

Grades of Chemicals

General

- **Reagent A.C.S.** - This designates a high quality chemical for laboratory use. The abbreviation "A.C.S.," means the chemical meets the specifications of the American Chemical Society. A Certificate of Analysis is available upon request.
- **Guaranteed Reagent (GR)** - Suitable for use in analytical chemistry, products meet or exceed American Chemical Society (ACS) requirements where applicable. (EMD trademark)
- **AR** - The standard Mallinckrodt 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 Reagent, it will be denoted as an AR (ACS) reagent. (MBI trademark)
- **Primary Standard** - Analytical reagent of exceptional purity that is specially manufactured for standardizing volumetric solutions and preparing reference standards.
- **Reagent** - The highest quality commercially available for this chemical. The American Chemical Society has not officially set any specifications for this material.
- **OR** - Organic reagents that are suitable for research applications.(MBI trademark)
- **Purified** - Defines chemicals of good quality where there are no official standards. This grade is usually limited to inorganic chemicals.
- **Practical** - Defines chemicals of good quality where there are no official standards. Suitable for use in general applications. Practical grade organic chemicals may contain small amounts of isomers of intermediates.
- **Lab Grade** - A line of solvents suitable for histology methods and general laboratory applications.
- **USP** - Chemicals manufactured under current Good Manufacturing Practices and which meet the requirements of the US Pharmacopeia.
- **USP/GenAR** - A line of chemicals manufactured under cGMP, meet the requirements of the 1995 USP 23, meet European Pharmacopeia (PhEur, EP) and British Pharmacopeia (BP) specifications where designated, and are Endotoxin (LAL) tested where appropriate. (MBI trademark)
- **NF** - Chemicals that meet the requirements of the National Formulary.
- **FCC** - Products that meet the requirements of the Food Chemical Codex.
- **CP (Chemically Pure)** - Products of purity suitable for use in general applications.
- **Technical** - A grade suitable for general industrial use.

Acids

- **OmniTrace Grade Acids** - Higher purity than Reagent Grade, suitable for trace metals analysis. Acids are analyzed for a minimum of 33 different metals. Trace metals are typically in the ppb range. (EMD trademark)
- **Tracemetal** - Acids manufactured to achieve very low metal contamination in ppb range. Primarily used in digestion of samples prior to ICP analysis. Each lot is analyzed for 32 metals by ICP/MS. (Tedia designation)

- **Tracemetal Plus** - For critical trace metal analyses, the acids are manufactured by double sub-boiling distillation to achieve low metal contamination in ppt range. Each lot is analyzed for 32 metals by ICP/MS. (Tedia designation)
- **Suprapur Grade Acids** - High purity grade acid produced by E. Merck. Suitable for sensitive instrumental methods. Trace metals in low ppb range, frequently less than detection limits. This grade applies to acids and salts. (EMD trademark)
- **AR Select** - A line of acids specifically developed for trace metal analysis; analyzed for up to 28 metals in the 0.05 to 0.0005 ppm range. (MBI trademark)
- **AR Select Plus** - The purest grade of Mallinckrodt acids. AR Select Plus acids are manufactured utilizing sub-boiling point, quartz-lined stills and are packaged in fluoropolymer bottles to maintain purity. These products are tested for 45 elements in the 3.5 to 0.005 ppb range, ensuring low background interference. (MBI trademark)
- **Environmental Grade** - Extremely high purity acids refined through a single sub-boiling distillation process. (Anachemia trademark)
- **Environmental Grade Plus** - Acids produced by distilling Environmental Grade acids a second time. This product is double sub-boiling distilled acid and is of the highest purity available. (Anachemia trademark)

High Pressure Liquid Chromatography & Spectrophotometry

- **OmniSolv HPLC Grade Solvents** - Reagent quality products tested for suitability in High Performance Liquid chromatography. Products meet ACS requirements for use in HPLC and Ultraviolet spectrophotometry. (EMD trademark)
- **HPLC/Spectro** - For standard chromatography requirements in HPLC and spectrophotometry procedures.(Tedia designation)
- **ChromAR** - Solvents that meet ACS specifications and are suitable for liquid chromatography and UV-spectrophotometry. (MBI trademark)
- **SpectrAR** - A line of solvents designed for UV-Spectrophotometric applications. (MBI trademark)

Multiple Application Solvents

- **OmniSolv Grade Solvents** - EMD brand of high purity solvents. Manufactured using state-of-the-art purification equipment. Tested for suitability for Spectrophotometry, Residue Analysis, Gas and Liquid Chromatography as listed in catalog.
- **Absolv** - Specially distilled to purity levels exceeding the requirements for HPLC, TLC, GC, and pesticide residue analysis. (Tedia trademark)
- **UltimAR** - Solvents that meet ACS specifications and provide consistent performance for liquid chromatography, extraction/concentration, UV-Spectrophotometry and general purpose use. (MBI trademark)
- **Accusolv** - Distilled in glass solvents for Liquid and Gas Chromatography, Residue Analysis and Spectrophotometry. (Anachemia trademark)

Pesticide & Residue

- **HR-GC OmniSolv Grade Solvents** - EMD brand of highest purity solvents available. Tested for suitability for High Resolution Gas Chromatography. Capillary GC impurities at parts per trillion levels by ECD/parts per billion levels

by FID. Actual lot analysis on label. Capillary GC-FID & ECD chromatograms of 1000:1 concentrate provided on each bottle. (EMD trademark)

- **Nanograde** - Solvents that meet ACS specifications for organic extraction/concentration procedures that utilize ECD and FID detection methods. (MBI trademark)
- **Residue Grade Solvents** - Solvents tested for suitability in pesticide residue analysis.

Standard Solutions

- **Standardized Solutions** - Solutions are prepared with raw materials which meet or exceed requirements of the American Chemical Society. Where no A.C.S. specifications exist, chemicals of highest purity available are used. All aqueous solutions are prepared using high purity, deionized, water which meets requirements for ASTM type 1 Reagent Grade water. These solutions are standardized direct to NIST standards or primary standard grade materials where available. (Specific to Reagents, Inc. manufactured solutions)
- **StandARd** - Prepared solutions including titrants and atomic absorption standards. These solutions are suitable for use in ACS, USP and NF compendia methods and general laboratory applications. (MBI trademark)
- **Acculute** - Standard volumetric solutions concentrates packaged in space-saving ampoules or sealed poly bottles. (Anachemia trademark)

Bio Tech Applications

- **OmniSolv Biosynthesis** - EMD brand of high purity biotechnology solvents. Tested for suitability for biomolecular synthesis, sequencing and chromatographic separations under gradient and isocratic conditions. Solvents are amine-free, 99.9+% purity, low water content and low acidity. (EMD trademark)
- **GenAR** - A line of reagents specifically developed for use in biotechnology and genetic research. (MBI trademark)
- **Accugen** - High purity glass distilled or recrystallized reagents for biotechnology and molecular biology. (Anachemia trademark)
- **BIO** - Solvents specially purified and analysed for biotechnology applications. (Tedia trademark)
- **Anhydrosolv** - Solvents specially dried to meet a water specification of less than 50 ppm. These high purity solvents are packaged in septum-seal bottle. (Tedia trademark)
- **DriSolv** - Solvent specially dried for Organic Synthesis. (EMD trademark)

Miscellaneous

- **ScintillAR** - Chemicals specially controlled for use in liquid scintillometry. (MBI trademark)
- **SilicAR** - Silica gel products with physical and chemical characteristics that are optimal for column and thin layer chromatography. (MBI trademark)
- **Accutint** - pH test Paper in an easy-to-use dispenser. (Anachemia trademark)

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