M = No-43**

MN 640 m is the classic, general purpose, ashless filter paper with medium speed and medium retention. Typical applications include gravimetric analysis for components, quantitative determinations of sediments and high purity clean up procedures.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">203009</a> | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 2990             |
| <a href="#">203011</a> | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 4190             |
| <a href="#">203012</a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 4790             |
| <a href="#">203015</a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 6690             |
| <a href="#">203018</a> | 185 MM CIRCLE.     | 100              | 48232000       | 18%        | 9890             |

## **MN640DD = No- 44**

Filter paper, MN 640 dd, Quantitative, Slow (100 s), Smooth. MN 640 dd is an ashless, slow filter paper which is slightly less retentive than MN 640 d.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">206011</a> | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 4790             |
| <a href="#">206012</a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 5690             |
| <a href="#">206015</a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 7790             |
| <a href="#">206018</a> | 185 MM CIRCLE.     | 100              | 48232000       | 18%        | 11690            |
| 206112.1               | 460 x 570MM Sheets | 100              | 48232000       | 18%        | POR              |

## **MN640d**

MN 640 d is an ashless, slow filter paper with very fine particle retention. Standard paper for critical gravimetric analysis of fine precipitates like barium sulfate or metastannic acid.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">205009</a> | 90 MM CIRCLE.      | 100              | 48232000       | 18%        | 2990             |
| <a href="#">205012</a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 4790             |

## **MN640w**

MN 640 w is a fast, ashless filter paper. Recommended for analytical procedures involving coarse particles or gelatinous precipitates

| <b>Cat NO.</b>                | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#"><u>202011</u></a> | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 2890             |
| <a href="#"><u>202012</u></a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 3290             |
| <a href="#"><u>202015</u></a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 6690             |
| 202116.1                      | 460 x 570MM Sheets | 100              | 48232000       | 18%        | 27290            |

# Ashless hardened filter papers - Wet-strengthened

## Wet-strengthened filter papers for quantitative analysis

These wet-strengthened hard filter papers are manufactured from refined pulp and linters and have a low ash content of < 0.01 %. They are often used for quantitative routine procedures and for analytical gravimetric applications. Due to their high mechanical strength in wet condition they are particularly suited for applications, where the residue is removed from the filter e.g. with a spatula or a jet of water.



### Technical data

| Grade      | Properties  | Thickness | Filtration speed | Basis weight         |
|------------|---|-----------|------------------|----------------------|
| MN 1640 we | wet-strengthened, very fast filtration, smooth      | 0.22 mm   | 5 s              | 85 g/m <sup>2</sup>  |
| MN 1640 w  | wet-strengthened, fast filtration, smooth           | 0.2 mm    | 9 s              | 85 g/m <sup>2</sup>  |
| MN 1640 m  | wet-strengthened, medium fast filtration, smooth    | 0.2 mm    | 27 s             | 85 g/m <sup>2</sup>  |
| MN 1640 md | wet-strengthened, medium to slow filtration, smooth | 0.2 mm    | 55 s             | 85 g/m <sup>2</sup>  |
| MN 1640 d  | wet-strengthened, slow filtration, smooth           | 0.17 mm   | 140 s            | 85 g/m <sup>2</sup>  |
| MN 1640 de | wet-strengthened, very slow filtration, smooth      | 0.2 mm    | 195 s            | 100 g/m <sup>2</sup> |

## MN1640MD = NO 540

MN 1640 md is a wet strengthened, ashless filter paper, which is slightly more retentive than MN 1640 m with corresponding increase in filtration time. The smooth surface allows fiber-free filtration, even for highly acidic and basic media.

| Cat NO.                 | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|-------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">2240025</a> | 25 MM CIRCLE.  | 100       | 48232000 | 18% | POR       |
| <a href="#">224011</a>  | 110 MM CIRCLE. | 100       | 48232000 | 18% | 4190      |

## MN1640WE = No-541

MN 1640 we is the fastest, wet-strengthened, quantitative filter paper with highest flow rate. It is used for example in analytical procedures of samples with coarse or gelatinous particles. The smooth surface allows fiber-free filtration, even for highly acidic and basic media.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">221011</a> | 110 MM CIRCLE. | 100       | 48232000 | 18% | 4190      |
| <a href="#">221012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 4990      |
| <a href="#">221015</a> | 150 MM CIRCLE. | 100       | 48232000 | 18% | 7390      |

## **MN1640w**

MN 1640 w is a wet-strengthened, fast, ashless filter paper. Recommended for analytical procedures involving coarse particles or gelatinous precipitates. The smooth surface allows fiber-free filtration, even for highly acidic and basic media.

| <b>Cat NO.</b>                | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#"><u>222012</u></a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 4990             |
| <a href="#"><u>222015</u></a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 7390             |

## **MN1640DE = No-542**

Filter paper circles, MN 1640 de, Quantitative, is a wet-strengthened, ashless, Very slow (195 s), Smooth filter paper for the filtration of finest particles in quantitative range. The smooth surface allows fiber-free filtration, even for highly acidic and basic media.

| <b>Cat NO.</b>                | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#"><u>227011</u></a> | 110 MM CIRCLE.     | 100              | 48232000       | 18%        | 4190             |
| <a href="#"><u>227012</u></a> | 125 MM CIRCLE.     | 100              | 48232000       | 18%        | 4990             |
| <a href="#"><u>227015</u></a> | 150 MM CIRCLE.     | 100              | 48232000       | 18%        | 7390             |

## Filtering aids



Filter aids transform difficult precipitates and colloidal particles into a form which can be filtered more easily. When slimy and strongly lyophilic, swelling precipitates are involved, filter flocs prevent formation of a continuous, impermeable layer. A clogging of the filter is prevented.

### **MN2101**

| Cat NO.                | Diameter MM              | Pack size | HS code  | GST | Price (₹) |
|------------------------|--------------------------|-----------|----------|-----|-----------|
| 281140                 | FILTER ASHLESS CLIPPINGS | 500gm     | 48232000 | 18% | 5390      |
| <a href="#">281120</a> | FILTER FLOCS             | 500gm     | 48232000 | 18% | 5790      |

## Glass fiber filters without binder



Glass microfiber filters without binder are used for difference weight analysis. They have a high thermal and chemical stability and are commonly used in determination of total suspended solids, or for gravimetric analysis of particles in air and hot fumes.

### **MNGF-1 = GF/A**

MN GF 1 is a binder-free glass fiber filter paper that offers fine particle retention, high flow rate and good loading capacity. It is used for high efficiency laboratory filtration as well as air sampling.

| Cat NO.                 | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|-------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">4110025</a> | 25 MM CIRCLE.      | 100       | 70193900 | 18% | 3890      |
| <a href="#">4110037</a> | 37 MM CIRCLE.      | 100       | 70193900 | 18% | 4190      |
| <a href="#">4110047</a> | 47 MM CIRCLE.      | 100       | 70193900 | 18% | 5390      |
| <a href="#">411005</a>  | 55 MM CIRCLE.      | 100       | 70193900 | 18% | 5390      |
| <a href="#">411007</a>  | 70 MM CIRCLE.      | 100       | 70193900 | 18% | 6990      |
| <a href="#">411009</a>  | 90 MM CIRCLE.      | 100       | 70193900 | 18% | 8790      |
| <a href="#">411011</a>  | 110 MM CIRCLE.     | 100       | 70193900 | 18% | 11790     |
| <a href="#">411012</a>  | 125 MM CIRCLE.     | 100       | 70193900 | 18% | 12190     |
| 400GF1203.1             | 203 x 254MM SHEETS | 100       | 70193900 | 18% | 38590     |

### **MNGF-2 = GF/B**

MN GF 2 is a binder-free glass fiber filter paper with three times higher basis weight than GF 1. It combines fine particle retention with excellent loading capacity.

| Cat NO.                 | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|-------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">4120025</a> | 25 MM CIRCLE.  | 100       | 70193900 | 18% | 4990      |
| <a href="#">4120047</a> | 47 MM CIRCLE.  | 100       | 70193900 | 18% | 9890      |
| <a href="#">412007</a>  | 70 MM CIRCLE.  | 100       | 70193900 | 18% | 12590     |
| <a href="#">412009</a>  | 90 MM CIRCLE.  | 50        | 70193900 | 18% | 17790     |
| <a href="#">412011</a>  | 110 MM CIRCLE. | 25        | 70193900 | 18% | 22890     |
| <a href="#">412012</a>  | 125 MM CIRCLE. | 25        | 70193900 | 18% | 30190     |

## **MNGF-3 = GF/C**

MN GF 3 is slightly more retentive than MN GF 1. This binder-free glass fiber filter paper is used for the collection of suspended solids in potable water as well as natural and industrial waste water in many parts of the world.

| Cat NO.                  | Diameter MM     | Pack size | HS code  | GST | Price (₹) |
|--------------------------|-----------------|-----------|----------|-----|-----------|
| <a href="#">4130025</a>  | 25 MM CIRCLE.   | 100       | 70193900 | 18% | 4190      |
| <a href="#">4130037</a>  | 37 MM CIRCLE.   | 100       | 70193900 | 18% | 4990      |
| <a href="#">41300425</a> | 42.5 MM CIRCLE. | 100       | 70193900 | 18% | POR       |
| <a href="#">4130047</a>  | 47 MM CIRCLE.   | 100       | 70193900 | 18% | 6890      |
| <a href="#">413005</a>   | 55 MM CIRCLE.   | 100       | 70193900 | 18% | 7390      |
| <a href="#">413007</a>   | 70 MM CIRCLE.   | 100       | 70193900 | 18% | 8690      |
| <a href="#">413009</a>   | 90 MM CIRCLE.   | 100       | 70193900 | 18% | 12490     |
| <a href="#">413011</a>   | 110 MM CIRCLE.  | 100       | 70193900 | 18% | 15890     |

## **MNGF-4 = GF/D**

MN GF 4 is a binder-free glass fiber filter paper with good loading capacity and high flow rates.

| Cat NO.                 | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|-------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">4140025</a> | 25 MM CIRCLE.  | 100       | 70193900 | 18% | 4190      |
| <a href="#">4140047</a> | 47 MM CIRCLE.  | 100       | 70193900 | 18% | 6990      |
| <a href="#">414009</a>  | 90 MM CIRCLE.  | 25        | 70193900 | 18% | 14490     |
| <a href="#">414012</a>  | 125 MM CIRCLE. | 100       | 70193900 | 18% | 23790     |

## **MNGF-5 = GF/F**

Glass fiber filter circles, MN GF 5, Binder-free, Retention capacity: 0.4 µm with excellent retention of fine particles. It is often used in combination with membranes to protect the membrane from clogging.

| <b>Cat NO.</b>          | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">4150024</a> | 24 MM CIRCLE.      | 100              | 70193900       | 18%        | POR              |
| <a href="#">4150025</a> | 25 MM CIRCLE.      | 100              | 70193900       | 18%        | 10290            |
| <a href="#">4150045</a> | 45 MM CIRCLE.      | 100              | 70193900       | 18%        | 13990            |
| <a href="#">4150047</a> | 47 MM CIRCLE.      | 100              | 70193900       | 18%        | 14690            |
| <a href="#">415009</a>  | 90 MM CIRCLE.      | 100              | 70193900       | 18%        | 30390            |
| <a href="#">415011</a>  | 110 MM CIRCLE.     | 100              | 70193900       | 18%        | 42790            |
| <a href="#">415012</a>  | 125 MM CIRCLE.     | 100              | 70193900       | 18%        | 52690            |

## **MNGF-6**

Glass fiber filter circles, MN GFI6, Binder-free, Retention capacity: 0.6 µm with medium retention and flow rate for general laboratory filtration.

| <b>Cat NO.</b>          | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">4160025</a> | 25 MM CIRCLE.      | 100              | 70193900       | 18%        | 4490             |

## **MNQF-10 = QM/A**

MN QF 10 are quartz fiber filters with exceptionally low metal content. They are especially suitable for air pollution monitoring.

| <b>Cat NO.</b>          | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">4170047</a> | 47 MM CIRCLE.      | 100              | 70193900       | 18%        | 24790            |

## **MN85/90**

Glass fiber filter with organic binder MN 85/90 is the most widely used, general purpose glass fiber filter with very good mechanical stability. The filter contains an organic binder and is stable up to 200 °C.

| Cat NO.                 | Diameter MM   | Pack size | HS code  | GST | Price (₹) |
|-------------------------|---------------|-----------|----------|-----|-----------|
| <a href="#">4050025</a> | 25 MM CIRCLE. | 100       | 70193900 | 18% | 2290      |
| <a href="#">4050047</a> | 47 MM CIRCLE. | 100       | 70193900 | 18% | POR       |
| <a href="#">405009</a>  | 90 MM CIRCLE. | 100       | 70193900 | 18% | 5490      |

## MN85/90BF

MN 85/90 BF is a binder-free filter paper for difference weight analysis. This paper is especially used in water treatment facilities for example for the determination of suspended solids.

| Cat NO.                 | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|-------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">4060025</a> | 25 MM CIRCLE.  | 100       | 70193900 | 18% | 3890      |
| <a href="#">406009</a>  | 90 MM CIRCLE.  | 100       | 70193900 | 18% | 9990      |
| <a href="#">406012</a>  | 125 MM CIRCLE. | 100       | 70193900 | 18% | 14490     |
| <a href="#">4060127</a> | 127 MM CIRCLE. | 100       | 70193900 | 18% | POR       |

## MN85/70

MN 85/70 is slightly less retentive than MN 85/90, lighter and thinner. The filter contains an organic binder for high mechanical strength with temperature stability up to 200 °C

| Cat NO.                      | Diameter MM       | Pack size | HS code  | GST | Price (₹) |
|------------------------------|-------------------|-----------|----------|-----|-----------|
| <a href="#">4030025</a>      | 25 MM CIRCLE.     | 100       | 70193900 | 18% | 1990      |
| <a href="#">4030050</a>      | 50 MM CIRCLE.     | 100       | 70193900 | 18% | 2790      |
| <a href="#">403009</a>       | 90 MM CIRCLE.     | 100       | 70193900 | 18% | 4590      |
| <a href="#">40086/70/001</a> | 60 x 90 MM SHEETS | 100       | 70193900 | 18% | POR       |

## MN85/70BF

Glass fiber filter circles, MN 85/70 BF, Binder-free, Retention capacity: 0.6 µm

| Cat NO.                 | Diameter MM   | Pack size | HS code  | GST | Price (₹) |
|-------------------------|---------------|-----------|----------|-----|-----------|
| <a href="#">4040025</a> | 25 MM CIRCLE. | 100       | 70193900 | 18% | 3490      |



## **MN85/220**

MN 85/220 is a thick glass fiber paper with high basis weight for the filtration of large volumes of liquids.

| <b>Cat NO.</b>          | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">4070025</a> | 25 MM CIRCLE.      | 100              | 70193900       | 18%        | 4390             |
| <a href="#">407009</a>  | 90 MM CIRCLE.      | 100              | 70193900       | 18%        | 11290            |
| <a href="#">4070092</a> | 92 MM CIRCLE.      | 100              | 70193900       | 18%        | POR              |

## **MN85/220BF**

MN 85/220 BF is the binder-less alternative to MN 85/220. It is a thick glass fiber paper with high basis weight for the filtration of large volumes of liquids.

| <b>Cat NO.</b>          | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">4080025</a> | 25 MM CIRCLE.      | 100              | 70193900       | 18%        | 7890             |

# Extraction thimbles standard quality made from cellulose



Extraction thimbles, made from cellulose, are available in five different types. MN 645 is standard grade for most applications, MN 645 D has a lid against floating of sample, MN 645 F is more dense and MN 645 W is less dense than the standard. MN 645 R is especially made for dust analysis.

## MN645

MN 645 extraction thimbles are the standard grade, made from pure cellulose.

| Cat NO.                | Diameter MM                  | Pack size | HS code  | GST | Price (₹) |
|------------------------|------------------------------|-----------|----------|-----|-----------|
| <a href="#">645001</a> | THICKNESS 1.0MM,<br>8x40MM   | 25        | 48237090 | 18% | 14690     |
| <a href="#">645005</a> | THICKNESS 1.5MM,<br>20x80MM, | 25        | 48237090 | 18% | 14690     |
| <a href="#">645006</a> | THICKNESS 1.5MM,<br>22x80MM, | 25        | 48237090 | 18% | 14690     |
| <a href="#">645007</a> | THICKNESS 1.5MM,<br>23x90MM, | 25        | 48237090 | 18% | 14690     |
| <a href="#">645008</a> | THICKNESS 1.5MM<br>23x100MM  | 25        | 48237090 | 18% | 14690     |
| <a href="#">645009</a> | THICKNESS 1.5MM,<br>27x80MM, | 25        | 48237090 | 18% | 14690     |
| <a href="#">645010</a> | THICKNESS 1.5MM<br>27x100MM  | 25        | 48237090 | 18% | 14690     |
| <a href="#">645011</a> | THICKNESS 1.5MM,<br>27x60MM, | 25        | 48237090 | 18% | 14690     |
| <a href="#">645056</a> | THICKNESS 1.0MM,<br>19X90MM  | 25        | 48237090 | 18% | 14690     |

| Cat NO.                | Diameter MM                  | Pack size | HS code  | GST | Price (₹) |
|------------------------|------------------------------|-----------|----------|-----|-----------|
| <a href="#">645013</a> | THICKNESS 1.5MM<br>28x100MM  | 25        | 48237090 | 18% | 14690     |
| <a href="#">645014</a> | THICKNESS 1.5MM<br>28x120MM  | 25        | 48237090 | 18% | 17090     |
| <a href="#">645015</a> | THICKNESS 1.5MM,<br>28x80MM, | 25        | 48237090 | 18% | 14690     |
| <a href="#">645951</a> | THICKNESS 1.5MM,<br>33x80MM, | 25        | 48237090 | 18% | 15890     |
| <a href="#">645022</a> | THICKNESS 1.5MM,<br>33x94MM, | 25        | 48237090 | 18% | 17590     |
| <a href="#">645023</a> | THICKNESS 1.5MM<br>30x100MM  | 25        | 48237090 | 18% | 17590     |
| <a href="#">645030</a> | THICKNESS 2.0MM<br>40x150MM  | 25        | 48237090 | 18% | 27590     |
| <a href="#">645033</a> | THICKNESS 2.0MM<br>48x145MM  | 25        | 48237090 | 18% | 33190     |

## MN645F

Extraction thimbles MN 645 F are made from cellulose, denser than MN 645.

| Cat NO.                | Diameter MM                 | Pack size | HS code  | GST | Price (₹) |
|------------------------|-----------------------------|-----------|----------|-----|-----------|
| <a href="#">645423</a> | THICKNESS 1.5MM<br>30X100MM | 25        | 48237090 | 18% | 17590     |

# Extraction thimbles made from high purity glass fibres



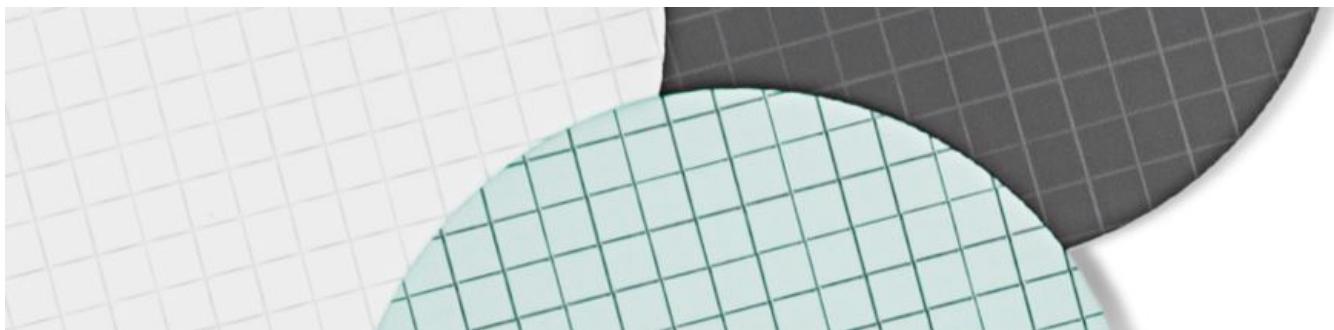
Glass fiber extraction thimbles from MACHEREYINAGEL are made from pure borosilicate glass microfibers without addition of binders. They have a high particle retention and temperature resistance of 500 °C. Therefore, they are perfectly suited for dust analysis in hot exhaust gases.

## **MN649**

Glass fiber extraction thimbles MN 649 are made from glass microfibers without binder, short-term temperature resistance up to 500 °C, very high particle retention, for dust analysis in hot exhaust gases.

| Cat NO.                | Diameter MM                   | Pack size | HS code  | GST | Price (₹) |
|------------------------|-------------------------------|-----------|----------|-----|-----------|
| <a href="#">649118</a> | Thickness 1.0MM,<br>30x150MM, | 25        | 70199010 | 18% | 39990     |
| <a href="#">649123</a> | Thickness 1.0MM,<br>33x100MM, | 25        | 70199010 | 18% | 32990     |
| <a href="#">649128</a> | Thickness 1.0MM,<br>35x150MM, | 25        | 70199010 | 18% | 46490     |
| <a href="#">649160</a> | Thickness 1.0MM,<br>19x90MM,  | 25        | 70199010 | 18% | POR       |

# Membranes - PORAFIL membranes for microfiltration



A broad range of membranes for micro-filtration. PORAFIL membranes are available from different materials: cellulosebased and polymeric. They are suitable for microbiological applications, sample preparation, gravimetric analysis and solvent purification.

## **PORAFIL MV**

Membrane filters PORAFIL MV, Cellulose mixed ester, Fabric-reinforced, White membranes are reinforced with a polyester fabric. Their filtration properties are very similar to membranes PORAFIL CM, however, they are mechanically much more stable.

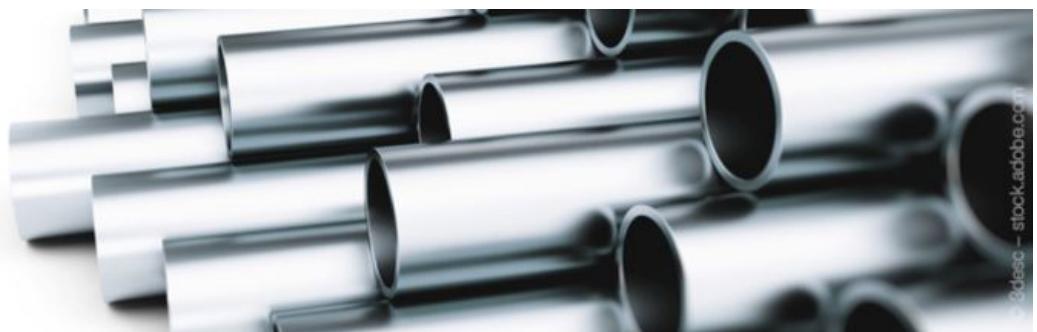
| Cat NO.                     | Diameter MM   | Pack size | HS code  | GST | Price (₹) |
|-----------------------------|---------------|-----------|----------|-----|-----------|
| <a href="#">65000020047</a> | 47 MM CIRCLE. | 100       | 39207990 | 18% | 12690     |
| <a href="#">65000045047</a> | 47 MM CIRCLE. | 100       | 39207990 | 18% | 12690     |

## **PORAFIL CM with grid, Cellulose mixed ester**

Membrane filters PORAFIL CM, cellulose mixed ester, white are ideal for gravimetric analysis. They are particularly suited for aqueous solutions. The hydrophilic membrane is thermally stable to 125 °C and can be autoclaved at 121 °C. This membrane is often used for contamination tests.

| Cat NO.                     | Diameter MM   | Pack size | HS code  | GST | Price (₹) |
|-----------------------------|---------------|-----------|----------|-----|-----------|
| <a href="#">65300045047</a> | 47 MM CIRCLE. | 100       | 39207990 | 18% | 25390     |

## Filter products for electro plating



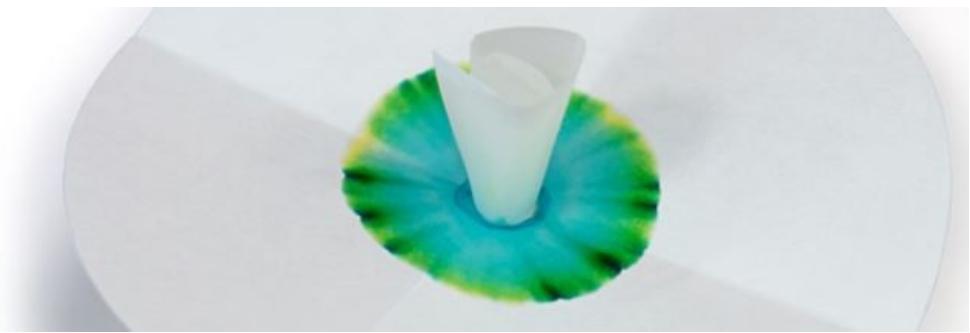
Electroplating baths used for galvanic processes are often cleaned with filter pumps. Usually, such filter pumps consist of 30–100 filter plates each equipped with one filter circle with an inner hole.

### **MN728**

Filter paper circles, MN 728, Activated charcoal, Slow (55 s), Smooth, MN 728 contains activated charcoal. It is particularly suited for decolorization of solutions. The activated charcoal is incorporated in the paper and cannot be washed out into the filtrate.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">481005</a> | 55 MM CIRCLE.  | 100       | 48232000 | 18% | 2190      |
| <a href="#">481007</a> | 70 MM CIRCLE.  | 100       | 48232000 | 18% | 2190      |
| <a href="#">481009</a> | 90 MM CIRCLE.  | 100       | 48232000 | 18% | 3090      |
| <a href="#">481011</a> | 110 MM CIRCLE. | 100       | 48232000 | 18% | 4190      |
| <a href="#">481012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 4990      |

# Chromatography paper



Paper chromatography requires high quality papers, since they have a considerable impact on the results of a separation. MACHEREY NAGEL chromatography papers are almost exclusively produced from pure linters without addition of other substances.

## **MN260**

MN 260 is a thin chromatography paper made from cotton-linters with good absorption and high capillary rise. It is also used for spot-tests.

| Cat NO.                   | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|---------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">817260046</a> | 460 x 570 MM Sheets | 100       | 48054000 | 12% | 25590     |

## **MN261**

MN 261 is a thin chromatography paper made from cotton-linters with good absorption and good capillary rise.

| Cat NO.                       | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|-------------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">40026100127.1</a> | 12.7 MM             | 100       | 48054000 | 12% | 1690      |
| <a href="#">817004A</a>       | 580 x 600 MM Sheets | 100       | 48054000 | 12% | 25890     |

## **MN866**

MN 866 is very thick and heavy chromatography paper with excellent absorption and very high capillary rise.

| Cat NO.                   | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|---------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">817866021</a> | 190 x 190 MM Sheets | 100       | 48232000 | 18% | 31890     |

# Technical filter papers



MACHEREY NAGEL offers customers in the manufacturing and production industry a wide range of products. With the acquisition of the traditional Poerringer paper mill, this product range was once again significantly expanded. We offer special technical papers for very different applications. Whether thin, smooth papers for electroplating, large-format filter boards for the automotive and oil industries, or rolls for VENEMA filtration robots in the sugar beet industry, MACHEREY-NAGEL has the right product for every branch of industry. Our technical paper grades have been developed for special applications. For decades, they have been firmly anchored in many work specifications, as their constant filtration properties guarantee optimum results.

## **MN180**

MN 180 is a medium fast, medium wet-strength, hard, technical filter paper. It is commonly used for regeneration of transformer oils and electroplating baths.

| Cat NO.                 | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|-------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">111080A</a> | 665 x 665 MM Sheets | 100       | 48054000 | 12% | 38690     |

## **MN220**

MN 220 is dyed black with a sulfur dye. It is used to identify small quantities of bright precipitates. For example, it is used for the detection of fluorine or silicon. Filter paper circles, MN 220, Black, Slow (45 s), Smooth

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">409012</a> | 125 MM CIRCLE. | 100       | 48232000 | 12% | 4390      |
| <a href="#">409011</a> | 110 MM CIRCLE. | 100       | 48232000 | 12% | 3690      |

## **MN321**

MN 321 is a nitrogen-free, fast filter paper. It is often used for malt analysis in breweries. Filter paper circles, MN 321, Nitrogen-free, Fast (5 s), Smooth

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">410032</a> | 320 MM CIRCLE.     | 100              | 48232000       | 18%        | POR              |

## **MN710**

| <b>Cat NO.</b> | <b>Diameter MM</b>  | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|----------------|---------------------|------------------|----------------|------------|------------------|
| 150010         | 580 x 580 MM Sheets | 100              | 48054000       | 12%        | 6390             |

## **MN713**

MN 713 is a medium fast, technical all-round filter paper. It used in filtration of e.g. alcohols, syrups, lacquers, spirits and for covering of bench tops and cupboards. Filter paper sheets MN 713, Technical, Medium fast (20 s), Smooth

| <b>Cat NO.</b>         | <b>Diameter MM</b>  | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|---------------------|------------------|----------------|------------|------------------|
| <a href="#">152020</a> | 450 x 450 MM Sheets | 100              | 48054000       | 12%        | POR              |
| <a href="#">152010</a> | 580 x 580 MM Sheets | 100              | 48054000       | 12%        | POR              |

## **MN604**

MN 604 is a thick and fast technical filter paper. It find application in beverage industry e.g. for the filtration of fruit juices or wine. Filter paper sheets MN 604, Technical, Fast (11 s), Smooth

| <b>Cat NO.</b>          | <b>Diameter MM</b>  | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|-------------------------|---------------------|------------------|----------------|------------|------------------|
| <a href="#">122010A</a> | 580 x 580 MM Sheets | 100              | 48054000       | 12%        | 36290            |

## **MN675**

MN 675 is a slow, firm technical filter paper which is used for filtration of large volumes of liquids. Filter paper sheets MN 675, Technical, Slow (60 s), Smooth

| Cat NO.                | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">148010</a> | 580 x 580 MM Sheets | 100       | 48054000 | 12% | POR       |

## MN918

MN 918 is a fast, technical filter paper for filtration of large volumes of liquids e.g. essences and extracts. Filter paper circles, MN 918, Technical, Fast (9 s), Smooth

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">461007</a> | 70 MM CIRCLE.  | 100       | 48232000 | 18% | 1190      |
| <a href="#">461009</a> | 90 MM CIRCLE.  | 100       | 48232000 | 18% | 1390      |
| <a href="#">461011</a> | 110 MM CIRCLE. | 100       | 48232000 | 18% | 1790      |

## MN804

MN 804 is a very fast, soft technical filter paper, which is used in beverage industry. Filter paper sheets MN 804, Technical, Very fast (5 s), Smooth

| Cat NO.                   | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|---------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">400804007</a> | 70 MM CIRCLE.  | 100       | 48054000 | 12% | POR       |
| <a href="#">400804011</a> | 110 MM CIRCLE. | 100       | 48054000 | 12% | POR       |

## MN818

MN 818 is a highly-absorptive, fast filter paper. It is used for technical filtration and spot-tests e.g. Guthrie tests (for non-medical applications only). Filter paper sheets MN 818, Strongly-absorbent, Fast (8 s), Smooth

| Cat NO.                 | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|-------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">156050A</a> | 500 x 500 MM Sheets | 100       | 48054000 | 12% | 32490     |

## MN605

MN 605 is a very fast, creped paper for technical filtration. It is used in filtration of essential oils, paint or gelatin.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">523024</a> | 240 MM CIRCLE. | 100       | 48232000 | 18% | 8990      |

## **MN619G**

MN 619 G is a slow, phosphate-free filter paper which is made especially for soil analysis.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">440005</a> | 55 MM CIRCLE.      | 100              | 48232000       | 18%        | 890              |

## **MN625**

MN 625 is a medium fast, technical filter paper for general applications.

| <b>Cat NO.</b>         | <b>Diameter MM</b> | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|------------------------|--------------------|------------------|----------------|------------|------------------|
| <a href="#">443005</a> | 55 MM CIRCLE.      | 100              | 48232000       | 18%        | 1090             |

## **MN651/120**

Filter Paper Sheets MN 651/120 crepped parallel to long side-

| <b>Cat NO.</b> | <b>Diameter MM</b>  | <b>Pack size</b> | <b>HS code</b> | <b>GST</b> | <b>Price (₹)</b> |
|----------------|---------------------|------------------|----------------|------------|------------------|
| 400651/120/106 | 180 x 580 MM Sheets | 100              | 48232000       | 18%        | 25790            |

## Lens paper



MN 13 is a thin, soft, non-fluffing tissue paper for cleaning optical glasses, lenses and cuvettes. It is also suitable as protective paper for metallographic sections.

### **MN13**

MN 13 (José or Joseph paper) is a thin, soft, non-fluffing tissue paper for cleaning optical glasses or cuvettes. It is also suitable as protective paper for metallographic sections.

| Cat NO.                | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">118000</a> | 80 x 100 MM Sheets  | 50        | 48232000 | 18% | 910       |
| <a href="#">418101</a> | 120 x 120 MM Sheets | 500       | 48232000 | 18% | 3890      |

### **MN224**

Microscopy paper MN 224, is a paper with good absorbent properties for absorbing liquids from microscopic preparations.

| Cat NO.                | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">185000</a> | 37 x 100 MM Sheets | 50        | 48232000 | 18% | 4890      |

## Phase separation paper



MACHEREY NAGEL phase separation papers are made hydrophobic (impermeable to water) by impregnation with a silicone oil. With the aid of these filters, water can be separated from water-immiscible organic solvents in an elegant manner, by means of a simple filtration.

### **MN616WA**

MN 616 WA is made hydrophobic (impermeable to water) by impregnation with a silicone. With these filters, water can be separated from water-immiscible organic solvents by a simple filtration.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">483012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 2090      |
| <a href="#">484011</a> | 110 MM CIRCLE. | 100       | 48232000 | 18% | 2790      |
| <a href="#">484015</a> | 150 MM CIRCLE. | 100       | 48232000 | 18% | 5190      |

### **MN617WA**

MN 617 WA is made hydrophobic (impermeable to water) by impregnation with a silicone. With the aid of these filters, water can be separated from water-immiscible organic solvents by a simple filtration.

| Cat NO.                | Diameter MM    | Pack size | HS code  | GST | Price (₹) |
|------------------------|----------------|-----------|----------|-----|-----------|
| <a href="#">430012</a> | 125 MM CIRCLE. | 100       | 48232000 | 18% | 3790      |

# Weighing aids



Weighing boats MN 808 from special, nitrogen-free parchment are used to weigh viscous or syrupy samples. Weighing paper MN 226 is transparent and smooth, which guarantees that weighed goods are transferred without loss. MN 40/25 are easily crushable parchment papers which are mainly used for syrupy and semi-crystalline samples.

## **MN808**

Weighing boats MN 808 are made from a special, nitrogen-free parchment. They are used to weigh viscous or syrupy substances.

| Cat NO.                | Diameter MM            | Pack size | HS code  | GST | Price (₹) |
|------------------------|------------------------|-----------|----------|-----|-----------|
| <a href="#">486000</a> | 58 x 10 x 10 MM Sheets | 100       | 48061000 | 12% | 14890     |

## **MN226**

MN 226 is a transparent paper, smooth on both sides, which can be used as substitute for weighing boats. The smooth surface of the paper guarantees that the weighed goods can be transferred without loss

| Cat NO.                | Diameter MM        | Pack size | HS code  | GST | Price (₹) |
|------------------------|--------------------|-----------|----------|-----|-----------|
| <a href="#">186002</a> | 90 x 115 MM Sheets | 100       | 48064010 | 12% | 1690      |

## **MN40/25**

MN 40/25 sheets are easily crushable (not wet-strengthened) parchment papers, which are mainly used in the sugar industry for weighing syrupy and semi-crystalline substances.

| Cat NO.                | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">194000</a> | 100 x 100 MM Sheets | 100       | 48061000 | 12% | 3990      |

## Surface protection paper



This filter paper is coated on one side with polyethylene, e.g. for covering laboratory workbenches. The filter paper absorbs spilt liquids. It is especially suited for isotope and bacteriological laboratories as well as for chemical storerooms and cupboards.

### **MN210PE**

MN 210 PE is coated on one side with polyethylene, e.g. for covering laboratory workbenches. The filter paper absorbs spilt liquids. It is especially suited for isotope and bacteriological laboratories as well as for chemical storerooms and cupboards.

| Cat NO.                  | Diameter MM         | Pack size | HS code  | GST | Price (₹) |
|--------------------------|---------------------|-----------|----------|-----|-----------|
| <a href="#">112000.1</a> | 480 x 600 MM Sheets | 50        | 48054000 | 12% | 15390     |
| <a href="#">112000A</a>  | 480 x 600 MM Sheets | 100       | 48054000 | 12% | 25590     |

# Chromatography



We provide optimal and reliable solutions for your laboratory work in sample preparation, method development and routine analysis.

## Standard silica layers for TLC



Glass plates



ALUGRAM® Xtra aluminum sheets  
ALUGRAM® aluminum sheets



POLYGRAM® polyester sheets

Standard filter papers for qualitative analysis are manufactured from the same raw materials as the ashless grades and are particularly suited for general laboratory filtrations. The average ash content is about 0.1%, the amount of a cellulose is about 95%.

## ADAMANT - unmodified standard silica layers

### ADAMANT unmodified standard silica layers

#### Key features

- Outstanding hardness and abrasion resistance due to an optimized binder system
- Increased separation efficiency due to an optimized particle size distribution
- High suitability for trace analysis resulting from a UV indicator with increased brilliance and a low noise background of the layer

#### Technical characteristics

- Silica 60, mean pore size 60 Å, specific surface (BET) ~ 500 m<sup>2</sup>/g, specific pore volume 0.75 mL/g, particle size 5–17 µm

TLC glass plates, silica gel layer, ADAMANT, Layer thickness: 250 µm, TLC glass plates in different plate sizes for many different applications. The ADAMANT is the hardest TLC ready-to-use layer from MACHEREY-NAGEL. Unmodified silica gel (SiOH) with an extra binder system for outstanding abrasion resistance. Available as glass plates with or without fluorescent indicator.

| Cat NO.                    | Type                             | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|----------------------------|----------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">821010.200</a> | Glass plate Silica gel 60G       | 5 x 10      | 200       | 38220090 | 12% | 49090     |
| <a href="#">821050</a>     | Glass plate Silica gel 60G       | 10 x 10     | 25        | 38220090 | 12% | 12590     |
| <a href="#">821060</a>     | Glass plate Silica gel 60G       | 20 x 20     | 25        | 38220090 | 12% | 29590     |
| <a href="#">821020</a>     | Glass plate Silica gel 60G UV254 | 10 x 10     | 25        | 38220090 | 12% | 12590     |

| Cat NO. | Type                             | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|---------|----------------------------------|-------------|-----------|----------|-----|-----------|
| 821030  | Glass plate Silica gel 60G UV254 | 20 x 20     | 25        | 38220090 | 12% | 29590     |

## ALUGRAM Xtra SIL G - unmodified standard silica layers on aluminium

### ALUGRAM® Xtra SIL G Ax unmodified standard silica layers on aluminum

#### ★ Key features

- Outstanding wettability for precise colorization results, even with 100 % aqueous detection reagents
- Excellent separation efficiency and reproducibility from lot to lot
- Easy and reliable cutting due to an optimized binder system, no flaking of silica

#### Technical characteristics

- Silica 60, mean pore size 60 Å, specific surface (BET) ~ 500 m<sup>2</sup>/g, specific pore volume 0.75 mL/g, particle size 5–17 µm
- Binder: highly polymeric product, which is stable in almost all organic solvents and resistant towards aggressive visualization reagents, also completely stable in purely aqueous eluents

Silica 60, mean pore size 60 Å, specific pore volume 0.75 mL/g, particle size 5–17 µm Indicator: manganese activated zinc silicate with green fluorescence for short-wave UV (254 nm); special inorganic fluorescent pigment with blue fluorescence for long-wave UV (366 nm) Binder: highly polymeric product, which is stable in almost all organic solvents and resistant towards aggressive visualization reagents; binder system for ALUGRAM® Xtra is also completely stable in purely aqueous eluents.

| Cat NO.   | Type                            | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|-----------|---------------------------------|-------------|-----------|----------|-----|-----------|
| 818230.20 | ALUGRAM Xtra-Sheets SIL G       | 5 x 7.5     | 20        | 38220090 | 12% | 4790      |
| 818261    | ALUGRAM Xtra-Sheets SIL G       | 5 x 10      | 50        | 38220090 | 12% | 10890     |
| 818233    | ALUGRAM Xtra-Sheets SIL G       | 20 x 20     | 25        | 38220090 | 12% | 9790      |
| 818329    | ALUGRAM Xtra-Sheets SIL G/UV254 | 2.5 x 7.5   | 100       | 38220090 | 12% | 23390     |
| 818331    | ALUGRAM Xtra-Sheets SIL G/UV254 | 4 x 8       | 50        | 38220090 | 12% | 7190      |
| 818330.20 | ALUGRAM Xtra-Sheets SIL G/UV254 | 5 x 7.5     | 200       | 38220090 | 12% | 4790      |
| 818360    | ALUGRAM Xtra-Sheets SIL G/UV254 | 5 x 10      | 100       | 38220090 | 12% | 10890     |
| 818362    | ALUGRAM Xtra-Sheets SIL G/UV254 | 10 x 20     | 50        | 38220090 | 12% | 12690     |
| 818333    | ALUGRAM Xtra-Sheets SIL G/UV254 | 20 x 20     | 25        | 38220090 | 12% | 6655      |

## SIL G - unmodified standard silica layers

SIL G G P A unmodified standard silica layers

### Technical characteristics

- Silica 60, mean pore size 60 Å, specific surface (BET) ~ 500 m<sup>2</sup>/g, specific pore volume 0.75 mL/g, particle size 5–17 µm
- Thickness of layer for analytical plates 0.25 mm, for preparative plates 0.5 and 1 mm; for 2 mm preparative layers a slightly coarser material is used

- Indicators: manganese activated zinc silicate with green fluorescence for short-wave UV (254 nm); special inorganic fluorescent pigment with blue fluorescence for long-wave UV (366 nm)
- Binders: highly polymeric products, which are stable in almost all organic solvents and resistant towards aggressive visualization reagents; binder system for POLYGRAM® sheets is also completely stable in purely aqueous eluents

TLC polyester sheets, silica gel layer, POLYGRAM SIL G, (SiOH).

| Cat NO.                    | Type  | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|----------------------------|---|-------------|-----------|----------|-----|-----------|
| <a href="#">809017</a>     | TLC glass plates SIL G, 250 µm                  | 5 x 10      | 50        | 38220090 | 12% | 22590     |
| <a href="#">809012</a>     | TLC glass plates SIL G, 250 µm                  | 10 x 20     | 50        | 38220090 | 12% | 33190     |
| <a href="#">809013</a>     | TLC glass plates SIL G, 250 µm                  | 20 x 20     | 25        | 38220090 | 12% | 29590     |
| <a href="#">809027</a>     | TLC precoated plates SIL G-25 UV254 250µm       | 5 x 10      | 50        | 38220090 | 12% | 22590     |
| <a href="#">809027.200</a> | TLC precoated plates SIL G-25 UV254 250µm       | 5 x 10      | 200       | 38220090 | 12% | 49090     |
| <a href="#">809020</a>     | TLC precoated plates SIL G-25 UV254 250µm       | 10 x 10     | 25        | 38220090 | 12% | 12590     |
| <a href="#">809022</a>     | TLC precoated plates SIL G-25 UV254 250µm       | 10 x 20     | 50        | 38220090 | 12% | 33190     |
| <a href="#">809023</a>     | TLC precoated plates SIL G-25 UV254 250µm       | 20 x 20     | 25        | 38220090 | 12% | 29590     |
| <a href="#">809123</a>     | TLC precoated plates SIL G-25 UV 254+366, 250µm | 20 x 20     | 25        | 38220090 | 12% | 27790     |
| <a href="#">809053</a>     | TLC precoated plates SIL G-50 UV254, 500µm      | 20 x 20     | 20        | 38220090 | 12% | 38890     |

| Cat NO.                | Type                                  | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|---------------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">809063</a> | TLC glass plates SIL G UV254, 1000µm  | 20 x 20     | 15        | 38220090 | 12% | 40690     |
| <a href="#">809083</a> | TLC glass plates SIL G UV254, 2000 µm | 20 x 20     | 12        | 38220090 | 12% | 43990     |
| <a href="#">805013</a> | POLYGRAM sheets SIL G, 200 µm         | 20 x 20     | 25        | 38220090 | 12% | 23190     |
| <a href="#">805023</a> | POLYGRAM sheets SIL G/UV254, 200µm    | 20 x 20     | 25        | 38220090 | 12% | 23190     |
| <a href="#">818033</a> | ALUGRAM sheets SIL G, 200µm           | 20 x 20     | 25        | 38220090 | 12% | 23190     |
| <a href="#">818131</a> | ALUGRAM sheets SIL G/UV254, 200µm     | 4 x 8       | 50        | 38220090 | 12% | 7190      |
| <a href="#">818133</a> | ALUGRAM sheets SIL G/UV254, 200µm     | 20 x 20     | 25        | 38220090 | 12% | 23190     |
| <a href="#">818162</a> | ALUGRAM-Sheets SIL G/UV254, 200µm     | 10 x 20     | 20        | 38220090 | 12% | 12690     |

## Alox aluminum oxide layers

| Alox  aluminum oxide layers |                                     |             |           |                            |                         |       |
|--|-------------------------------------|-------------|-----------|----------------------------|-------------------------|-------|
| Cat NO.  | Type                                | Diameter MM | Pack size | Alox aluminum oxide layers |                         |       |
|  |                                     |             |           | Technical characteristics  | Recommended application | Notes |
| <a href="#">802021</a>   | POLYGRAM sheets ALOX N/UV254        | 4 x 8       | 50        | 38220090                   | 12%                     | 7890  |
| <a href="#">802022</a>   | POLYGRAM sheets ALOX N/UV254        | 5 x 20      | 50        | 38220090                   | 12%                     | 16090 |
| <a href="#">807021</a>   | TLC precoated plates ALOX-25 UV 254 | 5 x 20      | 100       | 38220090                   | 12%                     | 36690 |
| <a href="#">807023</a>   | TLC precoated plates ALOX-25 UV 254 | 20 x 20     | 25        | 38220090                   | 12%                     | 27190 |
| <a href="#">818023</a>   | ALUGRAM-sheets ALOX N/UV 254        | 20 x 20     | 25        | 38220090                   | 12%                     | 24090 |
| <a href="#">818024</a>   | ALUGRAM sheets ALOX N/UV 254        | 5 x 20      | 50        | 38220090                   | 12%                     | 16090 |

## Cellulose MN 300 native fibrous cellulose layers

### Cellulose MN 300 native fibrous cellulose layers

#### Technical characteristics

- Fiber length (95 %) 2–20 µm, average degree of polymerization 400–500, specific surface acc. to Blaine 15 000 cm<sup>2</sup>/g, ≤ 20 ppm Fe, 6 ppm Cu, 7 ppm P; CH<sub>2</sub>Cl<sub>2</sub>- extract ≤ 0.25 %; residue on ignition at 850 °C ≤ 1500 ppm

#### Recommended application

- Partition chromatography of polar substances such as amino acids, carboxylic acids or carbohydrates

TLC polyester sheets, cellulose layer, POLYGRAM CEL 300, TLC polyester sheets with native fibrous cellulose.

| Cat NO.                | Type                                   | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|--|-------------|-----------|----------|-----|-----------|
| <a href="#">801013</a> | POLYGRAM sheets CEL 300                | 20 x 20     | 25        | 38220090 | 12% | 26090     |
| <a href="#">808013</a> | TLC precoated plates CEL 300-10        | 20 x 20     | 25        | 38220090 | 12% | 30090     |
| <a href="#">808023</a> | TLC precoated plates CEL 300-10 UV 254 | 20 x 20     | 25        | 38220090 | 12% | 30090     |
| <a href="#">808043</a> | TLC precoated plates CEL 300-25 UV 254 | 20 x 20     | 25        | 38220090 | 12% | 50290     |
| <a href="#">808053</a> | TLC precoated plates CEL 300-50        | 20 x 20     | 25        | 38220090 | 12% | 50290     |
| <a href="#">818153</a> | ALUGRAM sheets CEL 300                 | 20 x 20     | 25        | 38220090 | 12% | 26090     |
| <a href="#">818155</a> | ALUGRAM sheets CEL 300                 | 4 x 8       | 50        | 38220090 | 12% | 7690      |
| <a href="#">818156</a> | ALUGRAM sheets CEL 300/UV 254          | 20 x 20     | 25        | 38220090 | 12% | 26090     |

## Cellulose MN 300 PEI PEI-impregnated cellulose ion exchange layers

### Cellulose MN 300 PEI PEI-impregnated cellulose ion exchange layers

#### Technical characteristics

- Fibrous cellulose impregnated with polyethyleneimine

#### Recommended application

- Analysis of nucleic acids, and of mutagenic substances with the <sup>32</sup>P postlabelling procedure

TLC polyester sheets with fibrous cellulose impregnated with polyethyleneimine (PEI).

| Cat NO.                | Type                              | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|-----------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">801063</a> | POLYGRAM sheets CEL 300 PEI/UV254 | 20 x 20     | 25        | 38220090 | 12% | 32290     |



## **Cellulose MN 301 native fibrous cellulose**

### **Cellulose MN 301 native fibrous cellulose**

- Standard grade, fiber length (95 %) 2–20 µm
- Average degree of polymerization 400–500, specific surface acc. to Blaine 15 000 cm<sup>2</sup>/g

- ≤ 20 ppm Fe, 6 ppm Cu, 7 ppm P, CH<sub>2</sub>Cl<sub>2</sub> extract ≤ 0.25 %, residue on ignition at 850 °C ≤ 1500 ppm

TLC adsorbents for self-coating of glass plates or foils used in thin layer chromatography.

| Cat NO.  | Type                    | Diameter MM           | Pack size | HS code  | GST | Price (₹) |
|----------|-------------------------|-----------------------|-----------|----------|-----|-----------|
| 816250.1 | Cellulose powder MN 301 | Particle size 2–20 µm | 1 Kg      | 39129090 | 12% | 20690     |

## **Cellulose MN 400 (AVICEL®) microcrystalline cellulose layers**

### **Cellulose MN 400 (AVICEL®) G P microcrystalline cellulose layers**

#### Technical characteristics

- Prepared by hydrolysis of high purity cellulose with HCl, average degree of polymerization 40–200

#### Recommended application

- Carboxylic acids, lower alcohols, urea and purine derivatives

Cellulose MN 400 (AVICEL®) are microcrystalline cellulose layers for TLC. Prepared by hydrolysis of high purity cellulose with HCl; mean degree of polymerization 40–200. Available as glass plates and POLYGRAM polyester sheets.

| Cat NO. | Type                            | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|---------|---------------------------------|-------------|-----------|----------|-----|-----------|
| 808072  | TLC precoated plates CEL 400-10 | 10x20       | 50        | 38220090 | 12% | 41790     |

## CHIRALPLATE special layer enantiomer separation

### CHIRALPLATE G special layer enantiomer separation

#### Technical characteristics

- Reversed phase nano silica impregnated with Cu<sup>2+</sup> ions and a chiral selector (proline derivative)
- Separation based on ligand exchange, i.e. formation of ternary mixed-ligand complexes with the Cu(II) ions, differences in the stability of the diastereomeric complexes cause chromatographic separation

#### Recommended application

- Enantiomer separation of amino acids, N-methylamino acids, N-formylamino acids,  $\alpha$ -alkylamino acids, thiazolidine derivatives, dipeptides, lactones,  $\alpha$ -hydroxycarboxylic acids

CHIRALPLATE - Special layer for TLC enantiomer separation. Separation based on ligand exchange, i. e. formation of ternary mixed-ligand complexes with Cu(II) ions. Differences in the stability of the diastereomeric complexes cause chromatographic separation. Available as glass plates with fluorescent indicator. A review on the application of CHIRALPLATE has been given by K. Günther [J. Chromatogr. 448 (1988) 11–30].

| Cat NO.                | Type                                | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|-------------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">811056</a> | TLC precoated plates<br>CHIRALPLATE | 10x20       | 4         | 38220090 | 12% | 16290     |

## DURASIL unmodified standard silica layers

### DURASIL G unmodified standard silica layers

#### Technical characteristics

- Silica 60, mean pore size 60 Å, specific surface (BET)  
~ 500 m<sup>2</sup>/g, specific pore volume 0.75 mL/g, particle size 5–17  $\mu$ m
- Hard, water-resistant and wettable layers due to a special binder system

TLC glass plates in different plate sizes for many different applications. Coated with unmodified silica gel (SiOH). Hard layer that shows other results than SIL G, ADAMANT or SIL HD layers. It is often used for TCM applications.

| Cat NO.                | Type                               | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|------------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">812003</a> | TLC precoated plates<br>DURASIL-25 | 10 x 20     | 50        | 38220090 | 12% | 33190     |

## Mixed layers for TLC

### Mixed layers for TLC

Alox/CEL-AC-Mix-25:

- Mixed layer of aluminum oxide G and acetylated cellulose, recommended for separation of PAH

SILCEL-Mix-25:

- Mixed layer of cellulose and silica, recommended for separation of preservatives and other antimicrobial compounds

TLC glass plates in different plate sizes for many different applications. SILCEL-Mix is a mixed layer of cellulose and silica gel.

| Cat NO.                | Type  | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|---|-------------|-----------|----------|-----|-----------|
| <a href="#">810043</a> | TLC precoated plates<br>SILCEL-Mix-25 UV<br>254 | 20 x 20     | 25        | 38220090 | 12% | 43390     |

## Polyamid-6 $\epsilon$ -polycaprolactame layers

### Polyamid-6 $\epsilon$ -polycaprolactame layers

#### Technical characteristics

- Polyamide 6 = nylon 6 = perlon =  $\epsilon$ -aminopolycaprolactame
- Separation mechanism based on hydrogen bonds to amide groups of the polymer matrix as well as on ionic, dipole and electron donor-acceptor interactions

#### Recommended application

- Natural compounds, phenols, carboxylic acids, aromatic nitro compounds and especially amino acids

TLC polyester sheets with polyamide 6 (PA6,  $\epsilon$ -polycaprolactame).

| Cat NO.                | Type                                    | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|---|-------------|-----------|----------|-----|-----------|
| <a href="#">803023</a> | POLYGRAM sheets<br>POLYAMIDE-6<br>UV254 | 20 x 20     | 25        | 38220090 | 12% | 36090     |

# RP-18 W/UV254 octadecyl-modified HPTLC silica layers

RP-18 W/UV<sub>254</sub>  octadecyl-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, particle size 2–10 µm, for preparative plates (1 mm thickness of layer) standard silica 60, pH stability 2–10, particle size 5–17 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

- Partial octadecyl (C<sub>18</sub>) modification, wettable with water, carbon content 14 %
- 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 with eluents from anhydrous solvents to mixtures with high concentrations of water (see table and figure on previous page), relative polarity of the eluent determines the polarity of the layer
- Aminophenols, barbiturates, preservatives, nucleobases, polycyclic aromatic hydrocarbons, steroids, tetracyclines, plasticizers (phthalates)

HPTLC aluminum sheets with octadecyl (C18, ODS, RP18) modified silica gel. RP-18 W is wettable with water.

| Cat NO.                | Type                                      | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|---|-------------|-----------|----------|-----|-----------|
| <a href="#">818144</a> | ALUGRAM sheets<br>RP-18 W/UV254           | 4 x 8       | 50        | 38220090 | 12% | 20790     |
| <a href="#">818145</a> | ALUGRAM sheets<br>RP-18 W/UV254           | 5x10        | 50        | 38220090 | 12% | 45790     |
| <a href="#">818146</a> | ALUGRAM sheets<br>RP-18 W/UV254           | 20x20       | 25        | 38220090 | 12% | 60690     |
| <a href="#">818152</a> | ALUGRAM sheets<br>RP-18 W/UV254           | 5x10        | 50        | 38220090 | 12% | 24790     |
| <a href="#">811071</a> | TLC/HPTLC<br>precoated plates RP-<br>18 W | 20 x 20     | 25        | 38220090 | 12% | 79290     |
| <a href="#">811072</a> | TLC/HPTLC<br>precoated plates RP-<br>18 W | 10 x 20     | 50        | 38220090 | 12% | 101190    |

## SIL G-25 HR special layer for alatoxin separation

### SIL G-25 HR special layer for aflatoxin separation

#### Technical characteristics

- High purity silica 60 with gypsum and a very small quantity of a polymeric organic binder; softer than the standard silica layer, i.e. spots can be scratched and the layer absorbs faster

#### Recommended application

- Aflatoxins

TLC glass plates in different plate sizes for many different applications, coated with unmodified high purity silica gel (SiOH).

| Cat NO.                | Type                                       | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|--|-------------|-----------|----------|-----|-----------|
| <a href="#">809033</a> | TLC precoated plates<br>SIL G-25 HR        | 20 x 20     | 25        | 38220090 | 12% | 33390     |
| <a href="#">809043</a> | TLC precoated plates<br>SIL G-25 HR/UV 254 | 20 x 20     | 25        | 38220090 | 12% | 33390     |

## SIL N-HR unmodified standard silica layers

### SIL N-HR unmodified standard silica layers

#### Technical characteristics

- High purity silica 60, mean pore size 60 Å, specific surface (BET) ~ 500 m<sup>2</sup>/g, specific pore volume 0.75 mL/g, particle size 5–17 µm, different binder system compared to SIL G results in different separation characteristics

- A special feature of the POLYGRAM® SIL N-HR is a higher gypsum content

TLC polyester sheets with unmodified high purity silica gel (SiOH). Higher gypsum content and different binder system compared to SIL G results in different separation characteristics.

| Cat NO.                | Type                              | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|-----------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">804022</a> | POLYGRAM sheets<br>SIL N-HR/UV254 | 5 x 20      | 50        | 38220090 | 12% | 13190     |

# TLC / HPTLC plates and sheets

## Nano-ADAMANT G unmodified HPTLC silica layers

### ★ Key features

- Outstanding hardness and abrasion resistance due to an optimized binder system
- Increased separation efficiency due to an optimized particle size distribution
- High suitability for trace analyses resulting from a UV indicator with increased brilliance and a lownoise background of the layer

### ⚡ 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, particle size 2–10 µm

Use our TLC and HPTLC glass plates, aluminum and polyester sheets for your rapid and inexpensive thin layer chromatography methods. We offer various reliable coatings for normal phase and reversed phase. We also gladly offer you samples to test the right product for your applications in advance.

## Nano-ADAMANT unmodified HPTLC silica layers

## Nano-ADAMANT G unmodified HPTLC silica layers

### ★ Key features

- Outstanding hardness and abrasion resistance due to an optimized binder system
- Increased separation efficiency due to an optimized particle size distribution
- High suitability for trace analyses resulting from a UV indicator with increased brilliance and a lownoise background of the layer

### ⚡ 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, particle size 2–10 µm

| Cat NO.                | Type                                | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|-------------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">821140</a> | Nano-ADAMANT HPTLC precoated plates | 10 x 10     | 25        | 38220090 | 12% | 30090     |

## Nano-SIL unmodified HPTLC silica layers

Nano-SIL    unmodified 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, particle size 2–10 µm
- Indicator: manganese activated zinc silicate with green fluorescence for short-wave UV (254 nm)
- Binder: highly polymeric product, which is stable in almost all organic solvents and resistant towards aggressive visualization reagents

HPTLC glass plates in different plate sizes for many different applications, unmodified silica gel (SiOH).

| Cat NO.                | Type                                   | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|--|-------------|-----------|----------|-----|-----------|
| <a href="#">811011</a> | TLC/HPTLC precoated plates Nano-SIL-20 | 5 x 5       | 100       | 38220090 | 12% | 39390     |
| <a href="#">818240</a> | ALUGRAM Xtra sheets Nano-SIL G         | 5 x 20      | 25        | 38220090 | 12% | 25190     |
| <a href="#">818241</a> | ALUGRAM Xtra sheets Nano-SIL G         | 20 x 20     | 25        | 38220090 | 12% | 42890     |
| <a href="#">818343</a> | ALUGRAM Xtra sheets Nano-SIL G/UV254   | 20 x 20     | 25        | 38220090 | 12% | 42890     |

## Nano-SILGUR unmodified HPTLC silica layers with concentrating zone

Nano-SILGUR   unmodified HPTLC silica layers with concentrating zone

### Technical characteristics

- Nano silica 60, pore size 60 Å, specific surface (BET) ~ 500 m<sup>2</sup>/g, mean specific pore volume 0.75 mL/g, particle size 2–10 µm
- Kieselguhr zone for rapid sample application (see page 278)

HPTLC aluminum sheets with unmodified silica gel (SiOH) and concentrating zone (kieselguhr, diatomaceous earth or diatomite).

| Cat NO.                | Type                                  | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|---------------------------------------|-------------|-----------|----------|-----|-----------|
| <a href="#">818442</a> | ALUGRAM Xtra sheets Nano-SILGUR UV254 | 10 x 10     | 25        | 38220090 | 12% | 37590     |

# Nano-SIL C18, octadecyl-modified HPTLC silica layers

## Nano-SIL C18 octadecyl-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 2–10, 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

- Partial (50 %) or complete (100 %) octadecyl modification, carbon content 7.5 and 14 %, respectively
- Order of polarity:  
silica > DIOL > NH<sub>2</sub> > CN > RP-2 > C18-50 > RP-18 W > C18-100

### Recommended application

- Reversed phase separation mode with eluents from anhydrous solvents to mixtures with high concentrations of water (see table and figure below)
- Alkaloids, amino acids, preservatives, optical brighteners, barbiturates, polycyclic aromatic hydrocarbons (PAH), drugs, peptides, flavonoids, phenols, indole derivatives, steroids

HPTLC glass plates in different plate sizes for many different applications. Silica gel with octadecyl (C18, ODS, RP18) modification. Carbon content: approx. 14 %.

| Cat NO.                | Type   | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|--|-------------|-----------|----------|-----|-----------|
| <a href="#">811062</a> | HPTLC/TLC precoated plates Nano-SIL C18-100 UV 254 | 10 x 10     | 25        | 38220090 | 12% | 61090     |
| <a href="#">811064</a> | HPTLC/TLC precoated plates Nano-SIL C18-50 UV 254  | 10 x 10     | 25        | 38220090 | 12% | 61090     |

# Modified silica layers



## RP-2/UV254 "silanized silica" = dimethyl-modified standard silica layers

RP-2/UV<sub>254</sub> G A "silanized silica" = dimethyl-modified standard silica layers

### Technical characteristics

- 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 2–10, particle size 5–17 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

- Silanized silica with dimethyl modification, carbon content 4 %
- Order of polarity:  
silica > DIOL > NH<sub>2</sub> > CN > RP-2 > C18-50 > RP-18 W > C18-100

### Recommended application

- Normal phase or reversed phase separation modes with purely organic, organic - aqueous or purely aqueous eluents
- Active plant constituents, steroids

TLC glass plates, modified silica gel layer, RP-2 UV254, HPTLC glass plates in different plate sizes for many different applications. RP-2 ("silanized silica") = silica gel with dimethyl (RP2, C2) modification.

| Cat NO.                | Type   | Diameter MM | Pack size | HS code  | GST | Price (₹) |
|------------------------|--|-------------|-----------|----------|-----|-----------|
| <a href="#">811081</a> | TLC precoated plates<br>RP-2 UV254<br>(silanized silica gel) | 10 x 20     | 50        | 38220090 | 12% | 63990     |
| <a href="#">811082</a> | TLC precoated plates<br>RP-2 UV254<br>(silanized silica gel) | 20 x 20     | 25        | 38220090 | 12% | 47390     |
| <a href="#">818171</a> | ALUGRAM sheets<br>RP-2/UV254                                 | 20 x 20     | 25        | 38220090 | 12% | 44490     |