Laboratory reagents for food, beverage and dairy analysis

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Laboratory reagents for food, beverage and dairy analysis

At Thermo Fisher Scientific, we understand the importance of determining the nutritional value and quality of food, such as carbohydrates, proteins, vitamins and fats. We also recognize the critical nature of testing for traces of pesticides, metabolites, mycotoxins, allergens, heavy metals and other contaminants to ensure food safety.

We offer a comprehensive range of high quality products developed by our Thermo Fisher Scientific instrumentation and chemical experts to meet your analysis workflows:

- High purity solvents and blends for LC, LC-MS and UHPLC-MS
- Fisher Chemical™ Optima™ solvents are designed for multiple techniques:
  - HPLC UV
  - Pesticide analysis
  - UV spectrophotometry
  - Extraction and purification
- High purity acids for trace elemental analysis by AAS, ICP-OES or ICP-MS
- Reagents for water content analysis by Karl Fischer titration
- Reagents for dairy testing

Discover our Customized Products

How can we help? We customize our products to meet your requirements, offering you an ideal solution. We distill, blend, test, label and package to deliver chemicals tailored to your needs.

- Semibulk and bulk chemical services
- Custom-made chemicals
- Returnable drum delivery system

The chemicals you need—tested, packaged and delivered to meet your exact requirements.

Request a quote at: fishersci.com/bulkcustomchemicals

High purity solvents and blends for liquid chromatography

The certified performance of Fisher Chemical solvents and blends offers the most reliable solutions for today's scientist, running chromatography analysis in the food and beverage industry. Our range of solvents and blends is designed to deliver reproducible performance for determination of the presence of aflatoxins or mycotoxins, and the components and concentration present in the finished product.

Application	Grade	Product Description	Cat. No.
HPLC, GC, Spectrophotometry	Fisher Chemical Optima, ACS Compliant	Acetonitrile	A996
		Ethyle Acetate	E196
		Hexane (95% n-Hexane)	H306
		Hexanes (mixture of isomers)	H303
		Methanol	A564
		Methylene Chloride	D151
		2-Propanol	A464
		Water	W5
LC-MS	Fisher Chemical Optima LC-MS	Acetic Acid	A113
		Acetonitrile	A955
		Acetonitrile, with 0.1% Formic acid (v/v)	LS120
		Acetonitrile, with 0.1% TFA (v/v)	LS121
		Ammonium Acetate	A114
		Ammonium Formate	A115
		Formic Acid	A117
		Methanol	A956
		2-Propanol	A461
		Trifluoroacetic Acid (TFA)	A116
		Water	W6
		Water, with 0.1% Formic acid (v/v)	LS118
		Water, with 0.1% TFA (v/v)	LS119
UHPLC-MS	Thermo Scientific™ UHPLC-MS	Acetonitrile	A956 *
		Methanol	A458 *
		Water	W8 *
LC and LC-MS	Thermo Scientific™ ChromaCare™	ChromaCare Instrument Flush Solution	T11110

Many products are available in amber glass and *borosilicate glass bottles. View our full range of products, packaging options and pack sizes online.

Solvents for gas chromatography

The food and beverage industry requires gas chromatography (GC) analysis to detect flavors and fragrances and to determine contaminants like pesticide residues.

Fisher Chemical offers pesticide and Optima grades of solvents, suitable for extraction and sample preparation prior to analysis by gas chromatography.

The determination of residual solvents (volatile organic impurities) by GC Headspace is also an important quality control procedure in the food and beverage industry as is their use in ensuring desired flavor development during processing such as coffee or chocolate. The Fisher Chemical GC Headspace solvents are performance tested to ensure low organic contaminants, facilitating the extraction of volatile organic impurities.

Application	Grade	Product Description	Cat. No.
Pesticide Residue Analysis	Pesticide, GC with electron capture detector (ECD)	Acetone	A40
		Chloroform, with amylene preservative	C603
		Ethyl Acetate	E191
		Ethyl Ether	E199
		Hexanes	H300
		Methanol	A450
		Methylene Chloride	D142
	Optima Also suitable for liquid chromatography, spectrophotometry	Acetone	A929
		Acetonitrile	A996
		n-Hexane, 95%	H306
		Methylene Chloride	D151
		Toluene	T291
GC Headspace	GC Headspace	Dimethyl sulfoxide, DMSO	D139
		N,N-Dimethylacetamide, DMAC	D160
		N,N-Dimethylformamide, DMF	D133
		N-Methylpyrrolidone, NMP	N140
		Water	W10

Many pack sizes available in amber glass.
View our full range of products, packaging options and pack sizes online.

Reagents for trace elemental analysis

Trace elemental analysis of drinking water, fish and other food stuffs requires high purity reagents for accurate results.

Fisher Chemical offers the grade of acid to suit your analysis – whether you're using AAS, ICP-OES or ICP-MS.

- Fisher Chemical™ Optima™ Acids (1-100 ppt) – Suitable for detection up to ppq levels. Feature the lowest metal content (1 ppt for key metals) and the highest purity
- Fisher Chemical™ TraceMetal™ Acids (0.1-1 ppb) – High-purity, exceptional value. Specification measured at 0.1 ppb for key metals
- ICP-OES (1-50 ppb) – The perfect choice for routine applications
- Certified ACS Plus (ppm) – Analyzed for 16 metals at low parts-per-million (ppm) levels. Suitable for use in environmental and food applications

Application	Grade	Product Description	Cat. No.
AAS	Certified ACS Plus	Hydrochloric acid, 36-38%	A144
		Nitric acid, 68-70%	A200
		Sulfuric acid, 95-98%	A300
ICP-OES	ICP-OES	Hydrochloric acid, 36-38%	T00308
		Nitric Acid, 69-70%	T00309
		Sulfuric Acid, 95-98%	T00311
	TraceMetal	Hydrochloric acid, 34-37%	A508
		Nitric acid, 67-69%	A509
		Sulfuric acid, 93-98%	A510
ICP-MS	Optima	Hydrochloric acid, 32-25%	A466
		Nitric acid, 67-69%	A467
		Sulfuric acid, 96%	A468

Other acids and pack sizes are available.
View the full range online.

Karl Fischer for water content analysis

Fisher Chemical™ Aqualine™ reagents are designed for water content analysis by Karl Fischer titration. The Aqualine portfolio is designed to meet the needs of the analytical chemist by providing accurate water content determination using volumetric or coulometric titration ensuring trouble free & fast results.

- Aqualine volumetric range for high water content analysis available in one or two component solution
- Aqualine coulometric range for low water content at ppm level
- Aqualine water standards for Karl Fischer titrator calibration packed in glass ampoules

Our reliable Aqualine reagents provide fast and stable endpoints to ensure accurate results.

Application		Product Description	Cat. No.
Aqualine Karl Fischer Titration	Volumetric Reagents Single Component	Aqualine Complete 1	AL1900
		Aqualine Complete 2	AL1950
		Aqualine Complete 5	AL2000
	Volumetric Reagents Two Component	Aqualine Solvent	AL2100
		Aqualine Solvent CM	AL2110
		Aqualine Titrant 2	AL2150
		Aqualine Titrant 5	AL2200
	Reagents for Aldehydes & Ketones	Aqualine Complete 5K	AL2250R
		Aqualine Matrix K	AL2300R
	Coulometric Reagents	Aqualine Electrolyte A	AL2500
		Aqualine Electrolyte AG	AL2520
		Aqualine Electrolyte CG	AL2560
	Water Standards	Aqualine Sodium Tartrate Dihydrate	AL2770
		Aqualine Water Standard, 1 mg/g	AL2710
		Aqualine Water Standard, 5 mg/g	AL2730
		Aqualine Water Standard, 10 mg/g	AL2720

Available packaged in 500mL, 1L and 2.5L amber glass bottles and standards packaged in ampules.
View the full range of products and pack sizes online.

Reagents for dairy testing

Not all analytical reagents are created equal! Fisher Chemical products are manufactured and processed to provide accurate and consistent results and are specifically tested and validated on the latest instrumentation from Thermo Fisher Scientific and other leading manufacturers.

The Fisher Chemical portfolio includes reagents suitable for analysis of fat, determination of protein and acidity for dairy samples such as milk, cheese and yogurt.

Application	Grade	Product Description	Cat. No.
Fat analysis	Certified ACS Plus	Ammonia solution, 28-30%	A669
	Certified	Isoamyl alcohol	A393
	Fat extraction	Ethyl ether	E492
	Certified ACS	Petroleum ether	E139
	For Babcock Milk Test	Sulfuric acid, 90-93%	SA174
	For Gerber method	Sulfuric acid, 91-92%	SA176
Nitrogen content (protein) determination	Certified Stain	Amido Black	BP124
	Certified	Kjel-Sorb Solution, 4% Boric acid solution with indicator	SK15
	Certified	FisherTab™ CT-50 Kjeldahl Tablets	K310
	Certified	FisherTab™ TT-35 Kjeldahl Tablets	K315
	Certified Stain	Orange G	O267
	Certified	Sodium hydroxide, 40%	SS411
	Certified ACS Plus	Sulfuric acid, 95-98%	A300
pH and acidity	For pH measurement	Buffer solution pH 4, Color-Coded Red	SB101
		Buffer solution pH 7, Color-Coded Yellow	SB107
	For volumetric analysis	Hydrochloric acid, 0.1M (0.1N)	SA54
		Hydrochloric acid, 1M (1N)	SA48
		Phenolpthalein Indicator Solution, 0.5%, in 50% alcohol	SP50
		Phenolpthalein Indicator Solution, 1.0%, in alcohol	SP62
		Sodium Hydroxide, 0.1M (0.1N)	SS276
		Sodium Hydroxide, 1M (1N)	SS266

Other reagents and sizes are available.
View the full range of products and pack sizes online.

Quality grades for every analytical application

Our portfolio of brands and product grades offer a range of solutions for your analytical testing needs.

- Application-specific testing for high resolution chromatography including, LC-MS, UHPLC-MS and GC Headspace
- Rigorous quality assurance and testing procedures throughout the production process, ensure the lot-to-lot consistency required for interference-free reproducible results every time
- High-volume solvent delivery systems, available in 10L to 1000L, offer environmentally friendly solvent handling solutions for your applications, enhancing safety and improving productivity within your lab

Fields	Application	Grade(s)	Description and Use
Chromatography	Liquid Chromatography (LC)	Optima HPLC	Suitable for HPLC gradient
		Optima LC-MS	Suitable for LC-MS and UHPLC-UV
		Thermo Scientific UHPLC-MS	Highest purity for UHPLC-MS
	Gas Chromatography (GC)	Pesticide	Suitable for GC with ECD or FID detector
		GC Resolv	Tested for high GC resolution up to ppb level of contaminants
		GC Headspace	Tested to ensure absence of Type 1, 2 and 3 volatiles
Elemental Analysis	AAS	Certified ACS Plus	Acids analysis for metals in the very low parts per million (ppm) range
	ICP-OES	Thermo Scientific ICP-OES	Acids analyzed for up to 36 metals in the low (ppb) range (1-50 ppb)
		TraceMetal	Acids analyzed for 55 metals in low to very low parts per billion (ppb) range
	ICP-MS	Optima	Acids analyzed for more than 65 metals in the parts per trillion (ppt) range
General Analytical Techniques	Karl Fischer Titration	Aqualine	Karl Fischer titration reagents
	Volumetric titration	Certified	Acid and base solutions suitable for precise titration
	pH titration	Certified	Purity meets or exceeds miniumum specifications
	Other Analysis	Certified ACS	Meets American Chemical Society specifications