



Reliability. Purity. Certainty.



Solvents Application Guide

Solvent Products | Solvent Packaging

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Diagnostics

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Chemistry



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Our Specialised Chemical Services provide tailored chemical solutions and services required in research, scale up/development and production. We offer bulk and semi bulk quantities, solvent blending, additional testing, packaging and/or special instructions. Our robust Global Quality System provides cGMP products and services including supply chain integrity and traceability.



Fisher Chemical High Purity Solvents

Our Chemicals. Your Research. Endless Possibilities...

Since the early part of the 20th century, Fisher Chemical has been a part of Fisher Scientific serving the science community with chemicals for research applications. Our years of experience, along with our team of highly knowledgeable and dedicated people, bring you the highest level of customer service, technical assistance and fast, accurate delivery.

The Fisher Chemical portfolio of high-purity solvents comprises

more than 800 solvents suited to a wide range of laboratory applications, from LC/MS to HPLC to gas chromatography to spectrophotometry.

Manufactured in ISO 9001:2008-certified facilities, each Fisher Chemical solvent undergoes rigorous quality assurance and testing measures that ensure excellent lot-to-lot and bottle-to-bottle consistency.



Thermo Scientific Revco High Performance Chromatography Refrigerators

- ✔ Forced air circulation for uniform temperature and fast door opening recovery
- ✔ Heat-free defrost for maximum uniformity
- ✔ Access ports with insulated hinged covers
- ✔ Duplex interior plug
- ✔ 1" (2.5cm) insulated access port
- ✔ Bright, LED interior lighting
- ✔ Adjustable, epoxy-coated wire shelves
- ✔ TempTest electronic probe/alarm test
- ✔ Keyed on/off switch with setpoint security
- ✔ Self-closing door with 90° stop (except REC4504 model)



Optional inkless, seven day, graphic, chart recorder

Keyed on/off switch with set point security

Microprocessor control system with audio and visual alarms

Bright, digital temperature display

Bright, LED interior lighting illuminates the entire cabinet

Epoxy-coated, wire open shelves, adjustable in 1 in. increments for flexibility, available in both full and half shelf

Doors:

Robust, spring-loaded, self closing doors with 90° stay-open feature (sliding glass on 45 cu. ft. model)

Safety glass, double-pane doors

Lockable doors for added sample security



Excellence in Packaging through Innovation

Fisher Chemical products come in a variety of innovative packaging options designed for safety, environmental protection, convenient handling and storage, and preservation of product integrity. Our packaging is compliant with all government regulations.



Plastic Bottles—Safety and Convenience

Available when chemical properties are compatible to minimize the risk of breakage, provide lighter weight packaging and easier, more economical shipping.

Amber Glass Bottles—Quality and Reliability

Used to package photosensitive chemicals to protect them from light.

Aluminum Cans—Quality and Reliability

Designed to contain ethers, Fisher Chemical 1L and 4L aluminum cans feature a round, seamless construction, reducing the possibility of leakage through a seam.



Resources



Styrofoam[®]-free EcoSafPak[™] packaging. We now deliver all 4 × 4L, 1 × 4L, 6 × 1L, 6 × 500mL, 1 × 2.5L, 1 × 1L, 1 × 500mL, 2 × 4L, 2 × 1L and 2 × 500mL glass bottles (including the Safe-Cote[™] glass bottles) of your favorite products in eco-friendly EcoSafPak packaging manufactured by an SFI certified manufacturer.



SFI
CERTIFIED
SOURCING

FIBER USED IN THIS PRODUCT LINE
MEETS THE SOURCING REQUIREMENTS
OF THE SFI PROGRAM
WWW.SFIPROGRAM.ORG



EcoSafPak packaging minimizes the use of non-recyclable material through the use of the revolutionary Hexacomb design inserts.

The Hexacomb is:

- Fully Recyclable
- Sturdy and Durable
- Versatile

Improved safety & handling:

- EcoSafPak is the only package of its kind to pass the most demanding ISTA (International Safe Transport Association) "3A" test, consisting of:
 - 17 drops to simulate real-world parcel shipment handling
 - Shock testing
 - Vibration testing
- Corrugated material is shock absorbing
- Greater stability in the frame of the box
- Staggered handholds for ease of transport

The EcoSafPak is now manufactured by an SFI-certified manufacturer.

The Sustainable Forestry Initiative[®] (SFI) program:

- is based on the premise that responsible environmental behavior and sound business decisions can co-exist
- is a comprehensive system of principles, objectives, and performance measures developed by professional foresters, conservationists, and scientists
- promotes the perpetual growing and harvesting of trees with the long-term protection of wildlife, plants, soil, and water

SFI's Nine Objectives:

- Sustainable Forestry
- Responsible Practices
- Reforestation and Productive Capacity
- Forest Health and Productivity
- Long-Term Forest and Soil Productivity
- Protection of Water Resources
- Protection of Special Sites and Biological Diversity
- Legal Compliance
- Continual Improvement

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Resources

Lock in Quality and Safety with Fisher Chemical Products

Fisher Chemical products are now packaged with the innovative, new FisherLOCK™ Cap, designed to help maintain the highest standards in product quality and chemical safety practices.

With an exclusive color-coded design (patent pending), the FisherLOCK™ Cap is engineered to lock to the transfer bead of the bottle when it is applied during manufacturing to a filled bottle of laboratory chemicals. The cap design includes an interior ring, visible from various angles, that offers resistance until it separates from the cap when the bottle is first opened.

The presence and location of that ring imparts tamper evidence to the configuration—without the drawbacks and complications of a plastic seal over the cap. The FisherLOCK™ Cap is easy to use, and supports product quality, reliability of use, and safety in use of the chemical products you purchase.



The FisherLOCK™ Cap LOCKS in quality, safety, reliability, and convenience:

Quality

- Provides a tight, tamper-evident, secure seal to assure chemical contents arrive fresh and unopened
- Eliminates polyethylene glycol contamination that is possible with a plastic overseal

Safety

- Caps are designed to resist back-off during transport, reducing risk of leakage
- Color-coded rings indicate storage requirements and hazard categories, and enhance proper recognition, handling and storage, even before the bottle is removed from the case

Reliability

- Rigorously tested for chemical compatibility
- Bottle threads are unchanged, allowing you to continue to attach the opened bottle to standard equipment

Convenience

- Cap design facilitates correct initial torque application during manufacturing, thus eliminating caps that may be hard to twist open
- Larger ridges on the exterior of the cap make it easier to open
- Caps readily reseal after initial opening

Resources

Fisher Chemical Safe-Cote Solvents

Safe-Cote PVC Bottles — Safely Serving Science

These Fisher Chemical products are protected by Safe-Cote® PVC bottles that provide the purity of glass and most of the benefits of plastic for storing and dispensing of chemicals. If they break, glass fragments and liquids are more likely to remain trapped.

- Innovative safety bottle with FisherLOCK™ tamper evident cap
- Convenient storing and dispensing
- Packaged in the 100 percent recyclable Styrofoam®-free EcoSafPak

Description	Purity Grade	Size	Cat. No.
1-BUTANOL	HPLC/ACS	1L	A383SK-1
1-BUTANOL	HPLC/ACS	4L	A383SK-4
2-PROPANOL	Certified ACS Plus	4L	A416SK-4
2-PROPANOL	HPLC/ACS	1L	A451SK-1
2-PROPANOL	HPLC/ACS	4L	A451SK-4
2-PROPANOL	OPTIMA	4L	A464SK-4
ACETONE	Certified ACS	4L	A18SK-4
ACETONE	HPLC	1L	A949SK-1
ACETONE	HPLC/ACS	4L	A949SK-4
ACETONE	OPTIMA/ACS	4L	A929SK-4
ACETONITRILE	HPLC/ACS	1L	A998SK-1
ACETONITRILE	HPLC/ACS	4L	A998SK-4
ACETONITRILE	OPTIMA/ACS	4L	A996SK-4
CHLOROFORM	HPLC/ACS	4L	C606SK-4
CHLOROFORM	Certified ACS	4L	C298SK-4
CHLOROFORM	HPLC/ACS	1L	C606SK-1
CHLOROFORM	SpectrAnalysed	4L	C574SK-4
CHLOROFORM W/Pentene	HPLC/ACS	1L	C607SK-1
CHLOROFORM W/Pentene	HPLC/ACS	4L	C607SK-4
CYCLOHEXANE	HPLC/ACS	1L	C620SK-1
CYCLOHEXANE	HPLC/ACS	4L	C620SK-4
ETHYL ACETATE	HPLC/ACS	1L	E195SK-1
ETHYL ACETATE	HPLC/ACS	4L	E195SK-4
ETHYL ACETATE	Certified ACS	4L	E145SK-4
ETHYL ACETATE	OPTIMA	4L	E196SK-4
ETHYL ALCOHOL	Denatured	4L	A407SK-4
HEPTANE	HPLC	1L	H350SK-1
HEPTANE	HPLC	4L	H350SK-4
HEXANE	HPLC	1L	H302SK-1
HEXANE	HPLC	4L	H302SK-4
HEXANE	OPTIMA/ACS	4L	H303SK-4
HEXANES	Certified ACS	4L	H292SK-4
ISO-OCTANE	HPLC/ACS	1L	O296SK-1
ISO-OCTANE	HPLC/ACS	4L	O296SK-4
METHANOL	Certified ACS	4L	A412SK-4
METHANOL	HPLC/ACS	1L	A452SK-1
METHANOL	HPLC/ACS	4L	A452SK-4
METHANOL	OPTIMA/ACS	4L	A454SK-4
METHANOL	ScintAnalysed/ACS	4L	A408SK-4

Description	Purity Grade	Size	Cat. No.
METHCHLORIDE	HPLC	1L	D150SK-1
METHCHLORIDE	HPLC	4L	D150SK-4
METHYLENE CHLORIDE	HPLC/ACS	1L	D143SK-1
METHYLENE CHLORIDE	Certified ACS	4L	D37SK-4
METHYLENE CHLORIDE	HPLC/ACS	4L	D143SK-4
METHYLENE CHLORIDE	OPTIMA	4L	D151SK-4
METHYLENE CHLORIDEW/CYCLOHEXENE	HPLC/ACS	4L	D138SK-4
N-BUTYL CHLORIDE	HPLC	4L	B429SK-4
N-HEXANE95% L	OPTIMA/ACS	4L	H306SK-4
PENTANE	HPLC	1L	P399SK-1
PENTANE	HPLC	4L	P399SK-4
PETROLEUM ETHER	Certified ACS	4L	E139SK-4
PETROLEUM ETHER	OPTIMA/ACS	4L	E120SK-4
TETRAHYDROFURAN	Certified	4L	T397SK-4
TETRAHYDROFURAN	HPLC/ACS	1L	T425SK-1
TETRAHYDROFURAN	HPLC/ACS	4L	T425SK-4
TETRAHYDROFURAN	OPTIMA/ACS	4L	T427SK-4
TOLUENE	Certified ACS	4L	T324SK-4
TOLUENE	HPLC/ACS	1L	T290SK-1
TOLUENE	HPLC/ACS	4L	T290SK-4
TOLUENE	OPTIMA	4L	T291SK-4
TOLUENE	ScintAnalysed/ACS	4L	T313SK-4
WATER	HPLC	1L	W5SK-1
WATER	HPLC	4L	W5SK-4
WATER	OPTIMA	4L	W7SK-4
XYLENES	Certified ACS	4L	X5SK-4

View our video and see the difference at:
www.fishersci.com/safecote



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Safety At Your Fingertips

Fisher Chemical DELIVERS AN MSDS RIGHT TO YOUR SMARTPHONE OR TABLET ANYTIME, ANYWHERE



Features and Benefits:

- Get critical safety information fast and easy
- No delays in responding to safety issues
- perfect for quickly checking chemical information - for the Australian MSDS version please visit GoDirect or contact your local representative

Solvent	Grade	Quantity	Packaging	Cat. No.
Methanol	Optima	4L	Amber Glass	A454-4
Acetonitrile	Optima	4L	Amber Glass	A996-4
Methylene Chloride	Optima	4L	Amber Glass	D151-4
Hexane	Optima	4L	Amber Glass	H303-4
Acetone	Optima	4L	Amber Glass	A929-4
N-Hexane, 95%	Optima	4L	Amber Glass	H306-4
Ethyl Acetate	Optima	4L	Amber Glass	E196-4
2-Propanol	Optima	4L	Amber Glass	A464-4
Water	Optima	4L	Amber Glass	W7-4
Chloroform (Approx. 50ppm Amylene as Preservative)	Optima	4L	Amber Glass	C297-4
Propylene Glycol	USP/FCC	20L	Steel Pail	P355-20
Propylene Glycol	USP/FCC	4L	Amber Glass	P355-4
Glycerin	USP/FCC	4L	Glass Bottle	G31-4
2-Propanol	USP	4L	Amber Glass	A516-4
2-Propanol	USP	20L	Steel Pail	A516-20
Methanol	NF	4L	Amber Glass	A413-4
Formaldehyde (40 percent by Volume)	USP	4L	Poly Bottle	F77-P4
Acetone	NF/FCC	20L	Steel Pail	A11-20
Glycerin	USP/FCC	20L	Poly Pail	G31-20
Glycerin	EP/BP/USP/FCC	200L	Poly Drum	G30-200
Acetone	NF/FCC	4L	Amber Glass	A11-4
Formaldehyde (40 percent by Volume)	USP	20L	Rigid Poly Bottle/ Corrugated Box	F77-20
0.05% TFA in Water	HPLC	4L	Amber Glass	HB512-4
0.1% TFA in Water	HPLC	4L	Amber Glass	HB513-4
0.1% FA in Water	HPLC	4L	Amber Glass	HB523-4
0.1% FA and 0.1% TFA in Water	HPLC	4L	Amber Glass	HB534-4
0.05% TFA in Acetonitrile	HPLC	4L	Amber Glass	HB9812-4
0.1% TFA in Acetonitrile	HPLC	4L	Amber Glass	HB9813-4
0.5% FA in Acetonitrile	HPLC	4L	Amber Glass	HB9822-4
0.1% FA in Acetonitrile	HPLC	4L	Amber Glass	HB9823-4
0.1% FA and 0.1% TFA in Acetonitrile	HPLC	4L	Amber Glass	HB9834-4
0.1% FA in Water	Optima LC/MS	4L	Amber Glass	LS118-4
0.1% TFA in Water	Optima LC/MS	4L	Amber Glass	LS119-4
0.1% FA in Acetonitrile	Optima LC/MS	4L	Amber Glass	LS120-4
0.1% TFA in Acetonitrile	Optima LC/MS	4L	Amber Glass	LS121-4

For the complete list of products that offer a QR code leading to an MSDS on our label, please visit: www.fishersci.com/QR

Resources

Select the Fisher Chemical Solvent Grade that is Most Suited for your Application:

Grade	Definition	Application	Certificate of Analysis
Optima®	Acids and solvents of extremely high purity. Acids are Analysed for 65 metals by ICP/MS; impurity levels in ppt. Solvent impurity levels in ppm. UV absorbance curves and sample chromatograms available on request. For Optima acids, a typical lot analysis is given in the catalog. Impurity levels in an actual lot received may vary from the amount listed.	HPLC, GC, plasma/ICP, spectrophotometry, and pesticide residue analysis	Available on request
Optima® LC/MS	Meets stringent purity requirements of LC/ MS and UHPLC by addressing the need for minimal organic contamination with 0.1 micron filtration to make particle free. Evaluated for 17 metal impurities at ppb concentrations for minimal metal mass adduct formation. High ionization efficiency to detect organic contaminants at 50 ppb max (positive) and 300 ppb max (negative) in full scan MS. Screened for UV-absorbing contaminants at every wavelength in the 200 to 400 nm range to afford smooth baselines and to reduce interferences.	Ideal mobile phase for LC/MS and UHPLC-UV applications in pharmaceutical, biotechnology, clinical, environmental and food safety industries.	Available on request
GC Resolv®	Solvents with the highest purity and lot-to-lot consistency. Free of contaminants to the ppb level, including those listed in Contract Laboratory Program Target Compound List. Meet ACS specifications. Chromatogram available on request.	Gas Chromatography (GC)	Available on request
HPLC	Solvents manufactured specifically for use with HPLC instruments. Meet all ACS specifications. Submicron filtered.	HPLC and spectrophotometry procedures	Available on request
Certified ACS	Reagent chemicals that meet or exceed the latest ACS Specifications. Actual lot analysis on label.	Analytical applications requiring tight specifications	Available on request
Certified ACS Plus	Acids that, in addition to meeting or exceeding the latest specifications of the ACS, are Analysed for more than 16 metals. Actual lot analysis on label.	Analytical applications with tighter metal specifications	Available on request
Certified	Reagent chemicals for which the purity standard is established by Fisher Scientific. Purity is guaranteed to meet published maximum limits of impurities.	General analytical procedures	Available on request
Plasma Grade	Solvents manufactured for use with plasma/ICP instruments. Impurity levels in ppt. Packaged in acid-cleaned polyethylene bottles.	Plasma/ICP, environmental testing, trace-metal analysis	Available on request
Environmental Grade	Solvents for use in HPLC analysis, trace-organic analysis, and environmental testing. Packaged in precleaned glass bottles in M3.5 (Class 100) cleanroom. Shipped with Certificate of Analysis.	HPLC, trace-organic analysis, environmental testing.	Available on request
Pesticide	Solvents for use in analysis of pesticide residue. Meet or exceed ACS standards of purity for pesticide residue analysis.	GC with electron capture detector (ECD), pesticide residue analysis	Available on request
USP/NF/FCC/EP/BP/JP	Reagent chemicals that meet or surpass specifications of the United States Pharmacopeia (USP), the National Formulary (NF), the Food Chemicals Codex (FCC), the European Pharmacopeia (EP), the British Pharmacopeia (BP), and/or the Japanese Pharmacopeia (JP).	Food and drug laboratories, biological testing	20L or greater; 10kg or greater
SpectrAnalysed®	Solvents for use in spectrophotometry. Also meet ACS specifications. Actual lot analysis on label.	Ultraviolet and visible wavelength detectors (UV-Vis)	Available on request
Biotechnology	Solvents and reagents that have been specially purified and assayed for biotechnology applications.	Electrophoresis, molecular biology, sequencing, and peptide and oligonucleotide synthesis	Available on request
ScintAnalysed™	Solvents, fluors, and prepared cocktails for liquid scintillation counting. Includes nonflammable, nontoxic, biodegradable ScintiSafe® cocktails.	Liquid scintillation counting	Available on request
Electronic	Solvents manufactured to ensure low levels of metal contamination. Meet Semiconductor Equipment and Materials Institute (SEMI) requirements. Actual lot analysis on label.	Electronics and circuit board manufacturing	Available on request
TraceMetal	Acids manufactured to achieve low metal contamination measurable in ppm to ppb range. Each lot is Analysed for more than 55 metals by ICP/MS. For TraceMetal acids, a typical lot analysis is given in the catalog. Impurity levels in an actual lot received may vary from amounts listed.	Primarily used in digestion of samples prior to instrument (ICP) analysis	Available on request
Histology	Solvents and products that are specially prepared for use in the histology laboratory setting. Solvents are filtered for tissue processing applications.	Tissue processing, clinical or histology procedures	Available on request
Laboratory, Technical and Reagent	Chemicals of reasonable purity for situations where no official standard for quality or impurity levels exist.	Manufacturing and general laboratory use	Available on request

Resources

Fisher Chemical High Purity Solvents Selection Guide

Solvent	UV Cutoff (nm)	Boiling Point (°C)	Density (g/mL, 25°C)	Refractive Index (25°C)	Melting Point (°C)	Polarity Index (P')	Eluotropic Value on Silica (D°)	Viscosity (cP, 20°C)	Flash Point (°C)	Mol. Wt.
Acetone	330	56.1	0.7857	1.3568	-94.3	5.1	0.53	0.36	20	58.08
Acetonitrile	190	81.6	0.7780	1.3415	-50.0	5.8	0.52	0.36	2	41.05
1-Butanol	215	117.7	0.8098	1.3972	-88.6	3.9	-	2.98	35	74.12
Chloroform	245	61.7	1.4840	1.4445	-63.3	4.1	0.26	0.58	none	119.38
Cyclohexane	202	80.7	0.7740	1.4247	-6.5	0.2	0.03	0.90	-20	84.16
N,N-Dimethylformamide	268	153.0	0.9440	1.4280	-61.0	6.4	-	0.92	58	73.09
Dimethyl Sulfoxide	262	189.0	1.1014	1.4783	18.5	7.2	-	2.24	87.8	78.13
Ethyl Acetate	255	77.1	0.8940	1.3695	-83.9	4.4	0.38	0.45	-4	88.11
Ethyl Ether	218	34.6	0.7134	1.3500	-116.3	2.8	0.43	0.24	-45	74.12
Glycerol	205	290.0	1.2613	1.4746	18.2	-	-		193	92.09
Heptane	197	98.4	0.6838	1.3855	-90.6	0.2	0.01	0.40	-4	100.20
Hexanes	195	69.0	0.6630	1.3759	-95.3	0.1	0.01	0.31	-23	86.18
Isooctane	205	99.2	0.6919	1.3895	109.5	0.1	0.01	0.50	28	114.23
Methanol	205	64.7	0.7915	1.3288	-97.8	5.1	0.73	0.55	12	32.04
Methylene Chloride	233	39.5	1.3180	1.4215	-96.7	3.1	0.32	0.30	N/A	84.93
N-Methylpyrrolidinone	275	202.2	1.03	1.469	-24.4	-	-	1.67	95	99.13
Pentane	190	36.1	0.6264	1.3555	-129.7	0.0	0.00	0.22	-49	72.15
Petroleum Ether	-	35-60	0.6400	1.3610	-	0.1	-	-	-18	-
2-Propanol	205	82.3	0.7855	1.3772	-90.0	3.9	0.63	2.40	-12	60.10
Tetrahydrofuran	210	66.1	0.8892	1.4060	-108.3	4.0	0.35	0.55	-14	72.11
Toluene	285	110.6	0.8660	1.4940	-95.0	2.4	0.22	0.59	-4	92.14
Water	-	100.0	0.9982	1.3330	0.0	10.2	-	1.00	N/A	18.02

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Optima® LC/MS Solvents**Acetonitrile, Methanol, 2-Propanol (IPA) and Water**

- Lower contamination from plasticiser peaks
- Exceptionally low metal ion content
- Fewer background peaks
- Higher signal intensity
- Low LC/UV response

The joining of liquid chromatography (LC) with mass spectrometry (MS) has become an indispensable tool for various fields of research. The value of LC/MS derives from its ability to combine separation chemistry with selective mass ion detection. As instrumentation advances lead to ever-lower analyte detection limits, it is crucial for the chromatographer to consider the level of purity when selecting appropriate solvents for use in the LC/MS mobile phase. The Fisher Chemical product line offers superior high-purity solvents designed to meet the required purity level of advanced LC/MS systems.

For more information, including a white paper titled 'Optimising Mobile Phase Solvent Purity for LCMS', go to www.thermofisher.com.au/optima.

Grades

New and Improved Optima® LC/MS Solvents**Acetonitrile: A955 | Methanol: A456 | Water: W6**

- Optimised for UHPLC-UV. Novel gradient elution test in the full UV range (200-400nm) ensures extremely low levels of UV-absorbing impurities.
- Sub-micron filtration of Optima LC/MS solvents prolongs the life and effectiveness of UHPLC components such as inlet filters, check valves & seals, injectors and columns by reducing instrument downtime and maintenance cost.
- Filtration feature provides very low particle content for maximum purity.

Improved Performance

Optima LC/MS solvents now lead the industry with an unprecedented LC-UV gradient suitability specification that was developed by using advanced UHPLC technology coupled with PDA detection optics. As a result, each lot of Optima LC/MS solvent is screened for UV-absorbing contaminants at every wavelength in the 200-400nm range to afford smooth baselines, reduced interferences, and increased confidence in your analyses.

In addition, Optima LC/MS solvents are formulated for UHPLC-UV which requires the mobile phase to be free of contaminating particulates and UV-absorbing impurities.

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetonitrile	Optima LC/MS	500mL	Amber Glass	A955-500*
Acetonitrile	Optima LC/MS	1L	Amber Glass	A955-1*
Acetonitrile	Optima LC/MS	2.5L	Amber Glass	A955-212*
Acetonitrile	Optima LC/MS	4L	Amber Glass	A955-4*
Methanol	Optima LC/MS	500mL	Amber Glass	A456-500*
Methanol	Optima LC/MS	1L	Amber Glass	A456-1*
Methanol	Optima LC/MS	2.5L	Amber Glass	A456-212*
Methanol	Optima LC/MS	4L	Amber Glass	A456-4*
2-Propanol	Optima LC/MS	500mL	Amber Glass	A461-500
2-Propanol	Optima LC/MS	1L	Amber Glass	A461-1
2-Propanol	Optima LC/MS	2.5L	Amber Glass	A461-212
2-Propanol	Optima LC/MS	4L	Amber Glass	A461-4
Water	Optima LC/MS	500mL	Amber Glass	W6-500*
Water	Optima LC/MS	1L	Amber Glass	W6-1*
Water	Optima LC/MS	2.5L	Amber Glass	W6-212*
Water	Optima LC/MS	4L	Amber Glass	W6-4*



**Formulated for UHPLC-UV*

Place your order today!

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Grades

New and Improved Optima® LC/MS Blends

Our high purity solvents are submicron filtered (0.1 µm) to minimize troublesome particles that may interfere with UHPLC system performance and provide an ideal solution to prepare cleaner, particle-free, mobile phase blends for UHPLC.

Advantages

- Ready-to-use
- Avoids the possibility of contamination that can occur with in-house blended solvents
- Eliminates the need to clean glassware or measure corrosive acids
- Eliminates batch-to-batch variation
- Reduces overhead costs associated with preparing blends
- Reduces many of the safety risks associated with storing, blending, and disposing of hazardous solvents and acids
- Avoids human error during preparation of blends

Applications

- Proteomics
- Pharmaceutical Research
- Drug Discovery
- Biomedical Research



Solvent	Purity Grade	Quantity	Packaging	Cat. No.
0.1% FA in Water	Optima LC/MS	500mL	Amber Glass	LS118-500
0.1% FA in Water	Optima LC/MS	1L	Amber Glass	LS118-1
0.1% FA in Water	Optima LC/MS	2.5L	Amber Glass	LS118-212
0.1% FA in Water	Optima LC/MS	4L	Amber Glass	LS118-4
0.1% TFA in Water	Optima LC/MS	500mL	Amber Glass	LS119-500
0.1% TFA in Water	Optima LC/MS	1L	Amber Glass	LS119-1
0.1% TFA in Water	Optima LC/MS	2.5L	Amber Glass	LS119-212
0.1% TFA in Water	Optima LC/MS	4L	Amber Glass	LS119-4
0.1% FA in Acetonitrile	Optima LC/MS	500mL	Amber Glass	LS120-500
0.1% FA in Acetonitrile	Optima LC/MS	1L	Amber Glass	LS120-1
0.1% FA in Acetonitrile	Optima LC/MS	2.5L	Amber Glass	LS120-212
0.1% FA in Acetonitrile	Optima LC/MS	4L	Amber Glass	LS120-4
0.1% TFA in Acetonitrile	Optima LC/MS	500mL	Amber Glass	LS121-500
0.1% TFA in Acetonitrile	Optima LC/MS	1L	Amber Glass	LS121-1
0.1% TFA in Acetonitrile	Optima LC/MS	2.5L	Amber Glass	LS121-212
0.1% TFA in Acetonitrile	Optima LC/MS	4L	Amber Glass	LS121-4
Formic Acid	Optima LC/MS	50mL	Poly Bottle	A117-50
Formic Acid	Optima LC/MS	10 x 1mL	Ampule	A117-10XAMP
Formic Acid	Optima LC/MS	1mL	Ampule	A117-1AMP
Formic Acid	Optima LC/MS	0.5mL	Ampule	A117-05AMP
Formic Acid	Optima LC/MS	2mL	Ampule	A117-2AMP
Trifluoroacetic Acid	Optima LC/MS	50mL	Poly Bottle	A116-50
Trifluoroacetic Acid	Optima LC/MS	10 x 1mL	Ampule	A116-10X1AMP
Trifluoroacetic Acid	Optima LC/MS	1mL	Ampule	A116-1AMP
Trifluoroacetic Acid	Optima LC/MS	0.5mL	Ampule	A116-05AMP
Trifluoroacetic Acid	Optima LC/MS	2mL	Ampule	A116-2AMP

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Grades

FA and TFA, Mobile Phase Blends, OPTIMA LC/MS Grade

Fisher Chemical OPTIMA LC/MS solvents have set the standard of excellence for consistent, reproducible performance in the mobile phase of LC/MS. Now, these same high purity solvents are preblended with OPTIMA LC/MS modifiers such as formic acid (FA) or trifluoroacetic acid (TFA) to provide ready-to-use aqueous and organic mobile phase blends for LC/MS and LC/UV applications. In recent laboratory experiments, Fisher Chemical OPTIMA LC/MS solvent blends were shown to meet the stringent purity requirements of LC/MS by providing a consistent concentration of FA or TFA, a very low mass baseline (noise level), exceptionally low metal ion content, and very low LC/UV background. Moreover, the protease-free specification of the aqueous blends is important for proteomics research since peptides/proteins could be degraded if the mobile phase solution is contaminated with protease. Fisher Chemical OPTIMA LC/MS pre-blended solvents are manufactured in facilities with an ISO 9001:2008 certified quality system to ensure optimum quality and product uniformity.

FA and TFA, OPTIMA LC/MS Grade

High purity solvents are pre-blended with modifiers such as formic acid (FA) or trifluoroacetic acid (TFA) to provide ready-to-use mobile phase for LC/MS and LC/UV applications.



Now available in ampules packaging

Trifluoroacetic acid is an ultrapure reagent used as an additive for the formulation of solvent blends for the mobile phase in LC/MS applications.



New!

Specialised Optima® LC/MS Mobile Phase Blends

Specialised solvent blends that have been developed for use in liquid chromatography, mass spectrometry and are ideal for research applications including proteomics, metabolomics, clinical chemistry and drug discovery.

- Optimal ionic strength and low pH help analyte retention/elution through reverse phase columns by eliminating stationary phase interactions
- Reduced metals content to prevent the formation of metal adducts
- Innovative packaging to ensure solvent quality at the point of use
- Reduced safety risk associated with storing, blending and disposing of hazardous solvents
- Lowest impurity background using diode array detection (LC/UV)
- Lot-to-lot consistency
- OPTIMA LC/MS mobile phase extends LC/MS column life due to low impurity levels and low residue value
- Very effective in solubilizing hydrophobic polypeptides



Solvent	Purity Grade	Quantity	Packaging	Cat. No.
45% Acetonitrile, 45% IPA, 10% Acetone	Flush Solution	1L	Borosilicate Glass	MB124-1
10mM Ammonium Formate in Water with 0.05% Formic Acid	Aqueous Mobile Phase	1L	Borosilicate Glass	MB123-1
10mM Ammonium Formate in Methanol with 0.05% Formic Acid	Organic Mobile Phase	1L	Borosilicate Glass	MB122-1

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Grades

Optima Solvents

Optima Solvents meet extremely high purity (ppm) levels. They are manufactured for use when contaminant-free performance is essential—HPLC, GC, plasma/ICP, spectrophotometry, environmental testing and other analytical applications.

- Contaminant-free to ppb and ppm levels, depending on solvent
- Certificate of Analysis available online and upon request
- Supplied in specially cleaned bottles
- Blanketed with inert gas to maintain purity
- Chromatograms available on request

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetone	Optima	1L	Amber Glass	A929-1
Acetone	Optima	4L	Amber Glass	A929-4
Acetone	Optima	4L	Glass/Safe-Cote	A929SK-4
Acetonitrile	Optima	1L	Amber Glass	A996-1
Acetonitrile	Optima	4L	Amber Glass	A996-4
Acetonitrile	Optima	4L	Amber Glass/Safe-Cote	A996SK-4
Chloroform (Approx. 50ppm Amylene as Preservative)	Optima	4L	Amber Glass	C297-4
Ethyl Acetate	Optima	4L	Amber Glass	E196-4
Ethyl Acetate	Optima	4L	Safe-Cote	E196SK-4
Hexanes	Optima	1L	Amber Glass	H303-1
Hexanes	Optima	4L	Amber Glass	H303-4
Hexanes	Optima	4L	Amber Glass/Safe-Cote	H303SK-4
n-Hexane, 95%	Optima	1L	Amber Glass	H306-1
n-Hexane, 95%	Optima	4L	Amber Glass	H306-4
n-Hexane, 95%	Optima	4L	Amber Glass/Safe-Cote	H306SK-4
Isooctane	Optima	4L	Amber Glass	O301-4
Methanol	Optima	1L	Amber Glass	A454-1
Methanol	Optima	4L	Amber Glass	A454-4
Methanol	Optima	4L	Amber Glass/Safe-Cote	A454SK-4
Methylene Chloride	Optima	1L	Amber Glass	D151-1
Methylene Chloride	Optima	4L	Amber Glass	D151-4
Methylene Chloride	Optima	4L	Amber Glass/Safe-Cote	D151SK-4
Petroleum Ether	Optima	4L	Amber Glass	E120-4
Petroleum Ether	Optima	4L	Amber Glass/Safe-Cote	E120SK-4
2-Propanol	Optima	4L	Amber Glass	A464-4
2-Propanol	Optima	4L	Amber Glass/Safe-Cote	A464SK-4
Tetrahydrofuran	Optima	1L	Amber Glass	T427-1
Tetrahydrofuran	Optima	4L	Amber Glass	T427-4
Tetrahydrofuran	Optima	4L	Amber Glass/Safe-Cote	T427SK-4
Toluene	Optima	4L	Amber Glass	T291-4
Toluene	Optima	4L	Safe-Cote/Amber Glass	T291SK-4
Water	Optima	1 L	Amber glass	W7-1
Water	Optima	4L	Amber Glass	W7-4
Water	Optima	4L	Safe-Cote/Amber Glass	W7SK-4



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Grades

GC *Resolv* Solvents

GC *Resolv* Solvents exhibit the very highest purity and lot-to-lot consistency for gas chromatography applications.

- Contaminant-free to ppb levels
- Meet ACS specifications
- Certificate of Analysis available online and upon request
- Supplied in specially cleaned bottles
- Blanketed with inert gas to maintain purity
- Chromatograms available on request

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetone	GC <i>Resolv</i>	4L	Amber Glass	A928-4
n-Hexane	GC <i>Resolv</i>	4L	Amber Glass	H307-4
Methanol	GC <i>Resolv</i>	4L	Amber Glass	A457-4
Methylene Chloride	GC <i>Resolv</i>	4L	Amber Glass	D154-4
Methanol (Low Water)	GC <i>Resolv</i>	200L	BasicPak	A935RB-200

HPLC Grade Solvents

HPLC Grade Solvents are manufactured especially for use with HPLC instruments.

- Meet ACS specifications
- Submicron filtered
- Actual lot analysis on label
- Supplied in specially cleaned bottles
- Blanketed with inert gas to maintain purity
- Certificate of Analysis available online and upon request

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetone	HPLC	1L	Amber Glass	A949-1
Acetone	HPLC	1L	Amber Glass/Safe-Cote	A949SK-1
Acetone	HPLC	4L	Amber Glass	A949-4
Acetone	HPLC	4L	Amber Glass/Safe-Cote	A949SK-4
Acetone	HPLC	19L	NOWPak I	A949N1-19
Acetonitrile	HPLC	1L	Amber Glass	A998-1
Acetonitrile	HPLC	1L	Amber Glass/Safe-Cote	A998SK-1
Acetonitrile	HPLC	2.5L	Amber Glass	A998212
Acetonitrile	HPLC	4L	Amber Glass	A998-4
Acetonitrile	HPLC	4L	Amber Glass/Safe-Cote	A998SK-4
Acetonitrile	HPLC	19L	NOWPak I	A998N1-19
Alcohol	HPLC	4L	Amber Glass	A995-4
1-Butanol	HPLC	1L	Amber Glass	A383-1
1-Butanol	HPLC	1L	Amber Glass/Safe-Cote	A383SK-1
1-Butanol	HPLC	4L	Amber Glass	A383-4
1-Butanol	HPLC	4L	Amber Glass/Safe-Cote	A383SK-4
n-Butyl Chloride	HPLC	4L	Amber Glass	B429-4
n-Butyl Chloride	HPLC	4L	Amber Glass/Safe-Cote	B429SK-4
Chloroform (Approx. 50ppm Pentene as Preservative)	HPLC	1L	Amber Glass	C607-1
Chloroform (Approx. 50ppm Pentene as Preservative)	HPLC	1L	Amber Glass/Safe-Cote	C607SK-1
Chloroform (Approx. 50ppm Pentene as Preservative)	HPLC	4L	Amber Glass	C607-4
Chloroform (Approx. 50ppm Pentene as Preservative)	HPLC	4L	Amber Glass/Safe-Cote	C607SK-4
Chloroform (Approx. 0.75% Ethanol as Preservative)	HPLC	1L	Amber Glass	C606-1
Chloroform (Approx. 0.75% Ethanol as Preservative)	HPLC	1L	Amber Glass/Safe-Cote	C606SK-1
Chloroform (Approx. 0.75% Ethanol as Preservative)	HPLC	4L	Amber Glass	C606-4
Chloroform (Approx. 0.75% Ethanol as Preservative)	HPLC	4L	Amber Glass/Safe-Cote	C606SK-4

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Grades

HPLC Grade Solvents (continued)

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Cyclohexane	HPLC	1L	Amber Glass	C620-1
Cyclohexane	HPLC	1L	Amber Glass/Safe-Cote	C620SK-1
Cyclohexane	HPLC	4L	Amber Glass	C620-4
Cyclohexane	HPLC	4L	Amber Glass/Safe-Cote	C620SK-4
Dimethyl Sulfoxide	HPLC	4L	Amber Glass	D159-4
Ethyl Acetate	HPLC	1L	Amber Glass	E195-1
Ethyl Acetate	HPLC	1L	Amber Glass/Safe-Cote	E195SK-1
Ethyl Acetate	HPLC	4L	Amber Glass	E195-4
Ethyl Acetate	HPLC	4L	Amber Glass/Safe-Cote	E195SK-4
Ethyl Acetate	HPLC	19L	NOWPak I	E195N1-19
Ethyl Ether Anhydrous (Stabilized)	HPLC	4L	Tin Can	E198-4
Heptane	HPLC	1L	Amber Glass	H350-1
Heptane	HPLC	1L	Amber Glass/Safe-Cote	H350SK-1
Heptane	HPLC	4L	Amber Glass	H350-4
Heptane	HPLC	4L	Amber Glass/Safe-Cote	H350SK-4
Hexanes	HPLC	1L	Amber Glass	H302-1
Hexanes	HPLC	1L	Amber Glass/Safe-Cote	H302SK-1
Hexanes	HPLC	4L	Amber Glass	H302-4
Hexanes	HPLC	4L	Amber Glass/Safe-Cote	H302SK-4
Isooctane	HPLC	1L	Amber Glass	O296-1
Isooctane	HPLC	1L	Amber Glass/Safe-Cote	O296SK-1
Isooctane	HPLC	4L	Amber Glass	O296-4
Isooctane	HPLC	4L	Amber Glass/Safe-Cote	O296SK-4
Methanol	HPLC	1L	Amber Glass	A452-1
Methanol	HPLC	1L	Amber Glass/Safe-Cote	A452SK-1
Methanol	HPLC	4L	Amber Glass	A452-4
Methanol	HPLC	4L	Amber Glass/Safe-Cote	A452SK-4
Methanol	HPLC	19L	NOWPak I	A452N1-19
Methyl tert-Butyl Ether	HPLC	4L	Amber Glass	E127-4
Methylene Chloride (Not Stabilized)	HPLC	1L	Amber Glass	D150-1
Methylene Chloride (Not Stabilized)	HPLC	1L	Amber Glass/Safe-Cote	D150SK-1
Methylene Chloride (Not Stabilized)	HPLC	4L	Amber Glass	D150-4
Methylene Chloride (Not Stabilized)	HPLC	4L	Amber Glass/Safe-Cote	D150SK-4
Methylene Chloride (Stabilized)	HPLC	1L	Amber Glass	D143-1
Methylene Chloride (Stabilized)	HPLC	1L	Amber Glass/Safe-Cote	D143SK-1
Methylene Chloride (Stabilized)	HPLC	4L	Amber Glass	D143-4
Methylene Chloride (Stabilized)	HPLC	4L	Amber Glass/Safe-Cote	D143SK-4
Methylene Chloride (With Cyclohexene Preservative)	HPLC	1L	Amber Glass	D138-1
Methylene Chloride (With Cyclohexene Preservative)	HPLC	4L	Amber Glass	D138-4
Methylene Chloride (With Cyclohexene Preservative)	HPLC	4L	Amber Glass/Safe-Cote	D138SK-4
Pentane	HPLC	1L	Amber Glass	P399-1
Pentane	HPLC	1L	Amber Glass/Safe-Cote	P399SK-1
Pentane	HPLC	4L	Amber Glass	P399-4
Pentane	HPLC	4L	Amber Glass/Safe-Cote	P399SK-4
Pentane	HPLC	19L	Steel Drum	P399RS-19

Grades

HPLC Grade Solvents (continued)

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
2-Propanol	HPLC	1L	Amber Glass	A451-1
2-Propanol	HPLC	1L	Amber Glass/Safe-Cote	A451SK-1
2-Propanol	HPLC	4L	Amber Glass	A451-4
2-Propanol	HPLC	4L	Amber Glass/Safe-Cote	A451SK-4
Tetrahydrofuran	HPLC	1L	Amber Glass	T425-1
Tetrahydrofuran	HPLC	1L	Amber Glass/Safe-Cote	T425SK-1
Tetrahydrofuran	HPLC	4L	Amber Glass	T425-4
Tetrahydrofuran	HPLC	4L	Amber Glass/Safe-Cote	T425SK-4
Toluene	HPLC	1L	Amber Glass	T290-1
Toluene	HPLC	1L	Amber Glass/Safe-Cote	T290SK-1
Toluene	HPLC	4L	Amber Glass	T290-4
Toluene	HPLC	4L	Amber Glass/Safe-Cote	T290SK-4
1,2,4-Trichlorobenzene	HPLC	4L	Amber Glass	O4846-4
Triethylamine	HPLC	100mL	Amber Glass	O4884-100
Water	HPLC	1L	Amber Glass	W5-1
Water	HPLC	1L	Amber Glass/Safe-Cote	W5SK-1
Water	HPLC	4L	Amber Glass	W5-4
Water	HPLC	4L	Amber Glass/Safe-Cote	W5SK-4
Water	HPLC	19L	NOWPak I	W5-N119

HPLC Grade Solvent Blends

HPLC mobile phase blends meet the strict purity requirements of HPLC by providing a consistent concentration of FA or TFA and a very low LC/UV background.

- Ready-to-use
- Submicron filtered
- Functional testing to ensure low impurity background (LC-UV at 210nm and 254nm)
- Lot-to-lot consistency
- Packaged in specially treated bottles and sealed with FisherLOCK™ cap to ensure highest product integrity and safety during transport
- Avoid the possibility of contamination that can occur with in-house blended solvents

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
0.05% TFA in Water	HPLC	4L	Amber Glass	HB512-4
0.1% TFA in Water	HPLC	4L	Amber Glass	HB513-4
0.1% FA in Water	HPLC	4L	Amber Glass	HB523-4
0.1% FA and 0.1% TFA in Water	HPLC	4L	Amber Glass	HB534-4
0.05% TFA in Acetonitrile	HPLC	4L	Amber Glass	HB9812-4
0.1% TFA in Acetonitrile	HPLC	4L	Amber Glass	HB9813-4
0.5% FA in Acetonitrile	HPLC	4L	Amber Glass	HB9822-4
0.1% FA in Acetonitrile	HPLC	4L	Amber Glass	HB9823-4
0.1% FA and 0.1% TFA in Acetonitrile	HPLC	4L	Amber Glass	HB9834-4



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Grades

Pesticide Grade Solvents

Pesticide Grade Solvents are used for analysis of pesticide residue and in GC with electron capture detector.

- Meet or exceed ACS standards of purity for pesticide residue analysis
- Actual lot analysis on label

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetone	Pesticide	4L	Amber Glass	A40-4
Acetonitrile	Pesticide	4L	Amber Glass	A999-4
Chloroform (With Amylene Preservative)	Pesticide	4L	Amber Glass	C603-4
Cyclohexane	Pesticide	4L	Amber Glass	C553-4
Ethyl Acetate	Pesticide	4L	Amber Glass	E191-4
Ethyl Ether	Pesticide	4L	Amber Glass	E199-4
Hexanes	Pesticide	4L	Amber Glass	H300-4
Isooctane	Pesticide	4L	Amber Glass	O297-4
Methanol	Pesticide	4L	Amber Glass	A450-4
Methylene Chloride	Pesticide	4L	Amber Glass	D142-4
Pentane	Pesticide	4L	Amber Glass	P400-4
Petroleum Ether	Pesticide	4L	Amber Glass	P480-4
2-Propanol	Pesticide	4L	Amber Glass	A519-4

Scintillation Solvents

ScintAnalysed™ Solvents are specially formulated and tested for liquid scintillation counting.

- Certificate of Analysis available online and upon request

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Toluene	ScintAnalysed	4L	Amber Glass	T313-4
Toluene	ScintAnalysed	4L	Amber Glass/Safe-Cote	T313SK-4
Xylene	ScintAnalysed	4L	Amber Glass	X16-4



Kimble Scintillation Vials

Product code CSE33275S1

Scintillation Vial 20ml 33x57mm. 3.3 borosilicate glass, with foil lined PP closure.

- Unrivalled quality.
- Always ex stock.
- Ideal for scintillation counting and many other uses.

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Grades

Multicompendial Solvents

Multicompendial Solvents meet or surpass specifications of the United States Pharmacopeia (USP), the National Formulary (NF), the Food Chemicals Codex (FCC), the European Pharmacopeia (EP), the British Pharmacopeia (BP), and/or the Japanese Pharmacopeia (JP).

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetone	NF/FCC	1L	Amber Glass	A11-1
Acetone	NF/FCC	4L	Amber Glass	A11-4
Acetone	NF/FCC	4L	SafeTin	A11S-4
Acetone	NF/FCC	20L	Steel Pail	A11-20
Acetone	NF/FCC	200L	Steel Drum	A11-200
Acetone	NF/FCC/EP	4L	Amber Glass	A9-4
Acetone	NF/FCC/EP	20L	Steel Pail	A9-20
Acetone	NF/FCC/EP	200L	Steel Drum	A9-200
Benzyl Alcohol	NF	500mL	Amber Glass	A395-500
Benzyl Alcohol	NF	4L	Amber Glass	A395-4
Benzyl Alcohol	NF/EP/BP	4L	Amber Glass	A392-4
Ethyl Acetate	NF	4L	Amber Glass	E124-4
Ethyl Acetate	NF	20L	Steel Pail	E124-20
Formaldehyde (40% by Volume)	USP	4L	Poly Bottle	F77P-4
Formaldehyde (40% by Volume)	USP	20L	Rigid Poly Bottle/Corrugated Box	F77-20
Formaldehyde (40% by Volume)	USP	20L	PolyPac	F77P-20
Formaldehyde (40% by Volume)	USP	200L	Steel Drum/Poly Liner	F77-200
Glycerol	USP/FCC	500mL	Amber Glass	G31-500
Glycerol	USP/FCC	500mL	Amber Glass	G31-500
Glycerol	USP/FCC	1L	Amber Glass	G31-1
Glycerol	USP/FCC	4L	Amber Glass	G31-4
Glycerol	USP/FCC	20L	Rigid Poly Bottle	G31-20
Glycerol	USP/FCC	200L	Poly Drum	G31-200
Glycerol	USP/FCC/EP/BP	4L	Amber Glass	G30-4
Glycerol	USP/FCC/EP/BP	20L	Rigid Poly Bottle/Corrugated Box	G30-20
Glycerol	USP/FCC/EP/BP	200L	Steel Drum	G30-200
Methanol	NF	500mL	Amber Glass	A413-500
Methanol	NF	4L	Amber Glass	A413-4
Methanol	NF	20L	Steel Pail	A413-20
Methanol	NF	200L	Steel Drum	A413-200
2-Propanol	USP	500mL	Amber Glass	A516-500
2-Propanol	USP	4L	Amber Glass	A516-4
2-Propanol	USP	20L	Steel Pail	A516-20
2-Propanol	USP	200L	Steel Drum	A516-200
Propylene Glycol	USP/FCC	1L	Amber Glass	P355-1
Propylene Glycol	USP/FCC	4L	Amber Glass	P355-4
Propylene Glycol	USP/FCC	20L	Steel Pail	P355-20
Propylene Glycol	USP/FCC	200L	Steel Drum	P355-200
Triethanolamine	NF	500mL	Amber Glass	T350-500
Triethanolamine	NF	4L	Amber Glass	T350-4

Grades

Special Solvent Grades

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
IPA (Isopropyl Alcohol), 70% (v/v)		500mL	Poly Bottle	A459-500
IPA (Isopropyl Alcohol), 70% (v/v)		1L	Poly Bottle	A459-1
IPA (Isopropyl Alcohol), 70% (v/v)		4L	Poly Bottle	A459-4
IPA (Isopropyl Alcohol), 70% (v/v)		20L	PolyPac	A459-20
Kerosene (Odorless)		4L	Amber Glass	K10-4
Kerosene (Odorless)		200L	Steel Drum	K10-200
Methanol	Low Water	4L	Amber Glass	A935-4
Methanol	Purge and Trap Suitable for Volatile Organic Residue Analysis	500mL	Amber Glass	A453-500
Methanol	Purge and Trap Suitable for Volatile Organic Residue Analysis	1L	Amber Glass	A453-1
2-Propanol	Low Water	4L	Amber Glass	A520-4
Stoddard Solvent		4L	Amber Glass	S457-4
Stoddard Solvent		200L	Steel Drum	S457-200
Water	DIUF	4L	Poly Bottle	W2-4
Water	DIUF	20L	PolyPac	W2-20
Water	Environmental Grade	1L	Amber Glass	W11-1
Water	Environmental Grade	4L	Amber Glass	W11-4
Water	Plasma Grade	500mL	LDPE Bottle	W9-500
Water	Plasma Grade	1L	LDPE Bottle	W9-1
Water	Plasma Grade	2L	LDPE Bottle	W9-2

Life Science Research Grades

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Acetonitrile, Anhydrous	Septum-Sealed	50mL	Amber Glass	BP1165-50
Acetonitrile, Anhydrous	DNA Synthesis	4L	Amber Glass	BP1170-4
Acetonitrile, Anhydrous	DNA Synthesis	450mL	Amber Glass	BP1170-450
Acetonitrile, Anhydrous	DNA Synthesis	19L	NowPak	BP1170N-119
Acetonitrile, Anhydrous	DNA Synthesis	19L	NowPak	BP1170N-219
Acetonitrile, Anhydrous	DNA Synthesis	50L	Steel Drum	BP1170SS-50
Chloroform (Approx. 0.75% Ethanol as Preservative)	Molecular Biology	1L	Amber Glass	BP1145-1
Dimethyl Formamide	Sequencing	4L	Amber Glass	BP1160-4
Dimethyl Formamide	Sequencing	500mL	Amber Glass	BP1160-500
Dimethyl Formamide	Sequencing	50L	Steel Drum	BP1160SS-50
Dimethyl Sulfoxide		1L	Amber Glass	BP231-1
Dimethyl Sulfoxide		100mL	Amber Glass	BP231-100
Dimethyl Sulfoxide		4L	Amber Glass	BP231-4
Ethanol	Molecular Biology	100mL	Amber Glass	BP2818-100
Ethanol	Molecular Biology	4L	Amber Glass	BP2818-4
Ethanol	Molecular Biology	500mL	Amber Glass	BP2818-500

Grades

Life Science Research Grades (continued)

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
Ethyl Acetate	Sequencing	1L	Amber Glass	BP1125-1
Ethyl Acetate	Sequencing	4L	Amber Glass	BP1125-4
Ethylene Glycol		1L	Amber Glass	BP230-1
Ethylene Glycol		4L	Amber Glass	BP230-4
Formamide	Molecular Biology	100mL	Amber Glass	BP227-100
Formamide	Molecular Biology	500mL	Amber Glass	BP227-500
Glycerol	Molecular Biology	1L	Amber Glass	BP229-1
Glycerol	Molecular Biology	4L	Amber Glass	BP229-4
Heptane	Sequencing	500mL	Amber Glass	BP1115-500
Isoamyl Alcohol	Molecular Biology	500mL	Amber Glass	BP1150-500
Isopropanol	Molecular Biology	1L	Amber Glass	BP2618-1
Isopropanol	Molecular Biology	2.5L	Amber Glass	BP2618-212
Isopropanol	Molecular Biology	4L	Amber Glass	BP2618-4
Isopropanol	Molecular Biology	500mL	Amber Glass	BP2618-500
Methanol	Sequencing	1L	Amber Glass	BP1105-1
Methanol	Sequencing	4L	Amber Glass	BP1105-4
N-Methylpyrrolidone		4L	Amber Glass	BP1172-4
N-Propanol	Sequencing	500mL	Amber Glass	BP1130-500
Pyridine	Sequencing	500mL	Amber Glass	BP1155-500
Tetrahydrofuran	Sequencing	1L	Amber Glass	BP1140-1
Water	Molecular Biology	1L	Poly Bottle	BP2819-1
Water	Molecular Biology	10L	Poly Bottle	BP2819-10
Water	Molecular Biology	100mL	Poly Bottle	BP2819-100
Water	Molecular Biology	20L	PolyPak	BP2819-20
Water	Molecular Biology	4L	Poly Bottle	BP2819-4
Water	Microbial Cell Culture	1L	Poly Bottle	BP2820-1
Water	Microbial Cell Culture	100mL	Poly Bottle	BP2820-100
Water	Microbial Cell Culture	500mL	Poly Bottle	BP2820-500
Water (DEPC-treated, For RNA work)	Molecular Biology	1L	Poly Bottle	BP561-1



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Grades

Extra Dry Solvents

Our extra-dry solvents provide excellent performance for moisture-sensitive applications and ship in septum sealed bottles for extended use. We recommend the use of 18 to 21 gauge needles for optimum results.

We offer extra dry solvents in three different grades:

- **Standard grade:** Suitable for most applications
- **Molecular sieves grade:** Stored over molecular sieves for prolonged shelf life
- **Supreme grade:** Filtered through 0.2 micron filters for dust-free applications

Compound	Standard grade		Molecular sieves grade		Supreme grade		CAS no.
	Cat. No.	Pack size	Cat. No.	Pack size	Cat. No.	Pack size	
Acetone, 99.8%					ACR326801000 ACR326800010	100mL 1L	67-64-1
Acetonitrile, 99.9%	ACR610221000 ACR610220010	100mL 1L	ACR364311000 ACR364315000 ACR364310010 ACR364310025	100mL 500mL 1L 2.5L	ACR326811000 ACR326810010 ACR326810025 ACR448391000	100mL 1L 2.5L 4 × 25mL	75-05-8
Anisole, 99%					ACR429251000 ACR429250010	100mL 1L	100-66-3
Benzyl alcohol, 98+%					ACR396881000 ACR396880010	100mL 1L	100-51-6
Bis(2-methoxyethyl) ether, 99+%					ACR397211000 ACR397210010	100mL 1L	111-96-6
1-Butanol, 99+%					ACR398961000 ACR398960010	100mL 1L	71-36-3
1-Butanol, 99.4%	ACR610251000	100mL					71-36-3
sec-Butanol, 99%	ACR610261000 ACR610260010	100mL 1L					78-92-2
2-Butanone, 99.5%					ACR396951000 ACR396950010	100mL 1L	78-93-3
n-Butyl acetate, 99+%					ACR429231000 ACR429230010	100mL 1L	123-86-4
tert-Butyl methyl ether, 99.0%	ACR610271000	100mL					1634-04-4
tert-Butyl methyl ether, 99+%			ACR375221000 ACR375220010	100mL 1L	ACR375211000 ACR375210010	100mL 1L	1634-04-4
Chlorobenzene, 99.8%					ACR396971000 ACR396970010	100mL 1L	108-90-7
1-Chlorobutane, 99.5%					ACR433821000 ACR33820010	100mL 1L	109-69-3
Chloroform, 99.9%, stabilized	ACR610281000	100mL	ACR364321000 ACR364320010	100mL 1L	ACR326821000 ACR326820010 ACR326820025	100mL 1L 2.5L	67-66-3
Cyclohexane, 99.5%	ACR610291000	100mL	ACR364661000 ACR364660010 ACR364660025	100mL 1L 2.5L	ACR326831000 ACR326830010 ACR326830025	100mL 1L 2.5L	110-82-7
Cyclopentane, 95+%					ACR397681000 ACR397680010	100mL 1L	287-92-3
Cyclopentyl methyl ether, 99.5%, stabilized					ACR397251000 ACR397250010	100mL 1L	5614-37-9
Decahydronaphthalene, 99%, mixture of cis and trans					ACR406171000 ACR406170010	100mL 1L	91-17-8
Decane, 99%					ACR434601000 ACR434600010	100mL 1L	124-18-5
Di-n-butyl ether, 99+%					ACR396911000 ACR396910010 ACR396910025	100mL 1L 2.5L	142-96-1
1,2-Dichlorobenzene, 98+%					ACR396961000 ACR396960010	100mL 1L	95-50-1
1,2-Dichloroethane, 99.8%					ACR326841000 ACR326840010 ACR326840025	100mL 1L 2.5L	107-06-2
Dichloromethane, 99.9%, stabilized			ACR348461000 ACR348465000 ACR348460010 ACR348460025	100mL 500mL 1L 2.5L	ACR326851000 ACR326850010 ACR326850025 ACR448371000	100mL 1L 2.5L 4 × 25mL	75-09-2
Dichloromethane, 99.9%	ACR610300010	1L					75-09-2
Diethoxymethane, 99+%, stabilized			ACR443051000	100mL			462-95-3
Diethyl ether, 99.5%, stabilized			ACR364331000 ACR364335000 ACR364330010 ACR364330025	100mL 500mL 1L 2.5L	ACR326861000 ACR326860010 ACR326860025 ACR448421000	100mL 1L 2.5L 4 × 25mL	60-29-7
N,N-Dimethylacetamide, 99.5%			ACR375231000 ACR375230010	100mL 1L	ACR396351000 ACR396350010 ACR396350025	100mL 1L 2.5L	127-19-5
N,N-Dimethylacetamide, 99.8%	ACR610311000	100mL					127-19-5
Dimethyl carbonate, 99+%					ACR428731000 ACR428730010	100mL 1L	616-38-6

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Grades

Extra Dry Solvents (continued)

Compound	Standard grade		Molecular sieves grade		Supreme grade		CAS no.
	Cat. No.	Pack size	Cat. No.	Pack size	Cat No.	Pack size	
N,N-Dimethylformamide, 99.8%	ACR610321000 ACR610320010	100mL 1L	ACR348431000 ACR348435000 ACR348430010 ACR348430025	100mL 500mL 1L 2.5L	ACR326871000 ACR326870010 ACR326870025 ACR448381000	100mL 1L 2.5L 4 × 25mL	68-12-2
1,4-Dioxane, 99.5%			ACR364341000 ACR364340010 ACR364340025	100mL 1L 2.5L			123-91-1
1,4-Dioxane, 99.8%, stabilized	ACR615121000 ACR615120010 ACR615161000	100mL 1L 100mL			ACR326891000 ACR326890010 ACR326890025	100mL 1L 2.5L	123-91-1
1,3-Dioxolane, 99.8%, stabilized with 75 ppm BHT					ACR431561000 ACR431560010	100mL 1L	646-06-0
Dodecane, 99%					ACR434591000 ACR434590010	100mL 1L	112-40-3
Ethanol, 99.5%, absolute					ACR397691000 ACR397690010 ACR397690025	100mL 1L 2.5L	64-17-5
Ethyl acetate, 99.9%	ACR610341000	100mL	ACR364351000 ACR364350010 ACR364350025	100mL 1L 2.5L	ACR326901000 ACR326900010 ACR326900025	100mL 1L 2.5L	141-78-6
Ethylbenzene, 99.8%					ACR433801000 ACR433800010	100mL 1L	100-41-4
Ethylene glycol dimethyl ether, 99%	ACR610351000 ACR610350010	100mL 1L					110-71-4
Ethyl formate, 98+%					ACR429241000	100mL	109-94-4
n-Heptane, 96+%	ACR610361000	100mL					142-82-5
n-Heptane, 99+%			ACR364361000 ACR364360010 ACR364360025	100mL 1L 2.5L	ACR326911000 ACR326910010	100mL 1L	142-82-5
n-Hexadecane, 99%					ACR436141000 ACR436140010	100mL 1L	544-76-3
n-Hexane, 96+%					ACR326921000 ACR326922500 ACR326920010 ACR326920025	100mL 250mL 1L 2.5L	110-54-3
n-Hexane, 97%			ACR364371000 ACR364370010	100mL 1L			110-54-3
Hexanes, 99.9%, mixture of isomers	ACR610371000 ACR610370010	100mL 1L					92112-69-1
Hexyl alcohol, 99%					ACR433861000 ACR433860010	100mL 1L	111-27-3
Isopropanol, 99.5%	ACR610431000	100mL	ACR364401000 ACR364400010 ACR364400025	100mL 1L 2.5L			67-63-0
Isopropanol, 99.8%					ACR326961000 ACR326960010 ACR326960025	100mL 1L 2.5L	67-63-0
Methanol, 99.8%	ACR610981000 ACR610400010	100mL 1L	ACR364391000 ACR364395000 ACR364390010 ACR364390025	100mL 500mL 1L 2.5L	ACR448411000	4 × 25mL	67-56-1
Methanol, 99.9%					ACR326951000 ACR326950010 ACR326950025	100mL 1L 2.5L	67-56-1
2-Methoxyethanol, 99+%					ACR396891000 ACR396890010	100mL 1L	109-86-4
Methyl acetate, 99+%					ACR371831000 ACR371830010 ACR371830025	100mL 1L 2.5L	79-20-9
2-Methylbutane, 99%					ACR397221000 ACR397220010	100mL 1L	78-78-4
3-Methyl-1-butanol, 99%					ACR433871000 ACR433870010	100mL 1L	123-51-3

Grades

Extra Dry Solvents (continued)

Compound	Standard grade		Molecular sieves grade		Supreme grade		CAS no.
	Cat. No.	Pack size	Cat. No.	Pack size	Cat. No.	Pack size	
Methylcyclohexane, 98%					ACR397241000 ACR397240010	100mL 1L	108-87-2
2-Methyl-1-propanol, 99%					ACR398951000 ACR398950010	100mL 1L	78-83-1
1-Methyl-2-pyrrolidinone, 99.5%	ACR610411000	100mL	ACR364381000 ACR364380010 ACR364380025	100mL 1L 2.5L	ACR326931000 ACR326930010 ACR326930025	100mL 1L 2.5L	872-50-4
Methyl sulfoxide, 99.7%	ACR610421000 ACR610420010 ACR610971000	100mL 1L 100mL	ACR348441000 ACR348445000 ACR348440010 ACR348440025	100mL 500mL 1L 2.5L	ACR326881000 ACR326880010 ACR326880025	100mL 1L 2.5L	67-68-5
2-Methyltetrahydrofuran, 99+%, stabilized			ACR396631000 ACR396630010	100mL 1L	ACR396621000 ACR396620010 ACR396620025	100mL 1L 2.5L	96-47-9
2-Methyltetrahydrofuran, 99+%, stabilizer free					ACR397200010	1L	96-47-9
n-Nonane, 99%					ACR435631000	100mL	111-84-2
n-Octane, 99+%					ACR396901000 ACR396900010	100mL 1L	111-65-9
1-Octanol, 99%					ACR434581000 ACR434580010	100mL 1L	111-87-5
n-Pentane, 99+%					ACR397231000 ACR397230010	100mL 1L	109-66-0
Petroleum ether, boiling range 40-60°C, water <50 ppm					ACR396921000 ACR396920010	100mL 1L	64742-49-0
1-Propanol, 99.5%					ACR396941000 ACR396940010	100mL 1L	71-23-8
Pyridine, 99.0%	ACR610991000 ACR610440010	100mL 1L					110-86-1
Pyridine, 99.5%			ACR364421000 ACR364420010 ACR364420025	100mL 1L 2.5L	ACR339421000 ACR339420010 ACR339420025	100mL 1L 2.5L	110-86-1
Tetrahydrofuran, 99.5%, stabilized			ACR348451000 ACR348455000 ACR348450010 ACR348450025	100mL 500mL 1L 2.5L			109-99-9
Tetrahydrofuran, 99.85%, stabilized					ACR326971000 ACR326970010 ACR326970025 ACR448361000	100mL 1L 2.5L 4 × 25mL	109-99-9
Tetrahydrofuran, 99.9%	ACR610450010	1L					109-99-9
Tetrahydrofuran, 99.9%, stabilized	ACR610911000 ACR610900010	100mL 1L					109-99-9
Toluene, 99.8%	ACR610951000 ACR610460010	100mL 1L					108-88-3
Toluene, 99.85%			ACR364411000 ACR364415000 ACR364410010 ACR364410025	100mL 500mL 1L 2.5L	ACR326981000 ACR326980010 ACR326980025 ACR448401000	100mL 1L 2.5L 4 × 25mL	108-88-3
2,2,4-Trimethylpentane, 99.5%					ACR326941000 ACR326940010	100mL 1L	540-84-1
m-Xylene, 99%	ACR610471000	100mL			ACR158931000 ACR158930010	100mL 1L	108-38-3
o-Xylene, 99%					ACR443021000 ACR443020010	100mL 1L	95-47-6
Xylenes, 98+%, mixed isomers					ACR396931000 ACR396930010	100mL 1L	1330-20-7

Grades

DEUTERATED NMR SOLVENTS

Thermo Fisher Scientific offers a range of high quality deuterated products for all routine synthesis and structural analysis needs. The products include solvents and standards in a variety of packaging options, isotopic enrichment and tetramethylsilane concentrations.

- Isotopic Enrichment: Ranges from 99 atom % D for routine use to 99.97 atom % D for the most demanding applications
- Tetramethylsilane concentration: In addition to deuterated solvents without any internal standards, we offer a range of solvents containing either 0.03% v/v or 1% v/v tetramethylsilane (TMS) as an internal standard
- Packaging Options: To best suit your application needs our deuterated products come in septum sealed bottles, regular bottles and ampules
- Tetramethylsilane: Two NMR grade container sizes offered for manual addition of this internal standard

Solvent	Purity Grade	Quantity	Packaging	Cat. No.
1,1,2,2-Tetrachloroethane-d2	99 atom% D	20mL	Amber Glass	ACR133580200
Acetic-d3 acid-d	99.5 atom% D	5mL	Amber Glass	ACR166210050
Acetone-d6	99.5 atom% D	50mL	Amber Glass	ACR174900500
Acetone-d6, packaged in 0.75mL ampules	100 atom% D	7.5mL	Ampules	ACR320640075
Acetone-d6, packaged in 0.75mL ampules	100 atom% D	7.5mL	Ampules	ACR320610075
Acetonitrile-d3	99.9 atom% D	10mL	Amber Glass	ACR351390100
Acetonitrile-d3	99 atom% D	50mL	Amber Glass	ACR166230500
Acetonitrile-d3, packaged in 0.75mL ampules	99.95 atom% D	7.5mL	Ampules	ACR320650075
Chloroform-d	99.8 atom% D	100mL	Amber Glass	ACR166251000
Chloroform-d, contains 0.03 v/v% TMS	99.8 atom% D	100mL	Amber Glass	ACR209561000
Chloroform-d, contains 1 v/v% TMS	99.8 atom% D	100mL	Amber Glass	ACR166261000
Chloroform-d	100 atom% D	100mL	Amber Glass	ACR166271000
Chloroform-d, packaged in 0.75mL ampules	100 atom% D	7.5mL	Ampules	ACR320680075
Deuterium oxide	100 atom% D	100mL	Glass Bottle	ACR166311000
Deuterium oxide, packaged in 0.75mL ampules	100 atom% D	7.5mL	Ampules	ACR320700075
Dichloromethane-d2	99.6+ atom% D	25mL	Glass Bottle	ACR176110250
Dichloromethane-d2, packaged in 0.75mL ampules	99.8 atom% D	7.5mL	Ampules	ACR320720075
Methanol-d4	99.5 atom% D	50mL	Glass Bottle	ACR166350500
Methanol-d4, packaged in 0.75mL ampules	99.8 atom% D	7.5mL	Ampules	ACR320750075
Methanol-d4, contains 0.03 v/v% TMS	99.8 atom% D	50mL	Glass Bottle	ACR329920500
Methanol-d4, contains 0.03 v/v% TMS, in 0.75mL ampules	99.8 atom% D	7.5mL	Ampules	ACR351470075
Methanol-d4, packaged in 0.75mL ampules	100 atom% D	7.5mL	Ampules	ACR351460075
Methyl sulfoxide-d6	99.9 atom% D	100mL	Glass Bottle	ACR166291000
Methyl sulfoxide-d6, packaged in 0.75mL ampules	99.9 atom% D	7.5mL	Ampules	ACR320770075
Methyl sulfoxide-d6, contains 0.03 v/v% TMS, in 0.75mL ampules	99.9 atom% D	7.5mL	Ampules	ACR352540075
Methyl sulfoxide-d6, packaged in 0.75mL ampules	100 atom% D	7.5mL	Ampules	ACR320760075
N,N-Dimethylformamide-d7	99.5 atom% D	10mL	Glass Bottle	ACR183600100
N,N-Dimethylformamide-d7, packaged in 0.75mL ampules	99.5 atom% D	7.5mL	Ampules	ACR320730075
Pyridine-d5, packaged in 0.75mL ampules	99.8 atom% D	7.5mL	Ampules	ACR351470075
Pyridine-d5, contains 0.03 v/v% TMS	100 atom% D	10mL	Glass Bottle	ACR351490100
Tetrahydrofuran-d8	99.5 atom% D	10mL	Glass Bottle	ACR180130100
Tetrahydrofuran-d8, packaged in 0.75mL ampules	99.5 atom% D	7.5mL	Ampules	ACR320780075
Toluene-d8	99+ atom% D	25mL	Glass Bottle	ACR166390250
Trifluoroacetic acid-d	99.5 atom% D	25mL	Glass Bottle	ACR325310250
Trifluoroacetic acid-d, packaged in 1 mL ampules Tetramethylsilane	99.5 atom% D	10mL	Ampules	ACR325330100
Tetramethylsilane, NMR grade	99.9+%	25g	Glass Bottle	ACR138470250
Tetramethylsilane, NMR grade	99.9+%	100g	Glass Bottle	ACR138471000

Technical References

Chemical Resistance and Physical Properties of Plastics

Resin Codes

ECTFE:	Ethylene- chlorotrifluoroethylene copolymer	PMMA:	Polymethyl methacrylate
ETFE:	Ethylenetetrafluoroethylene	PMP:	Polymethylpentene
FEP:	Fluorinated ethylene propylene	PP:	Polypropylene
FLPE:	Fluorinated high-density polyethylene	PS:	Polystyrene
FLPP:	Fluorinated polypropylene	PSF:	Polysulfone
HDPE:	High-density polyethylene	PTFE:	Polytetrafluoroethylene
LDPE:	Low-density polyethylene	PUR:	Polyurethane
NYL:	Nylon (polyamide)	PVC:	Polyvinyl chloride
PPCO:	Polypropylene copolymer	PVDF:	Polyvinylidene fluoride
PC:	Polycarbonate	TPE:	Thermoplastic elastomer
PETG:	Polyethylene terephthalate copolyester	XLPE:	Cross-linked high-density polyethylene
PK:	Polyketone		
PFA:	Perfluoroalkoxy		

Do not store strong oxidizing agents in plastic labware except if made of FEP, PFA, or PTFE. Other plastics will become brittle after prolonged exposure.

Do not place plastic labware directly in a flame or on a hotplate unless specified.

Use these charts as general guides only. They are recommendations, not guarantees, of fitness for particular uses. Test materials under actual conditions first before using them for your applications.

Chemical Resistance Summary

Classes of substances; temperature 68°F (20°C)	ECTFE/ETFE	FEP/PTFE/PFA	FLPE	HDPE/XLPE	LDPE	NYL	PC	PETG	PK	PMMA	PMP	PP/PPCO	PS	PSF	PUR	PVC	PVDF	TPE†
Acids, weak or dilute	E	E	E	E	E	F	E	E	E	G	E	E	E	E	G	E	E	E
Acids*, strong or concentrated	G	E	E	E	E	N	N	N	G	N	E	E	F	G	F	E	E	F
Alcohols, aliphatic	E	E	E	E	E	N	G	E	G	N	E	E	E	G	F	E	E	E
Aldehydes	E	E	G	G	G	F	F	N	E	G	G	G	N	F	G	N	E	N
Bases	E	E	F	E	E	F	N	N	G	F	E	E	E	E	N	E	E	E
Esters	E	E	E	G	G	E	N	N	E	N	G	G	N	N	N	N	G	N
Hydrocarbons, aliphatic	E	E	E	G	F	E	F	E	E	G	F	G	N	G	E	E	E	N
Hydrocarbons, aromatic	E	E	E	G	F	E	N	N	E	N	F	F	N	N	N	N	E	N
Hydrocarbons, halogenated	E	E	G	F	N	G	N	N	E	N	N	F	N	N	N	N	N	N
Ketones	G	E	E	G	G	E	N	N	E	N	F	G	N	N	N	N	N	N
Oxidizing agents, strong	F	E	F	F	F	N	N	N	G	N	F	F	N	G	N	G	G	N

* For oxidizing acids, see table entry "Oxidizing agents, strong."

† TPE gaskets

E—No damage after 30 days of constant exposure.
G—Little or no damage after 30 days of constant exposure.

F—Some effect after seven days of constant exposure. Depending on the plastic, the effect may be cracking, crazing, loss of strength, or discoloration. Solvents may cause softening, swelling, and permeation losses with PPCO, PP, PMP, LDPE, and HDPE; the solvent effects on these materials are normally reversible.

N—Not recommended for continuous use. Immediate damage may occur. Depending on the plastic, the effect will be severe cracking, crazing, loss of strength, discoloration, deformation, dissolution, or permeation loss.

Technical References

Chemical Resistance of Labware Materials

CHEMICAL	LDPE	HDPE	PP/PPCO	PMP	PEB/PTFE/PFA	ECTFE/ETFE	PC	PVC	PSF	PVDF	PS	NYL	Stainless Steel	Glass	Ceramic
Formaldehyde, 40%	EG	EE	EG	EG	EE	EE	EG	GF	GF	EE	NN	GF	EE	EE	EE
Formic acid, 3%	EG	EE	EG	EG	EE	EE	EG	GF	GG	EE	EG	NN	GG	EE	EE
Formic acid, 50%	EG	EE	EG	EG	EE	EE	EG	GF	GG	EE	FF	NN	GG	EE	EE
Formic acid, 98 to 100%	EG	EE	EG	EF	EE	EE	EF	FN	FF	EE	FF	NN	GG	EE	EE
Freon® TF	EG	EG	EG	FN	EE	EG	GF	GF	EG	EE	FN	—	EE	EE	EE
Fuel oil	FN	GF	EG	GF	EE	EE	EG	EE	EG	EE	NN	EE	EE	EE	EE
Gasoline	FN	GG	GF	GF	EE	EE	FF	GN	FF	EE	NN	EE	EE	EE	EE
Glacial acetic acid	EG	EE	EG	EG	EE	EE	NN	EG	FN	EG	NN	EE	EG	EE	EE
Glycerine	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE
n-Heptane	FN	GF	FF	FF	EE	EE	EE	GF	EG	EE	NN	EE	EE	EE	EE
Hexane	NN	GF	GF	FN	EE	EE	FN	GN	EG	EE	NN	EE	EE	EE	EE
Hydrochloric acid, 1 to 5%	EE	EE	EE	EG	EE	EE	EE	EE	EE	EE	NN	NN	NN	EE	EE
Hydrochloric acid, 20%	EE	EE	EE	EG	EE	EE	GF	EG	EE	EE	NN	NN	NN	EE	EE
Hydrochloric acid, 35%	EE	EE	EG	EG	EE	EE	NN	GF	EE	EE	FF	NN	NN	EE	EE
Hydrofluoric acid, 4%	EG	EE	EG	EG	EE	EE	GF	GF	GF	EE	GF	NN	NN	NN	—
Hydrofluoric acid, 48%	EE	EE	EE	EE	EE	EE	NN	GF	FN	EE	NN	NN	NN	NN	NN
Hydrogen peroxide, 3%	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EG	NN	GG	EE	EG
Hydrogen peroxide, 30%	EG	EE	EG	EG	EE	EE	EE	EE	EE	EE	EG	NN	GG	EE	EG
Hydrogen peroxide, 90%	EG	EE	EG	EG	EE	EE	EE	EE	EE	EE	EG	NN	GG	EE	EG
Isobutyl alcohol	EE	EE	EE	EG	EE	EE	EE	EG	EG	EE	GG	NN	EE	EE	EE
Isopropyl acetate	GF	EG	GF	GF	EE	EG	NN	NN	NN	—	NN	EE	GG	EE	EE
Isopropyl alcohol	EE	EE	EE	EE	EE	EE	EE	EG	EE	EE	EG	NN	GG	EE	EE
Isopropyl benzene	FN	GF	FN	NN	EE	EG	NN	NN	NN	—	NN	EG	—	—	—
Kerosene	FN	GG	GF	GF	EE	GF	EE	EE	GF	EE	NN	EE	EE	EE	EE
Lactic acid, 3%	EG	EE	EG	EG	EE	EE	EG	GF	EE	EG	GG	NN	GG	EE	EE
Lactic acid, 85%	EE	EE	EG	EG	EE	EG	EG	GF	EE	GF	GG	NN	GG	EE	EE
Methoxyethyl oleate	EG	EE	EG	EG	EE	EE	FN	NN	NN	—	NN	EG	—	—	—
Methyl alcohol	EE	EE	EE	EE	EE	EE	GF	EF	GF	EE	NN	EE	EE	EE	EE
Methyl ethyl ketone	NN	NN	EG	NN	EE	GF	NN	NN	NN	NN	NN	EE	EE	EE	EE
Methyl isobutyl ketone	NN	NN	GF	FF	EE	GF	NN	NN	NN	NN	NN	EE	GG	EE	EE
Methyl propyl ketone	GF	EG	GF	FF	EE	EG	NN	NN	NN	NN	NN	EE	EE	—	—
Methylene chloride	FN	FN	FN	FN	EE	GG	NN	NN	NN	NN	NN	GF	GG	EE	EE
Mineral oil	GN	EE	EE	EG	EE	EE	EG	EG	EE	EE	EE	EE	EE	EE	EE
Nitric acid, 1 to 10%	EE	EE	EE	EE	EE	EE	EG	EG	EF	EE	GN	NN	EE	EE	EE
Nitric acid, 50%	GN	GN	FN	GN	EE	EE	GF	GF	GF	EG	NN	NN	EG	EG	NN
Nitric acid, 70%	FN	GN	NN	GF	EE	EE	NN	FN	NN	GF	NN	NN	GG	EE	NN
Nitrobenzene	NN	FN	NN	NN	EE	EG	NN	NN	NN	EN	NN	FF	GG	EE	EE
n-Octane	EE	EE	EE	EE	EE	EE	GF	FN	GF	EE	NN	EE	EE	EE	EE
Orange oil	FN	GF	GF	FF	EE	EE	FF	FN	FF	EE	NN	GF	EE	EE	EE
Ozone	EG	EE	EG	EE	EE	EE	EG	EG	EE	EE	FF	EG	EG	—	—
Perchloric acid	GN	GN	GN	GN	GF	EG	NN	GN	NN	EE	GF	NN	FF	EE	EE
Perchloroethylene	NN	NN	NN	NN	EE	EE	NN	NN	NN	EE	NN	EE	EG	EE	EE
Phenol, crystals	GN	GF	GN	FG	EE	EE	NN	FN	FF	EE	NN	NN	GG	EE	EE
Phosphoric acid, 1 to 5%	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	GG	NN	NN	EE	EE
Phosphoric acid, 85%	EE	EE	EG	EG	EE	EE	EG	EG	EE	EE	EG	NN	NN	EE	EE
Pine oil	GN	EG	EG	GF	EE	EG	GF	FN	FF	EE	NN	GF	EE	—	—
Potassium hydroxide, 1%	EE	EE	EE	EE	EE	EE	FN	EE	EE	EE	GG	FF	EG	GF	GF
Potassium hydroxide, conc.	EE	EE	EE	EE	EE	EE	NN	EG	EE	EG	GG	FF	EG	NN	NN
Propane gas	NN	FN	NN	NN	EE	EE	FN	EG	FF	EE	NN	FF	GF	NN	NN
Propylene glycol	EE	EE	EE	EE	EE	EE	GF	FN	GG	—	EE	EE	GG	EE	EE
Propylene oxide	EG	EE	EG	EG	EE	FN	GF	FN	GG	FN	NN	EE	EE	—	—
Resorcinol, sat.	EE	EE	EE	EE	EE	EE	GF	FN	NN	—	GF	NN	—	—	—
Resorcinol, 5%	EE	EE	EE	EE	EE	EF	GF	GN	NN	—	GF	NN	—	—	—
Salicylaldehyde	EG	EE	EG	EG	EE	EN	GF	FN	FF	EE	NN	EG	—	—	—
Salicylic acid, powder	EE	EE	EE	EG	EE	EE	EG	GF	EE	EE	EE	EG	GG	EE	EE
Salicylic acid, sat.	EE	EE	EE	EE	EE	EE	EG	GF	EE	EE	EG	NN	GG	EE	EE
Salt solutions, metallic	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	GG	FF	EG	—	—
Silver acetate	EE	EE	EE	EE	EE	EE	EG	GG	EE	EE	GG	FF	—	—	—
Silver nitrate	EG	EE	EG	EE	EE	EE	EE	EG	EE	EE	GF	NN	GG	EE	EE
Sodium acetate, sat.	EE	EE	EE	EE	EE	EE	EG	GF	EE	EE	GG	FF	GG	EE	EE
Sodium hydroxide, 1%	EE	EE	EE	EE	EE	EE	FN	EE	EE	EE	GG	EE	GG	GE	GE
Sodium hydroxide, 50% to sat.	GG	EE	EE	EE	EE	EE	NN	NN	EG	EG	EE	GF	GF	NN	NN
Sodium hypochlorite, 15%	EE	EE	GF	EE	EE	EE	GF	EE	EE	EE	NN	NN	EE	EG	EG
Stearic acid, crystals	EE	EE	EE	EE	EE	EE	EG	EG	GG	EE	EG	EF	EG	EE	EE
Sulfuric acid, 1 to 6%	EE	EE	EE	EE	EE	EE	EE	EG	EE	EE	EG	NN	FN	EE	EG
Sulfuric acid, 20%	EE	EE	EG	EG	EE	EE	EG	EG	EE	EE	EG	NN	NN	EE	GG
Sulfuric acid, 60%	EG	EE	EG	EG	EE	EE	GF	EG	EE	EE	GN	NN	NN	EE	NN
Sulfuric acid, 98%	GG	GG	FN	GG	EE	EE	NN	GN	NN	EE	NN	NN	NN	EE	NN
Sulfur dioxide, liq., 46 psi	NN	FN	NN	NN	EE	EG	GN	FN	GG	EE	NN	NN	FN	NN	NN
Sulfur dioxide, wet or dry	EE	EE	EE	EE	EE	EE	EG	EG	GG	GE	FN	NN	FN	EE	EE
Sulfur salts	FN	GF	FN	FN	EE	EG	FN	NN	GG	GF	NN	NN	—	—	—
Tartaric acid	EE	EE	EE	EE	EE	EE	EG	EG	EE	EE	GG	EF	FF	EE	EE
Tetrahydrofuran	FN	GF	GF	FF	EE	GF	NN	NN	NN	FN	NN	EE	EE	EE	EE
Thionyl chloride	NN	NN	NN	NN	EE	EE	NN	NN	NN	—	NN	NN	EE	EE	EE
Toluene	FN	GG	GN	FF	EE	EE	FN	NN	NN	EE	NN	EE	EE	EE	EE
Tributyl citrate	GF	EG	GF	GF	EE	EG	NN	FN	FF	EF	NN	EG	—	—	—
Trichloroethane	NN	FN	NN	NN	EE	EG	NN	NN	NN	—	NN	EE	GG	EE	EE
Trichloroethylene	NN	FN	NN	NN	EE	EG	NN	NN	NN	EE	NN	EE	GG	EE	EE
Triethylene glycol	EE	EE	EE	EE	EE	EE	EG	GF	EE	—	EG	EE	—	—	—
Tripropylene glycol	EE	EE	EE	EE	EE	EE	EG	GF	EE	—	EE	EE	—	—	—
Turpentine	FN	GG	GF	FF	EE	EE	FN	GF	NN	EE	NN	EE	EE	EE	EE
Undecyl alcohol	EF	EG	EG	EG	EE	EG	GF	FF	FF	EE	GG	EE	EE	—	—
Urea	EE	EE	EE	EG	EE	EE	NN	GN	FF	EE	EG	EE	EE	EE	EE
Vinylidene chloride	NN	FN	NN	NN	EE	GF	NN	NN	NN	EE	NN	NN	GG	—	—
Xylene	GN	GF	FN	FN	EE	EG	NN	NN	NN	EE	NN	EE	GG	EE	EE
Zinc stearate	EE	EE	EE	EE	EE	EE	EE	EG	EE	EE	EE	EE	EE	EE	EE

***Warning!**

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Test the labware for 72 hours under expected or proposed conditions of use, BEFORE putting into service. Test with care to avoid injury or property damage.

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Applications

- HPLC and organic solvent sample preparation and clean up
- Dissolution sample analysis
- General sample preparation prior to analytical analysis
- Elevated temperature samples, caustic or acidic solutions

PES syringe filters - Ion chromatography (IC) certified

Applications

- IC sample preparation and analysis
- Dissolution testing

Polypropylene syringe filters

Applications

- Protein or peptide-based assays
- General HPLC analysis

Nylon syringe filters

Applications

- HPLC and organic solvent sample preparation and clean up
- Dissolution sample analysis
- General sample preparation prior to analytical analysis
- Mixed sample matrix of aqueous or organic dissolved analytes

Hydrophilic PTFE syringe filters

Applications

- HPLC aqueous and organic solvent sample preparation and clean up
- Dissolution sample analysis
- General sample preparation prior to analytical analysis
- Elevated temperature samples, caustic or acidic solutions

Regenerated cellulose syringe filters

Applications

- HPLC and organic solvent sample preparation and clean up
- Dissolution sample analysis, especially high-binding tablets or capsules
- Protein-based samples with high non-specific binding
- Sample analysis which require maximum recoveries
- Analysis requiring low non-specific binding over a wide pH range

Cellulose acetate syringe filters

Applications

- Protein-based samples with high non-specific binding
- Sample analysis which require maximum recoveries

Glass microfiber (GMF) syringe filters

Applications

- Clarification
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