

J.T.Baker® Brand High-Purity Acids

J.T.Baker® Brand Acids

Purity and consistency are essential for all reagent chemicals, particularly acids. Whether used for trace-metal analysis or for general use, aligning the correct acid quality to your application is necessary to achieve optimal results. The J.T.Baker® brand has a well-deserved reputation for high-quality acids, beginning with the launch of the ultra-high-purity ULTREX™ acids product line four decades ago. Today, J.T.Baker® acids offer four distinct levels of purity:

- **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 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



The success of the application, reliability of results and proper testing of trace metals all depend on the correct quality and grade of acid. The J.T.Baker® line of high-purity acids will meet your needs - even for detection of trace metals at ultra-low, parts-per-trillion levels.

Grade Selection Made Easy

Choosing the appropriate grade of acids is essential to eliminating rework and ensuring application success.

Application	Detection Limit	Instrumentation	Grade
Critical analysis, ultra-low detection	Parts per trillion (ppt) Parts per billion (ppb)	Inductively Coupled Plasma (ICP-OES) (ICP-MS), Graphite Furnace (GFAA)	ULTREX™ II acids
Sensitive trace metal analysis, EPA protocols	Parts per billion (ppb) very low	Inductively Coupled Plasma (ICP-OES), Graphite Furnace (GFAA)	BAKER INSTRA-ANALYZED™ Plus acids
Routine trace metal analysis, EPA protocols	Parts per billion (ppb) low	Inductively Coupled Plasma (ICP-OES), Flame Atomic Absorption (FAA), Wet Chemistry	BAKER INSTRA-ANALYZED™ acids

Key Applications and Industries

Industry	Examples of Sample Types	Methods/Regulations	
Environmental and Agriculture	Natural Water (rivers, lakes, streams)	US EPA Method 1638 Metals by ICPMS	
	Drinking Water	Method 200.8 Metals in Drinking Water by ICPMS	
	Waste Water	EPA Method 1311 Hazardous Waste	
	Industrial Influent and Effluents	EPA Method 6010 Total Metals in Waste Water	
	Sludge		SW-846
			Methods 3005 - 3051A
	Livestock Feed Fertilizer	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 Packaging Material	US FDA Elemental Analysis Manual for Food and Related Product	
Nutraceutical	Herbal Remedies, Supplements, Medical Foods	US FDA Elemental Analysis Manual for Food and Related Product	
Pharmaceutical	Drugs, Vaccines, Vitamins	US Pharmacopeia - National Formulary Standards	
Semiconductor and Microelectronics	Fab Air	SEMI Guidelines	
	Fab Chemicals QC		
Clinical Biological Medical Devices Occupational Health and Safety	Tissues (liver, kidney), Blood/Blood Products, Urine, Dental Alloys Implants	CDC Metals in Urine 8310 or Elements in Blood and Tissue 8005 NIOHS	

J.T.Baker® ULTREX™ II Ultrapure Acids

J.T.Baker® ULTREX™ II grade high-performance acids are recommended for use in your most demanding trace element analyses by ICP-MS, ICP-OES/AES, and Graphite Furnace Atomic Absorption (GFAA).

ULTREX™ II grade acids are analyzed for up to 65 trace elements in the low ppt range with specifications of less than 10 ppt for 50 elements and total element impurities that typically do not exceed 500 ppt.

ULTREX™ II Acids Products

Description	Size	Avantor Part Number	Fisher Scientific Cat. No.
Acetic Acids, Glacial	500 mL	6903-05	14650230
Ammonium Hydroxide, 20%	490 mL (P)	4807-05	14650228
Hydrochloric Acid	500 mL	6900-05	14650319
	2 L	6900-02	14650400
Hydrofluoric Acid	500 mL	6904-05	02003075
Hydrogen Peroxide, 30%	450 mL (P)	5155-01	02003185
Nitric Acid	500 mL	6901-05	14650508
	1 L	6901-01	02003463
	2 L	6901-02	14650401
Perchloric Acid, 70%	500 mL	4806-01	02003551
Phosphoric Acid	50 g (P)	6908-04	02003606
Sulfuric Acid	500 mL	6902-05	14650229
Water	1 L (P)	6906-02	02004559

P=Polyethylene bottle

To ensure product purity, ULTREX™ II grade acids come packaged in inert, pre-leached fluoropolymer bottles under Class 100 environment. An optional bottle-top dispenser, specifically designed for use with ULTREX™ II acids, may also be used to further reduce the risk of contamination.

ULTREX™ II Acids Dispensing System

Description	Avantor Part Number	Fisher Scientific Cat. No.
ULTREX™ Acids Bottle Top Dispenser	6910-01	02004527



J.T.Baker® BAKER INSTRA-ANALYZED™ Plus Acids

The J.T.Baker® BAKER INSTRA-ANALYZED™ Plus line of acids is recommended for use in ICP-OES/AES and GFAA applications, and other applications requiring parts-per-billion (ppb) trace metal testing.

Packaged in space-saving and environmentally friendly HDPE bottles, BAKER INSTRA-ANALYZED™ Plus acids have testing of more trace metals with tighter specifications on existing trace metals. The products have been quality tested for up to 64 trace metals tested to very low ppb levels.

BAKER INSTRA-ANALYZED™ Plus Acids

Description	Size	Avantor Part Number	Fisher Scientific Cat. No.
Acetic Acid, Glacial	500 mL	9375-01	02002142
	2.5 L	9375-05	02002140
	4 L	9375-03	02002141
Ammonium Hydroxide, 20%	500 mL	9380-01	02002301
	4 L	9380-03	02002300
Hydrochloric Acid	500 mL	9385-01	02003057
	2.5 L	9385-05	02003042
	4 L	9385-03	02003054
Hydrofluoric Acid	500 mL	9387-01	02003076
	4L	9387-03	02003074
Nitric Acid	500 mL	9368-01	02003472
	2.5 L	9368-05	02003464
Perchloric Acid, 70%	500 mL	9359-01	02003553
	2.5 L	9359-05	02003552
Sulfuric Acid	500 mL	9390-01	02004380
	2.5 L	9390-05	02004373



J.T.Baker® BAKER INSTRA-ANALYZED™ Acids

ICP – OES/AES has become one of the standards in trace metal analysis techniques due to excellent limits of detection and linear dynamic range, multi-element capability and reproducibility. BAKER INSTRA-ANALYZED™ acids are recommended for use in ICP-OES/AES and FAA applications.

BAKER INSTRA-ANALYZED™ acids were designed for routine trace metal analysis and EPA protocols by ICP-OES/AES, and are analyzed for up to 35 metals in the low ppb range.

BAKER INSTRA-ANALYZED™ Acids

Description	Size	Avantor Part Number	Fisher Scientific Cat. No.
Acetic Acid, Glacial	6 x 500 mL (PC)	9524-00	14650232
	6 x 2.5 L (PC)	9524-33	14650233
Ammonium Hydroxide	12 x 500 mL (P)	9733-01	14650244
	4 x 4 L (P)	9733-03	14650245
Hydrochloric Acid	6 x 500 mL (PC)	9530-00	14650234
	6 x 2.5 L (PC)	9530-33	14650235
Hydrofluoric Acid	12 x 500 mL (P)	9563-01	14650237

Description	Size	Avantor Part Number	Fisher Scientific Cat. No.
Nitric Acid	6 x 500 mL (PC)	9598-00	02003473
	4 x 2.5 L (PC)	9598-34	14650239
Perchloric Acid	6 x 500 mL (PC)	9653-00	02003550
	4 x 2.5 L (PC)	9653-33	02003547
Sulfuric Acid	6 x 500 mL (PC)	9673-00	02004381
	6 x 2.5 L (PC)	9673-33	14650242

PC=Poly coated glass bottle, P=Polyethylene bottle

J.T.Baker® BAKER ANALYZED™ ACS Reagent Acids

Atomic Absorption requires trace metal specifications in the parts-per-million (ppm) range in order to achieve reliable results. BAKER ANALYZED™ ACS reagent grade acids are recommended for qualitative AAS applications, as well as general wet chemistry.

Wherever possible, products are packaged in poly or poly-coated glass bottles for enhanced safety.

BAKER ANALYZED™ ACS Reagent Grade Acids

Description	Size	Avantor Part Number	Fisher Scientific Cat. No.
Acetic Acid, Glacial (Aldehyde-Free)	6 x 500 mL (PC)	9508-00	02002130
	12 x 500 mL	9508-01	02002131
	6 x 2.5 L	9508-03	02002118
	4 x 4 L (P)	9508-06	02002128
	6 x 2.5 L (PC)	9508-33	02002121
Acetic Acid, Glacial (suitable for cholesterol determination)	12 x 500 mL	9511-02	02002133
	6 x 2.5 L	9511-05	02002122
Ammonium Hydroxide	6 x 500 mL (PC)	9721-00	02002287
	12 x 500 mL	9721-01	02002288
	6 x 2.5 L	9721-03	02002290
	4 x 4 L (P)	9721-06	02002292
	6 x 2.5 L (PC)	9721-33	02002294
Hydrochloric Acid	6 x 500 mL (PC)	9535-00	02003046
	6 x 500 mL	9535-01	02003053
	6 x 2.5 L	9535-03	02003048
	6 x 2.5 L (PC)	9535-33	02003051
Hydrofluoric Acid	12 x 500 mL (P)	9560-01	14650236
	4 x 4 L (P)	9560-06	02003072
Hydrogen Peroxide, 3%	12 x 500 mL (P)	2180-01	02003182
	4 x 4 L (P)	2180-03	02003181
Hydrogen Peroxide, 30%	12 x 500 mL	2189-01	02003191

PC=Poly coated glass bottle, P=Polyethylene bottle

Description	Size	Avantor Part Number	Fisher Scientific Cat. No.
Nitric Acid, 69 -70%	6 x 500 mL (PC)	9601-00	02003475
	6 x 500 mL	9601-01	02003476
	4 x 2.5 L	9601-04	02003467
	4 x 2.5 L (PC)	9601-34	02003469
Perchloric Acid, 60 - 62%	6 x 500 mL (PC)	9656-00	02003544
	4 x 2.5 L (PC)	9656-33	02003543
Perchloric Acid, 69 - 72%	6 x 500 mL (PC)	9652-00	02003548
	6 x 500 mL	9652-01	02003549
	4 x 2.5 L	9652-04	02003545
	4 x 2.5 L (PC)	9652-33	02003546
Phosphoric Acid	6 x 500 mL (PC)	0260-00	02003601
	12 x 500 mL	0260-01	02003602
	6 x 2.5 L	0260-03	02003595
	6 x 2.5 L (PC)	0260-33	14650100
	Potassium Hydroxide, 45% Solution	12 x 500 mL (P)	3143-01
Sodium Hydroxide, 50% Solution	4 x 4 L (P)	3143-03	02003768
	12 x 500 mL (P)	3727-01	02004144
Sulfuric Acid, 95 - 98%	4 x 4 L (P)	3727-03	02004143
	6 x 500 mL (PC)	9681-00	02004382
Sulfuric Acid, 95 - 98%	12 x 500 mL	9681-01	02004383
	6 x 2.5 L	9681-03	02004375
	6 x 2.5 L (PC)	9681-33	02004377



For technical reference contact:

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