Agilent CrossLab
From Insight to Outcome

Buffers and Reagents

Your essential resource for Agilent ULTRA chemical standards









Agilent

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About Agilent standards

Agilent is a global leader in chromatography and spectroscopy, as well as an expert in chemical standards manufacturing. Agilent offers certified reference materials, QC standards, reagents, and buffers to complement our extensive line of instruments, columns, sample preparation products, consumables, and services. Our portfolio provides laboratories with full workflow solutions for efficient, accurate results.

Agilent has an extensive list of chemical standards, matched by expertise in designing and formulating custom standards to exacting specifications. Agilent products are available through our global distribution channels, and with our logistics capabilities we offer rapid turnaround time on all orders.

With over 40 years of technical expertise in measurement science, we provide innovative, quality products to address the entire analytical chemistry workflow for laboratories around the world.

Products

- Certified reference materials (CRM)
- Reference materials (RM)
- Calibration standards
- IQ/OQ/PQ standards
- Linearity standards
- Quality check samples
- Buffers and reagents
- Wash solution and diluents

Markets

Environmental

- Petrochemicals
- PCB/PBB
- Halocarbons
- VOC/Semi-VOC
- Pesticides
- Dioxins and furans

Food and Beverages

- Allergens
- Amino and nitroaromatics
- Pharma and vet drugs
- PAHs
- Lipids
- Food authenticity
- Phenols
- Dyes

Life Science

- Pharmaceutical
- Biopharma
- Academic and research
- University
- Governmental

Industrial and Mining

Petrochemical

- Matrix oils
- Metals in biodiesel
- Organometallic

Elemental Analysis

- Single element
- Multi-element

Custom products

Do you need a custom defined reference material or other chemical solution unique to your laboratory or testing procedure? If the product you require is not available as an Agilent product, we can prepare it for you on a custom basis. Custom reference materials are a fast, economical way to meet your specific laboratory needs.

Agilent maintains an expansive compatibility database, integrating 40 years of manufacturing and quality control data to create stable and reliable custom product formulations. Choose from any of our three quality control validation levels (see Page 4).

Visit **www.agilent.com/chem/standards** to request a quote.

Quality control laboratory



Agilent operates an ISO 17025 accredited quality control laboratory and is accredited to ISO Guide 34 as a reference material producer for the manufacture of certified reference materials (CRM).

Rely on the expertise of our applications development group for:

- Method development
- Pre- and postfill analysis
- Stability testing and protocols
- Homogeneity testing

Quality control validation levels

Chemical standards manufactured by Agilent are supplied with a lot-specific certificate of analysis (C of A) that reflects the associated quality control validation level. Certificates of analysis can ship with the product and are available online. All Agilent products, unless otherwise stated, are Level II - ISO Guide 34 reference materials.

		Reported Value	Reported Uncertainty	Former Name	Solutions	Neats	Lead Time (Customs)
Level I	ISO Guide 34 RM	True (calculated)	U_{char}	Gravimetric	Y	Y	5 business days
Level II	ISO Guide 34 RM	True (analytical)	U_{char}	Full validation	Y	Y	7 to 10 business days
Level III	ISO Guide 34	Certified	U_{exp}	ISO Guide 34	Y		15 to 20 business days

Level I solution: A reference material (RM) prepared gravimetrically in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The neat materials used for the product are verified by an Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. For each analyte, the true value, with its uncertainty value calculated at 95% confidence level, is reported.

Level I neat: RM prepared in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The true value (% purity) is reported.

Level II solution: RM prepared gravimetrically in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The neat materials used for the product are verified by an Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. The analyte concentrations are verified by an Agilent ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at 95% confidence level, is reported.

Level II neat: RM prepared in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The materials used for this product are verified by the Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. The true value (% purity), with its uncertainty value calculated at 95% confidence level, is reported.

Level III solution: RM prepared gravimetrically in accordance with ISO Guide 34 and under the Agilent ISO 9001 registered quality system. The neat materials used for this product are verified by the Agilent ISO 17025 laboratory and under the Agilent ISO Guide 34 accreditation. The analyte concentrations are verified by an Agilent ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

Triple certification

Agilent is committed to product integrity by offering customers the assurance of triple certification to ISO standards.

Agilent operates under an ISO 9001 registered quality management system, where an accrediting body (TUV) attests to the quality of our methods, procedures, testing, production, and record keeping.

Our quality control laboratory is accredited to ISO 17025 (ANAB) for technical competence to perform testing of organic and inorganic materials and certified reference materials, as defined in our scope, accessible online at **www.agilent.com/chem/17025**

Agilent is further accredited to ISO Guide 34 (ANAB) for technical competence as a reference material producer of certified reference materials. This requires Agilent to identify and document the major components of uncertainty including homogeneity, short- and long-term stability, and uncertainty due to analytical characterization and manufacturing.

The most current Agilent certifications are accessible at **www.agilent.com/quality**

Tips and tools

To view our entire portfolio of over 7,000 standards, all manufactured under ISO 17025 Guide 34, visit **www.agilent.com/chem/store**

Level 2 reference material Certificate of Analysis

Agilent

Certificate of Analysis
ISO Guide 34

C4-C24 Even Carbon Saturated FAME Mix

Product Number: 5191-4278 **Page:** 1 of 1

Lot Number: CR-5364 **Lot Issue Date:** 17-Nov-2017 **Expiration Date:** 31-Dec-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
methyl butanoate	000623-42-7	RM04575	1005 ± 5 µg/mL
methyl hexanoate	000106-70-7	NT01630	1005 ± 5 µg/mL
methyl octanoate	000111-11-5	NT01094	1003 ± 5 µg/mL
methyl decanoate	000110-42-9	NT00187	1004 ± 5 µg/mL
methyl laurate	000111-82-0	NT01095	1003 ± 5 µg/mL
methyl tetradecanoate	000124-10-7	NT00188	1003 ± 5 µg/mL
methyl palmitate	000112-39-0	RM07128	1001 ± 5 µg/mL
methyl octadecanoate	000112-61-8	RM12285	1002 ± 5 µg/mL
methyl arachidate	001120-28-1	RM11588	1003 ± 5 µg/mL
methyl docosanoate	000929-77-1	NT01096	1004 ± 5 µg/mL
tetracosanoic acid methyl ester	002442-49-1	NT01097	1004 ± 5 µg/mL

Matrix: hexane

Storage: Store Refrigerated (2° - 8°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

An example of a Certificate of Analysis for an Agilent reference material.

GHS compliance

Agilent is a certified GHS author for SDS and GHS compliant labeling. Chemical products manufactured and distributed by Agilent are compliant with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Safety Data Sheets (SDS) and labels are prepared in accordance with regulations and in the following languages:

European CLP Regulation
Regulation 1272/2008

- Chinese (standard Mandarin)
- Czech
- Danish
- Dutch
- English
- Estonian
- Finnish
- French
- German
- Italian
- Japanese
- Korean
- Polish
- Portuguese
- Romanian
- Russian
- Spanish
- Swedish

USA GHS-OSHA Regulation
Hazcom 2012

- English
- Spanish
- French

Chinese GHS Regulation
GB/T 17519-2013 and GB/T 16483-2008

- Chinese (standard Mandarin)
- English

Additional languages are available upon request.
As regulations are updated and expanded, Agilent will maintain up-to-date records online at **www.agilent.com**

Tips and tools

To view our entire portfolio of over 7,000 standards, all manufactured under ISO 17025 Guide 34, visit **www.agilent.com/chem/store**

Buffers and Reagents

The reliability of your wet chemistry analytical data is directly dependent upon the quality of your buffers and reagents. Agilent offers a complete selection of certified conductivity solutions manufactured to provide reliable solutions for virtually any electrochemical analysis. Agilent offers the pH buffers most widely used in laboratories today. These popular buffers are available as color-coded formulations for easy identification by laboratory personnel and the labels contain expiration dates and lot numbers. Agilent pH buffers are carefully manufactured to provide chemists with a means of keeping pH at a nearly constant value in a wide variety of chemical applications. Conductivity solutions and pH buffers are NIST SRM traceable.

Certified Buffers

Product	Description	ISO Guide 35	Unit	Part No.
pH 1.68	pH buffer 1.68 reference standard	✓	500 mL	IBF-168
pH 4.01	pH buffer 4.01 reference standard (color coded red)	✓	500 mL	IBF-040
			1 L	IBF-040-L
pH 4.00	Acetate buffer		1 L	IBF-040A-L
			4 L	IBF-040A-4L
			6 x 1 L	IBF-040A-CS
			20 L	IBF-040A-20L
pH 7.00	pH buffer 7.00 reference standard (color coded yellow)	✓	500 mL	IBF-070
			1 L	IBF-070-L
pH 7.416	pH buffer reference standard	✓	500 mL	IBF-074
			1 L	IBF-074-L
pH 8.00	pH buffer reference standard (25 °C)		20 L	IBF-080-20-L
pH 9.21	pH buffer reference standard	✓	500 mL	IBF-092
			1 L	IBF-092-L
pH 10.01	pH buffer 10.01 reference standard (color coded blue)	✓	500 mL	IBF-100
			1 L	IBF-100-L
pH 12.45	pH buffer 12.45 reference standard	✓	500 mL	IBF-1245

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Certified Conductivity Solutions

Product	Description	Unit	Part No.
Conductivity, TDS as NaCl	50 µmhos/cm at 25 °C, 23.6 ppm	500 mL	IBF-500
		1 L	IBF-500-L
Conductivity, TDS as NaCl	100 µmhos/cm at 25 °C, 47.2 ppm	500 mL	IBF-501
		1 L	IBF-501-L
Conductivity, TDS as NaCl	200 µmhos/cm at 25 °C, 95.0 ppm	500 mL	IBF-502
		1 L	IBF-502-L
Conductivity, TDS as NaCl	500 µmhos/cm at 25 °C, 240 ppm	500 mL	IBF-505
		1 L	IBF-505-L
Conductivity, TDS as NaCl	1,000 µmhos/cm at 25 °C, 495 ppm	500 mL	IBF-510
		1 L	IBF-510-L
Conductivity, TDS as NaCl	2,000 µmhos/cm at 25 °C, 1,000 ppm	500 mL	IBF-520
		1 L	IBF-520-L
Conductivity, TDS as NaCl	5,000 µmhos/cm at 25 °C, 2,620 ppm	500 mL	IBF-550
		1 L	IBF-550-L
Conductivity, TDS as NaCl	10,000 µmhos/cm at 25 °C, 5,400 ppm	500 mL	IBF-600
		1 L	IBF-600-L
Conductivity standard, KCl	147 µmhos/cm at 25 °C, 0.001 mol/L KCl	500 mL	IBF-560
		1 L	IBF-560-L
Conductivity standard, KCl	1,413 µmhos/cm at 25 °C, 0.01 mol/L KCl	500 mL	IBF-570
		1 L	IBF-570-L
Conductivity standard, KCl	12,880 µmhos/cm at 25 °C, 0.1 mol/L KCl	500 mL	IBF-580
		1 L	IBF-580-L



Certified Pure Water

Product	Description	Unit	Part No.
Low TOC water	< 50 ppb TOC	500 mL	IQC-100-5
		1 L	IQC-100-L

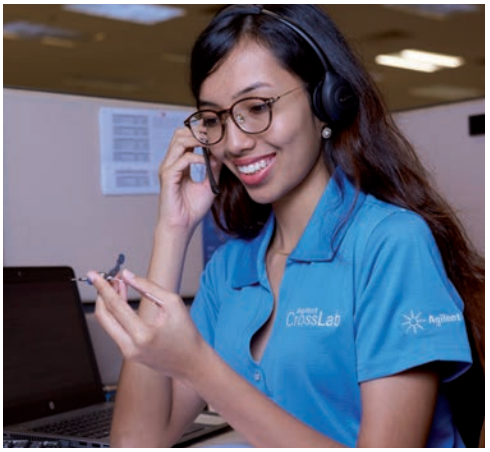
Certified Titrants and Test Solutions

Product	Description	Unit	Part No.
Boric acid	2 % (w/v), without indicator	500 mL	INR-0129S
		1 L	INR-0129S-L
Boric acid	2 % (w/v), with methyl red-methylene, pH indicator	500 mL	INR-0129SX
		1 L	INR-0129SX-L
Calcium chloride	2.75 % (w/v), aqueous solution, APHA for BOD	500 mL	INR-2017S
		1 L	INR-2017S-L
Disodium EDTA	0.100 M, titrant, standardized	500 mL	ITR-011
		1 L	ITR-011-L
Sodium hydroxide	6.0 N, standardized	500 mL	ITR-021
		1 L	ITR-021-L
Sodium hydroxide	1.00 N, standardized, N/1	500 mL	ITR-022
		1 L	ITR-022-L
Sodium hydroxide	0.100 N, standardized, N/10	500 mL	ITR-024
		1 L	ITR-024-L

Technical support at work for you

Have a hardware, software, application, instrument repair, or troubleshooting question? Agilent's technical experts are available to answer your questions. With years of laboratory experience, our technical support specialists can provide in-depth knowledge and experience.

For questions about supplies found in this catalog, contact your local Agilent office or authorized Agilent distributor. Or visit **www.agilent.com/chem/techsupport**



Agilent CrossLab services

Maximize uptime with end-to-end support

Trust Agilent CrossLab service experts to deliver valuable insights and keep your instruments running. Our industry-leading services include Technology Refresh, application consulting, repairs, preventive maintenance, and more.
Ask us how we can support your laboratory today.

www.agilent.com/crosslab

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© Agilent Technologies, Inc. 2019
Published in the USA, March 1, 2019
5994-0616EN

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