



Performance Products

- ULTREX II™ Reagents
- BAKER INSTRA-ANALYZED™ Reagents

Introduction

Mallinckrodt Baker's reputation for high-purity acids is based on years of quality, consistency, and innovation. We introduced the purest acids in the world when we launched the ULTREX™ product line in the 1970's. Even today, the ULTREX II™ product line represents the best purity available. Combined with the rest of our offerings, these products are part of the broadest acid portfolio available from a basic manufacturer of acids.

Mallinckrodt Baker continues to be a leader in the field of analytical chemistry by developing products to meet the needs of specific applications. Our range of acids include:

- **ULTREX II™** acids for critical elemental analysis with less than 10 parts-per-trillion (ppt) levels of up to 65 elements. These high performance acids are for your most critical trace element analysis. Extensively tested and packaged in innovative packaging to ensure ultimate quality
- **BAKER INSTRA-ANALYZED™** acids for elemental analysis. These trace metal analysis acids are analyzed for up to 35 metals in the low parts-per-billion (ppb) range ensuring low background interference
- **BAKER ANALYZED™ Reagent** grade acids that meet or exceed ACS specifications and provide exceptional quality and value. These general-purpose acids can double as trace metal acids for qualitative and quantitative elemental analysis. All BAKER ANALYZED Reagents with complete characterization are listed in the catalogue.

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. The J.T.Baker acid product line includes inorganic acids (in three distinct levels of purity) and organic acids. Our acid packaging is designed with purity, safety and convenience in mind.



Acid Selection guide

Application	Detection Limit	Instrumentation	J.T.Baker Acid Grade
Critical analysis, ultra-low detection	Parts per trillion (ppt) Parts per billion (ppb)	Inductively Coupled Plasma (ICP-OES), Graphite Furnace (GFAA)	ULTREX II
Routine trace metal analysis EPA Protocols	Parts per billion (ppb)	Inductively Coupled Plasma (ICP-OES)	BAKER INSTRA-ANALYZED
Qualitative metal analysis	Parts per million (ppm)	Flame Atomic Absorption (AA)	BAKER ANALYZED Reagent

ULTREX II ULTRAPURE REAGENTS

Designed for Parts-Per-Trillion (ppt) Elemental Analysis

ULTREX II acids are the ideal choice for today's most demanding applications. Whether you are doing environmental testing, plasma analysis, microelectronic research, or any other exacting procedure that requires the ultimate in purity, ULTREX II acids are the solution.

ULTREX II acids offer:

- Analysis for up to 65 trace elements to parts-per-trillion (ppt) levels by ICP-MS
- Specifications of less than 10 parts per trillion (ppt) for 50 elements
- Total element impurities that typically do not exceed 500 ppt
- The purest acids with the lowest metal content of any acids available
- Guaranteed lot-to-lot consistency for exceptional results
- Packaging in pre-leached, fluoropolymer bottles under Class 100 environment to eliminate cross contamination

ULTREX II ULTRAPURE Reagents

Description	Product Number
Acetic Acid, Glacial	6903
Ammonium Hydroxide	4807
Hydrochloric Acid	6900
Hydrofluoric Acid	6904
Hydrogen Peroxide	5155
Nitric Acid	6901
Perchloric Acid	4806
Phosphoric Acid	6908
Sulfuric Acid	6902
Water	6906



ULTREX II Dispenser System

Reduce the risk of contamination and maintain purity with the ULTREX bottle-top dispenser specifically designed for use with ULTREX II acids. This Teflon PFA or TFM (modified PTFE) constructed dispenser will eliminate leaching and airborne contamination, minimize waste and enhance safe handling. Acid pre-cleaned to maintain < 0.1 ppb metal blank levels in routine use. All wet parts are constructed with Teflon to maintain product purity. Each unit comes with a PTFE air filter to reduce risk of airborne contamination.

ULTREX II Dispenser System

Description	Product Number
ULTREX Bottle Top Dispenser	6910-01
ULTREX Dispenser Base	6912-01

Key applications and industries

Industry	Examples of Sample Types	Methods/Regulations
Environmental/Agriculture	Natural Waters (rivers, lakes, streams)	US EPA Method 1638 Metals by ICP-MS
	Drinking Water	Method 200.8 Metals in Drinking Water by ICP-MS
	Waste Water	EPA Method 1311 Hazardous Waste
	Industrial Influent and Effluents	EPA Method 6010 Total Metals in Waste Water
	Sludges	SW-846 Methods 3005-3051A
	Livestock Feed Fertilizers	EPA 6010B
	Soil	EPA Method 3050B
	Plant Tissue	Total Metals in Soil by ICPMS Method 6020 ISO 11466.2
Food and Beverage	Food Additives Raw/In Process and Finished Products	US FDA Elemental Analysis Manual for Food and Related Products Packaging Materials
Nutraceutical	Herbal Remedies, Supplements, Medical Foods	US FDA Elemental Analysis Manual for Food and Related Products
Pharmaceutical	Drugs, Vaccines, Vitamins	US Pharmacopeia - National Formulary Standards
Clinical/Biological	Tissues (liver, kidney), Blood/Blood Products, Urine	CDC Metals in Urine 8310 or Elements in Blood and Tissue 8005
Medical Devices	Dental Alloys Implants	NIOHS

BAKER INSTRA-ANALYZED ACIDS

Designed for Parts-Per-Billion (ppb) Elemental Analysis

An industry standard, BAKER INSTRA-ANALYZED acids have become the workhorse of trace-metal laboratories. Produced using advanced distillation techniques in our Phillipsburg, NJ facility, BAKER INSTRA-ANALYZED acids deliver purity of 1 to 10 ppb for up to 35 metals. For added safety, BAKER INSTRA-ANALYZED acids are packaged in poly-coated and polyethylene bottles.

BAKER INSTRA-ANALYZED Reagents

Description	Product Number
Acetic Acid, Glacial	9524
Ammonium Hydroxide	6162
Hydrochloric Acid	9530
Hydrofluoric Acid	9563
Nitric Acid	9598
Perchloric Acid	9653
Sulfuric Acid	9673

