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# Grade definitions

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## J.T.Baker® Grades

**BAKER ANALYZED™ Reagent**—A grade of high quality chemicals for laboratory and specialized industrial use. Every BAKER ANALYZED™ Reagent label provides an Actual Lot Analysis as your guarantee of purity and consistency. Analytical methods used for these determinations are based on standard test procedures described in technical publications. Frequently, improvements developed by J.T.Baker are employed to achieve a higher degree of reliability.

The quality of many BAKER ANALYZED™ Reagents meets or exceeds the requirements set forth by the American Chemical Society (ACS). These products are designated BAKER ANALYZED™ ACS Reagents.

When J.T.Baker product specifications surpass those listed in the ACS, either in tighter purity levels or additional parameters, the statement "exceeds ACS specifications" will be found in the product listings in the catalog, on our Certificates of Analysis, and on our product labels. These tighter limits and additional specifications provide you with improved consistency and characterization of your reagents.

**ULTREX®/ULTREX® II**—Acids and salts of extremely high purity with low levels of metallic impurities especially for use in ppt trace element analysis. These products are manufactured using state-of-the-art processing and are packaged under clean room conditions. Post-packaging characterization is performed using advanced analytical instrumental methods. A Certificate of Actual Lot Analysis is provided with every bottle.

**BAKER INSTRA-ANALYZED™ Plus**—Acids are analyzed for up to 64 metals in the low parts-per-billion (ppb) range, ensuring low background interference for conduct critical trace metal analysis.

**BAKER INSTRA-ANALYZED™**—Acids and standards that are purified and characterized for use in trace element analysis. You receive an Actual Lot Analysis with every BAKER INSTRA-ANALYZED™ Reagent as your guarantee of purity and consistency and as a reference for your analytical blank values.

**BAKER ANALYZED™ HPLC Reagent**—A group of high purity solvents, buffer salts, and mobile phase modifiers for use in analytical and preparative separations. BAKER ANALYZED™ HPLC Reagents are optimized for all of your Liquid Chromatography applications, including high performance liquid chromatography, gel permeation chromatography and UV-spectrophotometric analysis. These highly characterized reagents are manufactured and tested to assure interference-free separations and have unmatched lot-to-lot consistency. Recalibration or instrument adjustments due to solvent lot changes are minimized. Solvents are controlled for high assay and low UV absorption, fluorescence, residue and water. An Actual Lot Analysis is provided on the label.

**BAKER ULTRA RESI-ANALYZED® Reagent**—A group of ultra high purity solvents and salts developed for organic residue extraction/concentration procedures. These solvents are 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. Advanced stabilizer systems are incorporated in BAKER ULTRA RESI-ANALYZED solvents to ensure solvent stability and superior performance that is guaranteed through the expiration period stated on

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**BAKER BIO-ANALYZED™ Reagent**—A group of high purity solvents and reagents specially purified and carefully tested to assure suitability and reliability in nucleic acid or peptide synthesis. Carefully controlled low water levels and unsurpassed lot-to-lot consistency deliver better synthesis yields and coupling efficiencies.

**PHOTREX®**—High purity solvents characterized for use in UV, visible and IR spectrophotometry. The label includes the Actual Lot Analysis for UV absorbency at selected wavelengths.

**ULTRAPURE BIOREAGENT**—A line of high purity reagents tested for use in biotechnology applications, such as electrophoresis, and liquid chromatography. Where applicable, tests include DNase, RNase, Protease, heavy metals and insoluble matter.

**BAKER ANALYZED™ Biochemical**—High quality biochemicals for research use. An Actual Lot Analysis is provided on the label.

**USP, NF and FCC**—Chemicals that conform to the requirements of the United States Pharmacopeia (USP), the National Formulary (NF), and the Food Chemicals Codex (FCC). These products are regulated by the Food and Drug Administration. All meet the requirements necessary for their use in pharmaceutical processing and prescription compounding (USP and NF) and for use in food processing operations (FCC).

**Multi-Compendial**—A grade of product with full compendial testing as appropriate to the US Pharmacopoeia (USP) or National Formulary (NF) and European Pharmacopoeia (PhEur, EP), British Pharmacopoeia (BP) and Japanese Pharmacopoeia (JP) criteria.

**Biotech Reagent**—A grade of product which is produced under GMP guidelines, but for which there is no USP/NF compendia for the product.

**BakerDRY™**—A group of anhydrous solvents specifically manufactured and tested for use in organic, organometallic and oligonucleotide synthesis. BakerDRY™ solvents meet ACS specifications and are ready to use, eliminating the need for any further purification. These solvents are available in 100 ml and 1 Liter septum-seal bottles and the CYCLE-TAINER® Solvent Delivery System.

**Purified**—Chemicals of good quality where there are no official standards or compendia, or in some cases, that meet the requirements of former compendia articles.

**BAKER**—A grade of chemicals for laboratory use, for organic synthesis, and for routine research usually controlled by physical criteria and often by assay (by GC).

**Practical**—Chemicals of sufficiently high quality for use in diverse applications. Some products may contain intermediates, isomers, or homologs.

**Technical**—Chemicals of selected commercial quality, useful in some applications.

#### **Macron Fine Chemicals™ Grades**

**ACS**—Reagents meeting the requirements of the American Chemical Society Committee on Analytical Reagents. The specifications listed in this catalog are based on the ACS Reagent Chemicals Tenth Edition.

**AR**—The standard Macron Fine Chemicals™ grade of analytical reagents; suitable for laboratory and general use. If the reagent also meets the requirements of the American Chemical Society Committee on Analytical Reagents, it will be denoted as an AR (ACS) reagent.

**AR (ACS) Primary Standard**—An analytical reagent of exceptional purity that is specially manufactured for standardizing volumetric solutions and preparing reference standards.

**AR Select**—A line of acids specifically developed for trace metal analysis; analyzed for up to 32 metals in the low ppb range.

**AR Select Plus**—The purest grade of Macron Fine Chemicals™ acids for trace metal analysis. AR Select Plus acids are packaged in glass bottles. These products are tested for 40 elements in the high ppt to low ppb range, ensuring low background interference.

**ChromAR**—Solvents that meet ACS specifications and are suitable for liquid chromatography and UV-spectrophotometry.

**CP (Chemically Pure)**—Products of purity suitable for use in general applications.

**FCC**—Products that meet the requirements of the current Food Chemical Codex.

**GenAR**—A line of reagents specifically developed for use in biotechnology and genetic research.

**Lab Grade**—A line of solvents suitable for histology methods and general laboratory applications.

**Nanograde**—Solvents designed for organic residue extraction/concentration procedures that utilize GC/ECD and GC/FID methods.

**NF**—Chemicals manufactured under current Good Manufacturing Practices (cGMP) and meeting the requirements of the National Formulary.

**OR**—Organic reagents that are suitable for research applications.

**Practical**—Products of a purity suitable for use in general applications.

**Purified**—Chemicals of good quality where there are no current compendia. Most purified chemicals were formerly listed in the USP and NF compendium. The specifications from the former compendia listing have been retained wherever possible.

**SilicAR**—Silica gel products with physical and chemical characteristics that are optimal for column and thin layer chromatography.

**SpectrAR**—A line of solvents designed for UV-Spectrophotometric applications.

**StandARd**—Prepared volumetric and analytical solutions. These solutions are suitable for use in ACS, USP and NF compendial methods and general laboratory applications.

**Technical**—A grade suitable for general industrial use.

**UltimAR**—Solvents that meet ACS specifications for liquid chromatography, UV-spectrophotometry, and general purpose use. They are also tested by GC/ECD and GC/FID for use in extraction/concentration sample clean-up protocols for trace-level organic impurities.

**USP**—Chemicals manufactured under current Good Manufacturing Practices (cGMP) and which meet the requirements of the US Pharmacopeia.

**USP/GenAR**—A line of chemicals manufactured under cGMP, meet the requirements of the US Pharmacopeia, meet European Pharmacopeia (PhEur, EP) and British Pharmacopeia (BP) specifications where designated, and are endotoxin (LAL) tested where appropriate.

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