

Laboratory Products

PHARMACEUTICAL MARKET





Uncompromising Performance for the (Bio)Pharmaceutical Market

Avantor™ Performance Materials understands that in today's laboratory market, technical challenges such as increased sensitivity, the need for higher accuracy, and lower detection limits exist. However, the challenges do not stop there. In research, we understand that the goal is no longer purely discovery, but rather efficient and rapid discovery.

By closely working with our pharmaceutical and biopharmaceutical customers as partners, we consistently provide real solutions to their day-to-day challenges, methods, and processes. Our chemistries enable pharmaceutical laboratories to perform better, bringing consistent quality and purity to every application, every test, and every process – with no compromises. That's Uncompromising Performance, and it helps pharmaceutical laboratories build their own reputations for performance and integrity.

Each day, we help our pharmaceutical and biopharmaceutical customers overcome challenges such as:

- Enabling faster discovery
- Finding a true collaboration partner throughout the entire process, from discovery to full scale manufacturing
- Implementing green and sustainability initiatives
- Improving efficiency in the workflow
- Optimizing chemical sourcing

Two Proven Brands



J.T.Baker® brand chemicals are application-optimized and function-tested to maximize instrument performance and excel in the world's most demanding applications.



Macron Fine Chemicals™ brand products provide value through consistent and reliable results, performing to the highest standards each and every time.



Avantor products support pharmaceutical and biopharmaceutical laboratory applications throughout the entire process, starting at research and discovery, excipients and active ingredients through the formulation development and dosage form testing.

- High Purity Solvents and Reagents
- Karl Fisher Reagents
- Trace Metal Analysis Reagents
- Dissolution Media Concentrates
- Sample Preparation (SPE columns)
- Chromatography Media
- Bioreagents
- General Reagents

High Purity Solvents and Reagents

State-of-the-art analytical instrumentation deserves only the highest quality, solvents, acids, buffers, and modifiers. Ensure rapid, reproducible performance and separation from longer-lived columns with application-optimized J.T.Baker® brand and versatile Macron Fine Chemicals™ brand solvents and reagents.

- **UHPLC Solvents & Reagents** — ideal for cutting-edge applications such as proteomics, pharmacokinetics, clinical research and drug discovery as well as general UHPLC applications
 - **LC/MS Solvents & Reagents** — optimized for minimal impurities and interference-free baselines for performance you can rely on
 - **HPLC Solvents & Reagents** — pure HPLC products you can trust to improve your processes and obtain high selectivity, reproducibility, and accuracy of results
 - **Gas Chromatography Solvents & Reagents** — fully characterized and lot-controlled by ECD, FID, or other method-specific detectors to deliver the highest level of purity and lot-to-lot consistency
 - **Gas Chromatography Headspace Solvents** — function tested to ensure optimization for headspace applications, with highest achievable purity and extremely low or negligible levels of residual solvent impurities - certificates of analysis include exactly marked impurities.
 - **Spectrophotometry Solvents** — manufactured to minimize lot-to-lot variability and contaminants that can interfere with UV, and in some cases IR, spectra, including residue after evaporation, and acid and base concentrations
 - **Biopharmaceutical Solvents** — sophisticated reagents proven to expand process control, reduce variables, maximize coupling efficiencies and boost yields
 - **Organic Synthesis Solvents** — anhydrous solvents for organic, organometallic, and oligonucleotide synthesis.
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Grade Recommendation

High Purity Solvents & Reagents	Recommended Grade
UHPLC Solvents & Reagents	J.T.Baker® BAKER ANALYZED™ ULTRA LC/MS
	J.T.Baker® BAKER ANALYZED™ HPLC
LC/MS Solvents & Reagents	J.T.Baker® BAKER ANALYZED™ ULTRA LC/MS
	J.T.Baker® BAKER ANALYZED™ LC/MS
HPLC Solvents & Reagents	J.T.Baker® BAKER ANALYZED HPLC
	Macron Fine Chemicals ChromAR™
Gas Chromatography Solvents & Reagents	J.T.Baker® BAKER ULTRA RESI-ANALYZED™
Gas Chromatography Head Space Solvents	J.T.Baker® BAKER ANALYZED™ GC-HS
Spectrophotometry Solvents	J.T.Baker® PHOTREX™
	Macron Fine Chemicals™ ChromAR™
Biopharmaceutical Solvents	J.T.Baker® BAKER BIO-ANALYZED™
Organic Synthesis Solvents	J.T.Baker® BakerDRY™



For more information about J.T.Baker® and Macron Fine Chemicals™ brand solvents and reagents, see our detailed brochures on our website www.avantormaterials.com.

J.T.Baker® brand high purity solvents are also available in our innovative CYCLE-TAINER™ solvent delivery system, designed to meet the needs of customers who routinely purchase and use high-purity solvents, offering a safer, greener alternative to bottles and one-way drums.

J.T.Baker® CYCLE-TAINER™ solvent delivery system is a proprietary packaging option for high-volume users of solvents and reagents. The CYCLE-TAINER™ is a 100% reusable stainless steel vessel with built-in safety features. It comes pre-filled with J.T.Baker® high-purity solvents and reagents, and the positive-pressure, closed-dispensing system allows for quality in the laboratory and consistency during the scale-up process.



J.T.Baker® brand CYCLE-TAINER™ solvent delivery system sizes

- Customer-dedicated, traceable, returnable container system
- Reduced storage space requirements and waste disposal costs
- Quick-connect set-up for easy installation
- Available in 20, 50, 200, 100 and 1400 liter sizes

Trace Metal Analysis

Purity and consistency are key requirements for all reagent chemicals, but they are especially important with acids. Whether used for trace-metal analysis or for general use aligning the correct acid quality to your application is a must to achieve optimal results. The J.T.Baker® acids product line offers four distinct levels of purity to support analysis in the ppt, ppb or ppm range:

- J.T.BAKER® ULTREX™ II acids for critical elemental analysis with less than 10 parts-per-trillion (ppt) levels of up to 65 elements.
- J.T.BAKER® BAKER INSTRA-ANALYZED™ Plus acids for elemental analysis, tested in the extremely low ppb range for up to 64 metals.
- J.T.BAKER® BAKER INSTRA-ANALYZED™ acids for elemental analysis, tested in the low ppb range for up to 35 metals.
- J.T.BAKER® BAKER ANALYZED™ ACS reagent grade acids that meet or exceed ACS specifications and provide exceptional quality and value.
- J.T.Baker® brand Instrument Calibration and Standards—AAS and ICP analytical standards needed to create calibration curves for quantitative analysis and for standardization of instruments used in a variety of elemental analysis applications

For more information on J.T.Baker® brand trace metal analysis reagents, see our detailed brochures on our website www.avantormaterials.com.

Karl Fisher Reagents

J.T.Baker® brand HYDRA-POINT™ Karl Fischer reagents make water determination easy and trouble-free. Products are formulated to give you consistent and reliable results for all types of samples. HYDRA-POINT™ products reach endpoint quickly, accurately and with excellent reproducibility, allowing you to perform more titrations in less time. HYDRA-POINT™ Karl Fischer reagents are pyridine-free and developed specifically for use in Karl Fischer volumetric and coulometric titrations.

For more information on J.T.Baker® brand Karl Fisher reagents, see our detailed brochures on our website www.avantormaterials.com.

J.T.Baker® brand DILUT-IT™ Dissolution Media Concentrates

J.T.Baker® brand DILUT-IT™ dissolution media concentrates represent a major improvement for laboratory analysts/chemists performing dissolution testing because they eliminate many of the time-consuming steps typically associated with solution preparation. These are pre-measured and only need to be diluted with purified water to create “ready-to-use” dissolution media.

DILUT-IT™ dissolution media concentrates are produced in accordance to USP guidelines and containers are filled to +/- 0.5% of target fill volumes to ensure consistent, reproducible results every time. Reduce average prep time by more than 75%. Just add purified water and begin testing.

For more information on J.T.Baker® DILUT-IT Dissolution Media Concentrates, see our detailed product information on our website www.avantormaterials.com.

Sample Preparation Products

Following market needs for improved purity, detection, and quantification limits in analytical techniques, Avantor offers a variety of J.T.Baker® brand silica- and polymer-based BAKERBOND™ spe columns and high performance BAKERBOND Speedisk™ columns and disks to improve and simplify sample clean-up and concentration.

BAKERBOND™ spe columns are recommended for applications requiring standard performance, while

BAKERBOND Speedisk™ columns are recommended when higher levels of speed and performance are required.

For more information on J.T.Baker® brand solid-phase extraction products, see our detailed product brochure and applications on our website www.avantormaterials.com.



Chromatography Media

In addition to high-performance solvents, Avantor manufactures chromatography media for use in HPLC separations. J.T.Baker® BAKERBOND™ sorbents are synthesized using trifunctional silane chemistry, which results in highly efficient and effective media.

Avantor chromatography sorbents include bonded phases on narrow pore and wide-pore spherical or irregular silica and spherical polymeric media. BAKERBOND™ media are available in pre-packed columns for small and large molecule separations.

BAKERBOND™ spherical silica media exhibits higher mechanical strength than irregular silica and incorporates our proprietary surface chemistry in a variety of particle and pore sizes.

Bioreagents

J.T.Baker® brand ULTRAPURE BIOREAGENTS are high purity reagents produced especially for demanding applications, such as: drug discovery, molecular biology, electrophoresis, and liquid chromatography. The ULTRAPURE BIOREAGENTS product line includes reagents for biopharmaceutical product harvesting and fermentation processes, and a range of minerals to optimize growth environments for cells and ensure consistent results for productive biopharmaceutical processes.

- Assay purity ranging from 98% to above 99.9%
- No detectable DNase
- No detectable RNase
- No detectable protease
- Low heavy metal content
- Low insolubles

For more information on J.T.Baker® ULTRAPURE Bioreagents, see our detailed product brochure on our website www.avantormaterials.com.

General Reagents

J.T.Baker® and Macron Fine Chemicals™ brand reagents are formulated for pure, accurate, and consistent results. Offered in a variety of packaging options to enhance safety and promote green initiatives, many of our ACS grade reagents are tested to meet or exceed the standards set forth by the American Chemical Society (ACS).

Solvents – J.T.Baker® brand solvents are designed and manufactured to maximize performance, while Macron Fine Chemicals™ brand AR™ grade solvents are suitable for daily use in general applications, making them a staple item in countless laboratories and stockrooms

Salts – J.T.Baker® brand chemical salts are designed for reliable performance, unmatched lot-to-lot consistency, interference-free chromatography separations, and low UV absorption and fluorescence

Acids – J.T.Baker® BAKER ANALYZED ACS reagent acids and bases are tested to parts-per-million (ppm) and parts-per-billion (ppb) levels. Macron Fine Chemicals™ brand AR™ grade of acids are an ideal option for general wet chemistry techniques. The acids are produced in ISO-certified facilities that ensure consistency and offer value

Volumetric solutions – J.T.Baker® brand ready-to-use solutions are manufactured in large lots and are designed to save you the time and expense of preparation and standardization. All J.T.Baker® brand NIST traceable volumetric solutions include a reference to the specific NIST Reference Materials used in the standardization

Volumetric concentrates – J.T.Baker® brand DILUT-IT volumetric concentrates eliminate expensive, time-consuming steps, such as the selection and analysis of starting reagents, up to weighing and standardization of the final solution. To prepare fresh standard solutions quickly and accurately, dilute the DILUT-IT volumetric concentrate to 1 liter and the final solution will have an exact normality within $\pm 0.1\%$

pH Buffer Solutions and Concentrates – J.T.Baker® brand buffer solutions are manufactured in large lots and are certified traceable to NIST Standard Reference Buffers. Solutions are available in both clear and color-coded varieties, and concentrates are accurate to $\pm 0.01\text{pH}$ units upon dilution



Phillipsburg, NJ 9001:2008 & 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, the Netherlands 9001:2008 & 14001:2004 & 13485:2003

Gilwice, Poland 9001:2008 & 17025:2005
Selangor, Malaysia, 9001:2008
Dehradun, India 9001:2008, 14001:2004 & 13485:2003
Panoli, India 9001:2008

Avantor™ Performance Materials

around the world under several respected brand names, including the J.T.Baker®, Macron Fine Chemicals™, Rankem™, BeneSphera™ and POCH™ brands.

Avantor products are used in a wide range of industries. Our biomedical and life science solutions are used in pharmaceutical production, laboratory research for academic, industry and quality control, and in medical lab testing. Our electronics materials products are used in the manufacturing of semiconductors.

For additional information please visit www.avantormaterials.com or follow [www.twitter.com/avantormaterials](https://twitter.com/avantormaterials)

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