J.T.Baker® Brand

HIGH PURITY ACIDS

Part of AVANTOR™ PERFORMANCE MATERIALS

The success of the application, reliability of results, and proper testing of trace metals all depend on the correct quality and grade of acid. Avantor provides a full product line to cover all of your needs – even for detection of trace metals at ultra-low parts-per-trillion levels.

J.T.Baker® Brand Acids

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® brand has a well-deserved reputation for high-quality acids, started with the launch of the ultra-high purity ULTREX™ acids product line in the 1970's. Today, the J.T.Baker® acids product line offers 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 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.

Grade Selection Made Easy

Choosing the right grade of acids is essential to eliminate rework and ensure application success. Below is a chart of available J.T.Baker® brand acids based on application, detection limit, and instrumentation requirements.

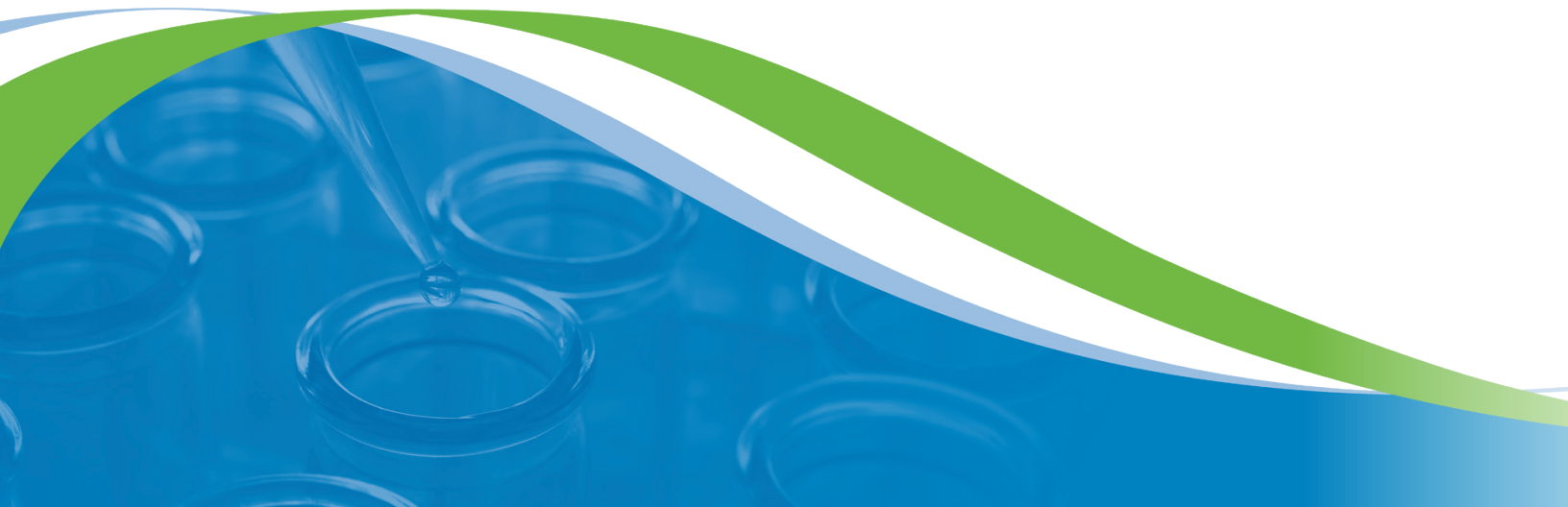
Application	Detection Limit	Instrumentation	Grade
Critical analysis, ultra-low detection	Parts per trillion (ppt) Parts per billion (ppb)	Inductively Coupled Plasma (ICP-OES) (ICP-MS), Graphite Furnace (GFAA)	ULTREX™ II acids
Sensitive trace metal analysis, EPA protocols	Parts per billion (ppb) very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

J.T.Baker® ULTREX™ II Ultrapure Acids

J.T.Baker® ULTREX™ II grade acids are high-performance acids 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. 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.

Key Applications and Industries for Trace Metal Acids

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 Influents 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 Products
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



ULTREX™ II Acids Products

Description	Size	Product Number
Acetic Acid, Glacial	500 mL	6903-05
Ammonium Hydroxide	490 mL (P)	4807-05
Hydrochloric Acid	500 mL	6900-05
	2 L	6900-02
Hydrofluoric Acid	500 mL	6904-05
	1 L	6904-01
Hydrogen Peroxide	450 mL (P)	5155-01
Nitric Acid	500 mL	6901-05
	1 L	6901-01
	2 L	6901-02
Perchloric Acid	500 mL	4806-01
Phosphoric Acid	50 g (P)	6908-04
Sulfuric Acid	500 mL	6902-05
Water	1 L (P)	6906-02

P=Polyethylene bottle

ULTREX™ II Acid Dispensing System

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

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

The J.T.Baker® BAKER INSTRA-ANALYZED™ Plus acids product line 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 new products have been quality tested for up to 64 trace metals tested to very low parts-per-billion (ppb) levels.

Description	Size	Product Number
Acetic Acid, Glacial	500 mL	9375-01
Acetic Acid, Glacial	2.5 L	9375-05
Acetic Acid, Glacial	4 L	9375-03
Ammonium Hydroxide, 20%	500 mL	9380-01
Ammonium Hydroxide, 20%	4 L	9380-03
Hydrochloric Acid	500 mL	9385-01
Hydrochloric Acid	2.5 L	9385-05
Hydrochloric Acid	4 L	9385-03
Hydrofluoric Acid	500 mL	9387-01
Hydrofluoric Acid	4 L	9387-03
Nitric Acid	500 mL	9368-01
Nitric Acid	2.5 L	9368-05
Perchloric Acid, 70%	500 mL	9359-01
Perchloric Acid, 70%	2.5 L	9359-05
Sulfuric Acid	500 mL	9390-01
Sulfuric Acid	2.5 mL	9390-05

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

ICP – OES/AES has become one of the standards in trace metal analysis techniques due to its excellent limits of detection and linear dynamic range, multi-element capability and reproducibility. The BAKER INSTRA-ANALYZED™ grade of acid is recommended for use in ICP-OES/AES applications. BAKER INSTRA-ANALYZED™ grade of 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 parts-per-billion (ppb) range.

BAKER INSTRA-ANALYZED™ Acids Products

Description	Size	Product Number
Acetic Acid, Glacial	6 x 500 mL (PC)	9524-00
	6 x 2.5 L (PC)	9524-33
Ammonium Hydroxide	12 x 500 mL (P)	9733-01
	4 x 4 L (P)	9733-03
Hydrochloric Acid	6 x 500 mL (PC)	9530-00
	6 x 2.5 L (PC)	9530-33
Hydrofluoric Acid	12 x 500 mL (P)	9563-01
Nitric Acid	6 x 500 mL (PC)	9598-00
	4 x 2.5 L (PC)	9598-34
Perchloric Acid	6 x 500 mL (PC)	9653-00
	4 x 2.5 L (PC)	9653-33
Sulfuric Acid	6 x 500 mL (PC)	9673-00
	6 x 2.5 L (PC)	9673-33

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 millions in order to achieve reliable results. The BAKER ANALYZED™ ACS reagent grade of acid is 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. Multiple bulk size options are available; contact your Avantor Account Manager for details.

BAKER ANALYZED™ ACS Reagent Acids Products

Description	Size	Product Number
Acetic Acid, Glacial	6 x 500 mL (PC)	9508-00
(Aldehyde-Free)	12 x 500 mL	9508-01
	6 x 2.5 L	9508-03
	4 x 4 L (P)	9508-06
	6 x 2.5 L (PC)	9508-33
Acetic Acid, Glacial (suitable for cholesterol determination)	12 x 500 mL	9511-02
	6 x 2.5 L	9511-05
Ammonium Hydroxide	6 x 500 mL (PC)	9721-00
	12 x 500 mL	9721-01
	6 x 2.5 L	9721-03
	4 x 4 L (P)	9721-06
	6 x 2.5 L (PC)	9721-33
Hydrochloric Acid	6 x 500 mL (PC)	9535-00
	6 x 500 mL	9535-01
	6 x 2.5 L	9535-03
	6 x 2.5 L (PC)	9535-33
Hydrofluoric Acid	12 x 500 mL (P)	9560-01
	4 x 4 L (P)	9560-06
Hydrogen Peroxide, 3%	12 x 500 mL (P)	2180-01
	4 x 4 L (P)	2180-03
Hydrogen Peroxide, 30%	12 x 500 mL (P)	2189-01
Nitric Acid, 69–70%	6 x 500 mL (PC)	9601-00
	6 x 500 mL	9601-01
	4 x 2.5 L	9601-04
	4 x 2.5 L (PC)	9601-34
Perchloric Acid, 60–62%	6 x 500 mL (PC)	9656-00
	4 x 2.5 L (PC)	9656-33
Perchloric Acid, 69–72%	6 x 500 mL (PC)	9652-00
	6 x 500 mL	9652-01
	4 x 2.5 L	9652-04
	4 x 2.5 L (PC)	9652-33
Phosphoric Acid	6 x 500 mL (PC)	0260-00
	12 x 500 mL	0260-01
	6 x 2.5 L	0260-03
	6 x 2.5 L (PC)	0260-33
Potassium Hydroxide, 45% Solution	12 x 500 mL (P)	3143-01
	4 x 4 L (P)	3143-03
Sodium Hydroxide, 50% Solution	12 x 500 mL (P)	3727-01
	4 x 4 L (P)	3727-03
Sulfuric Acid, 95-98%	6 x 500 mL (PC)	9681-00
	12 x 500 mL	9681-01
	6 x 2.5 L	9681-03
	6 x 2.5 L (PC)	9681-33

PC=Poly coated glass bottle, P=Polyethylene bottle.

Phillipsburg, NJ 9001:2008 & 14001:2004
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, the Netherlands 9001:2008, 14001:2004 & 13485:2003
Gliwice, Poland 9001:2008 & 17025:2005
Selangor, Malaysia 9001:2008
Dehradun, India 9001:2008, 14001:2004 & 13485:2003
Mumbai, India 9001:2008 & 17025:2005

Avantor™ Performance Materials

Avantor Performance Materials manufactures and markets high-performance chemistries and 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 academic, industry and quality control laboratories for research, pharmaceutical production and medical lab testing, while our electronics solutions are used in the manufacturing of semiconductors.

For additional information please visit ***www.avantormaterials.com*** *or follow* ***www.twitter.com/avantor_news***

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