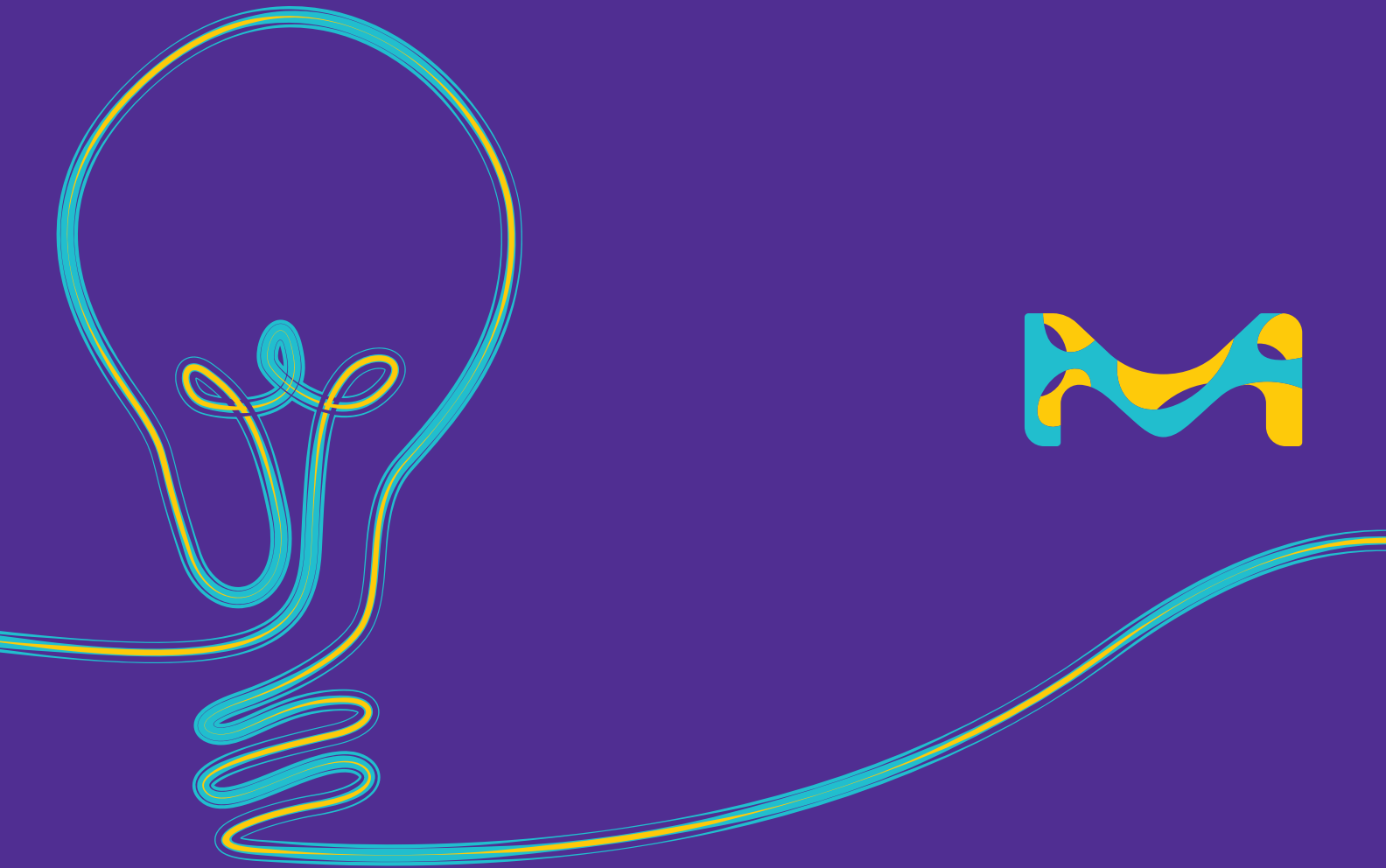


MERCK

connected by innovation



The life science business of Merck
operates as MilliporeSigma in the
U.S. and Canada.

 **vwr**[™]
part of avantor

order on
VWR.COM

Merck has brought together the world's leading Life Science brands, so whatever your life science problem, you can benefit from our expert products and services.

Supelco®

Analytical Products

The Supelco® portfolio of analytical solutions of Merck is developed by analytical chemists for analytical chemists to ensure your results are accurate, precise and reproducible. Every product is meticulously quality-controlled to maintain the integrity of your testing protocols and, with our dedicated scientists, the expertise you need is always on hand.

Millipore®

Preparation, Separation,
Filtration & Monitoring Products

The Millipore® portfolio of Merck offers an ecosystem of industry-leading products and services, spanning preparation, separation, filtration and monitoring – all of which are deeply rooted in quality, reliability and timetested processes. Our proven products, regulatory and application expertise are a strong foundation you can rely on to consistently perform at the highest level.

Sigma-Aldrich®

Lab & Production Materials

The Sigma-Aldrich® portfolio of Merck offers a strong and ever-expanding offering of lab and production materials. Through our technical support and scientific partnerships, we help connect our customers with a whole world of progress.

Milli-Q®

Lab Water Solutions

The Milli-Q® portfolio of lab water solutions from Merck takes care of all your water quality and purity needs. Our solutions are backed by consistent quality and full compliance, and work seamlessly together to let you focus on your vital work.

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Supelco® analytical products.

Exquisite accuracy. Every time.

See how Supelco® analytical products can provide the assurance your work requires.

Titration goes digital - Connect Your Titrator to SmartChemicals

Just a simple touch transfers all data in seconds

Safe and precise titration results will be achieved with a new technology of transferring the data automatically from the reagents and standards to the titrator software.



Copying data from certificates of analysis is slow and creates chances for errors. SmartChemicals eliminate time consuming steps and human errors by transferring all data wireless and instantly to the titrator software. Volumetric Solutions, Karl Fischer Titrants and all standards are embedded with an RFID (Radio Frequency Identification) tag. All relevant data from the Certificate of Analysis are stored on the RFID tag of the SmartChemical.

Your benefits:

Secure data transfer – ensures complete and correct reagent & standard data in the titration software

Ease of use – intuitive operation and convenient data transfer in one touch

Extended quality management – titer determination, shelf life, compliance data, initial opening date

Improved efficiency – fast data transfer - saves time - no manual writing and no four-eyes principle necessary

Spectroquant® Spectrophotometers and Test Kits

Just Insert, Prove and Proceed

The new spectrophotometers from Merck are designed to simplify your workflow and ensure reliable results for your water analysis. In combination with the Spectroquant® Test Kits you can leverage the full potential of the instruments and get reliable results in your process water or waste water analysis.

Your benefits:

Reliability: High accuracy

Transparency: Following the requirement of the DIN EN ISO / IEC 17025 accreditation

Easy to use: Convenient packaging

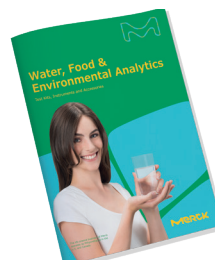
Documentation: Certificate according to the ISO Guide 31 guideline for reference materials

Precision: High batch to batch consistency



Further products are available depending on your needs.

Please contact your local VWR organization for more information or have a look at our brochures or at the VWR web site:



Water, Food & Environmental Analytics (CA1240ENEU)



Smart Chemical Flyer (MK_FL3704EN)

Supelco®
Analytical Products

LiChrosolv® Solvents

NEW High-purity UHPLC-MS LiChrosolv® solvents for rapid and reliable results.

For your highly sensitive UHPLC-MS analyses, how can you reduce noise and additional signals to a minimum? Our new high-end UHPLC-MS solvents raise the standard for low baseline noise and clean mass spectra. Our new range of advanced UHPLC-MS LiChrosolv® solvents have been developed to exceed all expectations, providing rapid and reliable results in both ESI/APCI positive and negative ionization modes.

Your benefits:

- Tested and specified for UHPLC-MS (ESI & APCI) and UHPLC-UV: for analytical flexibility
- Lowest impurity profile (incl. PEG!): for interference-free baselines and minimized adduct formation and increased sensitivity & confidence
- Microfiltration through 0.2 µm filter – prolonged lifetime of filters and mechanical parts in HPLC



Ascentis® Express UHPLC and HPLC Columns

Designed to Deliver Speed and Resolution

The Fused-Core® technology behind our Ascentis® Express columns delivers maximum speed and efficiency on both UHPLC and HPLC systems. Fused-Core® particles provide a much shorter diffusion path compared to totally porous particles, minimizing peak broadening. This results in very high efficiencies, which are typically 40% higher in comparison to fully porous particles of the same size. Ascentis® Express columns are available with 2, 2.7 and 5µm particles and with a very broad range of column chemistries.

Your benefits:

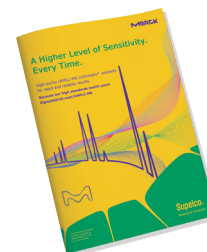
- Maximize speed with sharp peaks and outstanding separation efficiency
- 3 different particle sizes 2.0, 2.7, and 5.0 µm for UHPLC, HPLC and LC/MS use
- Very broad range of column chemistries for best selectivity
- 40% higher separation efficiency in comparison to fully porous particles of the same size

Further products are available depending on your needs.

Please contact your local VWR organization for more information or have a look at our brochures:



What If The Unseen Were Seen?
Let's Create Accuracy In Forensic Testing. Together. (MK_BR2472EN)



A Higher Level of Sensitivity. Every Time.
(MK_FL2705EN)

BIOshell™ UHPLC and HPLC Columns

Maximum Resolution for Biomolecules

BIOshell™ UHPLC and HPLC columns deliver maximum speed and efficiency for the separation of biomolecules on both UHPLC and HPLC systems. The Fused-Core® superficially porous silica particles (SPP) with pore sizes from 90 Å up to 1000 Å allows superior separation of glycans as well as very large proteins. In particular, a pore size of 1000 Å shows very clear advantages over common 300 Å pores for the separation of very large proteins in biotherapeutic drug development such as monoclonal antibodies (mAbs) or proteins with molecular weights greater than 100 kDa.

Your benefits:

- Fast and efficient separation of biomolecules
- Advanced Fused-Core Technology
- 4 different particle sizes for HPLC and UHPLC use
- Pore sizes from 90 Å up to 1000 Å allows superior separation of glycans as well as very large proteins



Further products are available depending on your needs.

Please contact your local VWR organization for more information or have a look at our brochures:



BIOshell™ Fused-Core™ Columns
Faster Separation of Proteins,
Peptides, and Glycans
(PB1283ENEU)



Columns Selection Guide
iPDF (MK_PG3274EN)

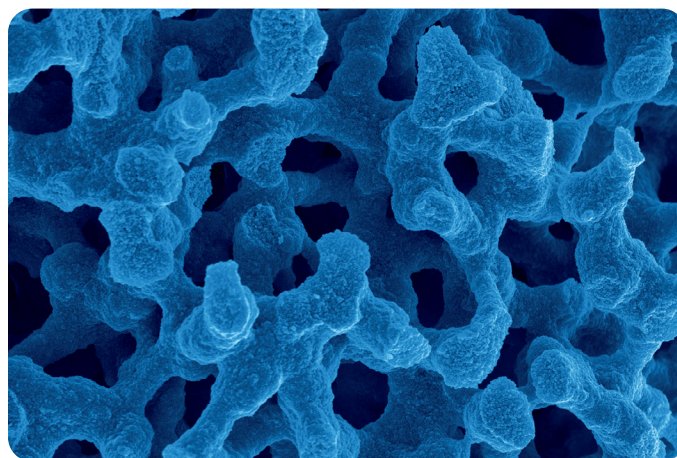
Chromolith® WidePore 300 HPLC Columns

Analytical Chromolith® columns for Bio applications, 300Å mesopores: RP-18, RP-8, RP-4, Prot-A, Epoxy

Most important for the HPLC analysis are the properties of the column. For bigger peptides, like proteins or antibodies a new type of columns is needed which provide a good permeability, better mass transfer and a better selectivity. As the rule of thumb it is widely accepted, that in order for the separated molecules not to be influenced by size exclusion process the pore should be at least 10 times bigger than the molecule. Therefore about 100 kDa molecule would require around 300 Å pores. Chromolith® columns have already shown great potential and superiority compared to standard silica particles. Wide pore (300 Å) monolithic silica columns are made of a single continuous rod of high purity porous silica that is then bonded with C18, C8, C4 or Protein A. Monolithic columns remove backpressure as the primary consideration in method development and give back the flexibility of choices in flow rates for much higher throughput, column lengths for superior resolution, and solvent choices for optimum selectivities.

Your benefits:

- Completely bioinert column hardware
- High biorecovery
- Selectivity for a range of biomolecules
- Very low column backpressure
- High-speed separation possible
- Longer column lifetime
- High resistance to column blockage
- Cost savings from higher sample throughput and column durability
- Possibility to use flow gradients



A Millipore® Mind knows excellence isn't a coincidence

See how your world inspires our thinking.



MAS 100 NT® with Filter

The MAS-100 NT® portable microbial air samplers are the leading instruments for use in critical environments. Now equipped with a H 13 particle filter at the air outlet, contamination of class A cleanrooms is reduced to a minimum. These compact yet sophisticated devices are the preferred choice for those demanding the highest quality in microbial air monitoring.

Your benefits:

- Very easy to handle
- Build in H13 Particle filter
- Hardware and software developed according to GAMP 4
- A flow sensor is used to measure and ensures a flow of 100 SLPM +/- 2.5%
- Validated according to the EN ISO 14698 Part 1 annex B

Millipore®

Preparation, Separation,
Filtration & Monitoring Products

HY-Lite® 2A system

The HY-LITE® 2A system provides a rapid and reliable verification method to assess the quality of cleaning processes. It quantitatively detects ATP (adenosine tri-phosphate). Results are available almost immediately, allowing corrective action to be taken immediately where necessary. The HY-LITE® 2A system is compliant with DIN 10124

Your benefits:

- **Fast:** Results are available quickly so that corrective measures can be initiated immediately
- **Versatile:** The HY-LITE® 2A pen test utilizes an integrated dilution step, ensuring consistent reliable results with no adverse effect from residual sanitizer.
- **Mobile:** HY-LITE® 2A instrument, is a battery- operable using standard AA batteries, making it easy to operate is easy to operate and independent of laboratory equipment. The built-in temperature compensation feature accurate results



MVP Icon® system

Setting a new standard

The MVP ICON® system pioneers the measurement and recording of key HACCP parameters AND provides new management tools to ensure your program's success. Designed with quality management in mind, the MVP ICON® Dashboard software provides a real-time snapshot of key program metrics that are essential to managing ATP-testing and other monitoring parameters under a Hygiene Monitoring and HACCP program.

Your benefits:

- **Multi-variable platform** allows for monitoring, tracking and management of ATP and other HACCP parameters like Conductivity, Sanitizer Concentration, pH and Temperature.
- **Quick and easy to use:** The MVP ICON features a touch-screen display with full color graphics, making it highly visible and easy to use, even while wearing latex gloves.
- **On-site calibration** for all parameters, including ATP, to ensure on-going accuracy of measurements and fulfill HACCP and GMP requirements



Further products are available depending on your needs

Please contact your local VWR organization for more information or have a look at our brochures:



The Safety Sentinels
(PB1265ENEU)



MVP Icon® System
(MK_BR2370EN)

We'll focus on the water, so you can focus on your work.

Whether you're rewriting the textbooks, striving for analytical perfection or protecting the vulnerable, your work should be your focus, not your lab water.

Milli-Q® IQ Element Purification System

Ultrapure water suitable for the most stringent trace elemental analyses.

Laboratories performing trace analyses need a reliable source of ultrapure water with consistently low elemental concentrations. When combined with a Milli-Q® IQ 7000 or a Milli-Q® IQ 7003/05/10/15 water purification system, the Milli-Q® IQ Element purification and dispensing unit delivers analytical-grade ultrapure water that is suitable for trace and ultra-trace elemental analyses, including ICP-MS, GF-AAS and trace IC.

Your benefits:

- **Easy to Integrate:** Designed for seamless, contaminant-free installation in your cleanroom environment or laminar flow hood.
- **Easy to Use:** A touchscreen lets you continuously view essential quality parameters.
- **Easy to Avoid Contamination:** There's no need to touch the unit while working
- **Easy to Maintain:** All purification cartridges have been designed to be effortlessly replaced.
- **Easy Data Management:** Never lose track of your water quality. An intuitive data management system lets you monitor, store and rapidly retrieve water quality data in a few clicks



Further products are available depending on your needs

Please contact your local VWR organization for more information or have a look at our brochures:



Milli-Q® IQ 7000 Purification System (PB5475ENEU)



Milli-Q® IQ Element Purification System (MK_BR4224EN)

Milli-Q®

Lab Water Solutions

Helping you unleash the impossible.

Discover how the Sigma-Aldrich® portfolio can support your explorations.

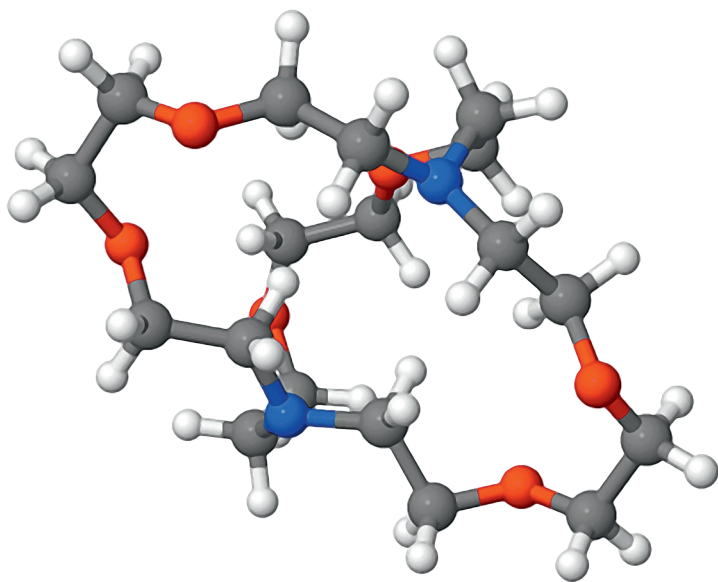
Customized Products

Tailor-Made Chemicals for Organic Synthesis

Select from an extensive portfolio of more than 5,000 building blocks. Specify the parameters and their values you require for your application. Order convenient pre-treatment options such as solving or mixing. And receive the exact amount you need in the most suitable packaging.

Your benefits:

- Reduce costs and waste
- Save time and effort
- Minimize health risks
- Simplify scale-up
- Ensure that your exact requirements are met



The Sigma-Aldrich® portfolio offers high-quality, reliable and consistent lab and production materials.

Tissue Diagnostics Solutions

The complete picture

Discover our newly expanded and even more comprehensive product range for your tissue diagnostics workflow. We are dedicated to covering all your requirements and delivering quality in the fields of Histology, Cytology, Bacteriology and Hematology.

Your benefits:

- Excellent reproducibility: Constant Quality lot by lot and year by year
- Save time and effort: time savings protocols for less work and minimizing errors
- Higher capacity: more stainings per volume

Further products are available depending on your needs

Please contact your local VWR organization for more information or have a look at our brochures:



The color of Life Science
(MK_BR1660EN)



The color Tissue Diagnostics
(MK_BR3861EN)

Sigma-Aldrich®

Lab & Production Materials

Trust our safety expertise

We combine ingenious products and packaging solutions with individual support to keep you safe, simplify your lab work, and help you save resources.

Acids in Safebreak bottles

Now also available in 0.5 Liter and 1 Liter pack size

Glass bottles can break! And it might happen every day in the lab. Good to have a safer alternative: our Safebreak bottle:

- Should breakage occur, the acid and any glass splinters are reliably contained
- Even after frequent opening and closing, the screw cap remains perfectly intact
- The bottle is just as recyclable as a conventional glass bottle
- Now available in various pack sizes:

Your benefits:

- **Safety:** If the glass breaks, the splinters and acid are caught safely by the PE jacket
- **Eco-friendly:** Glass bottle with PE coating
- **Long shelf life:** Offers all the benefits of conventional glass bottles
- **Tightly closed:** Our exclusive S40 closure system
- **Convenience:** Optimum pouring characteristics thanks to the S40 thread
- **Saves money:** The bottle is just as recyclable as a conventional glass bottle



Better safe!

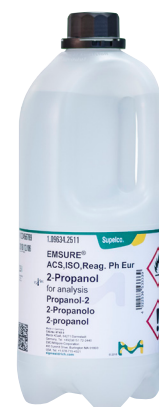
The 2.5 l HDPE bottle for acids, bases and solvents

At Merck, we have been developing the most innovative and practical packaging concepts for many years. And we have the ideal solution to the challenges of packaging solvents, acids and bases: our HDPE (high density polyethylene) bottle.

Developed and used exclusively by Merck, it incorporates safety, environmental protection, and cost savings along the entire process chain.

Your bottle:

- No risk of breakage when handling hazardous or dangerous goods
- Integrated carrier handle for optimal handling
- Optimal center of gravity shift for convenient pouring
- Easy and environment-friendly disposal (no polystyrene outer packaging)
- Base of the bottle redesigned to ensure optimized stability



Supelco[®]
Analytical Products

Further products are available depending on your needs.

Please contact your local VWR organization for more information or have a look at our brochures:



Empower your lab
(PB8647EN00)



Just in case — Acids in
Safebreak bottles
(MK_BR4312EN)



Better safe!
(MK_BR2759EN)

Chemizorb® absorbents

The fast, safe & easy way to clear up chemical spills

Accidents happen in every lab. With Chemizorb®, you can absorb and neutralize aggressive or unpleasant spilled liquids quickly and safely. The fast-acting absorbents consist of porous mineral or synthetic copolymers that are chemically inert, and are capable of absorbing up to 400 percent of their own weight in liquid. The Chemizorb® range offers a choice of absorbents for a variety of spillages

Your benefits:

- Quick take-up of chemicals minimizes risks
- Many different types of Chemizorb® available:
 - The “Allrounders” - Chemizorb® powder and granules
 - The “Specialists” - Chemizorb® for alkalis, acids and hydrofluoric acid
 - The “All-in-one” Chemizorb® Hg kit for mercury
- Secure process monitoring through pH indicators
- High absorption capacity reduces product use and costs



Safe handling

Our broad range of withdrawal systems and accessories includes everything you need to ensure safe and easy handling and contamination-free withdrawal of inorganics and solvents.



Extran® for reliable, residue-free cleaning

The perfect solution for cleaning your laboratory utensils

Extran® products ensure that everything that comes into contact with chemicals or biological substances is free of impurities — before and after use.

Your benefits:

- Reliable, residue-free all-purpose cleaner
- Free from NTA thus safer for lab staff
- Free from scents and dyestuffs
- Free from chlorine or other toxic ingredients
- All active ingredients are biodegradable
- Validation support to prove the absence of surfactants



NEW

Enjoy lab dishwasher cleaning hassle-free and hazard-free with the new Extran® cleaners in 5L canisters: designed to fit almost any lab dishwasher and complemented with additional safety features, e.g. top-label for individual handling documentation.



Further products are available depending on your needs.

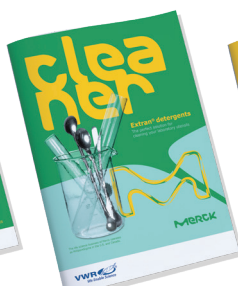
Please contact your local VWR organization for more information or have a look at our brochures:



Fit to clean
New Extran® 5L canisters for lab dishwashers (MK_FL5047EN)



Soak it up
(PB8652EN00)



Cleaner — Extran®
detergents (W.283119)



Safety Inside
(MK_BR3854EN)

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We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

2019-27180
03/2020



For further information, please contact your local VWR organization or have a look at the VWR webpages: vwr.com

