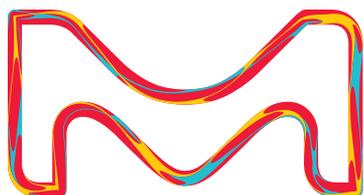


QUALITY AND SAFETY. SEALED.

Sure/Seal™ system for
anhydrous solvents



The life science
business of Merck
operates as
MilliporeSigma in
the U.S. and Canada.

Sigma-Aldrich®
Lab & Production Materials

Choose from the largest range of high-quality anhydrous solvents with exceptionally low water levels. And you'll be sure that each product is perfectly protected with our innovative, moisture-inhibiting Sure/Seal™ system. We use three different types of materials to ensure complete compatibility with contents, and easier handling for you. Sure/Seal™ bottles come in several sizes, ranging from 100 mL to 2 L.



Sure/Seal™ crimp

Improved crimp cap design

- Puncture area increased 4x to allow even more applications
- Air-tight system to protect product quality

Innovative plug style

- Maximum surface area contact with bottle to exclude moisture and oxygen
- More than 50% thicker than competing brands

Elastomer liner

- Outstanding resealing properties
- Secondary resin layer ensures resistance to chemicals
- Outperforms competitors' seals in moisture prevention
- Three unique plug-style liners to suit a wide range of solvents and solutions



Sure/Seal™ Plug

Examples of Sure/Seal™ crimps after 4 punctures using an 18-gauge non-coring needle



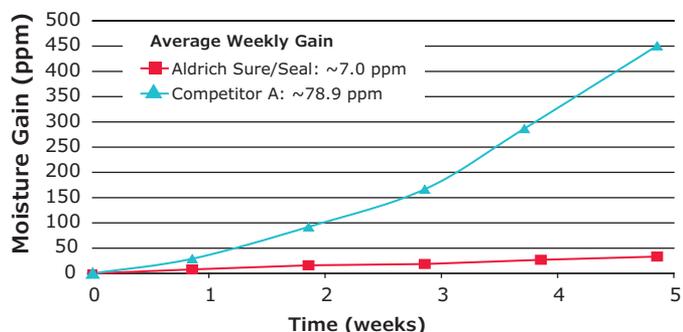
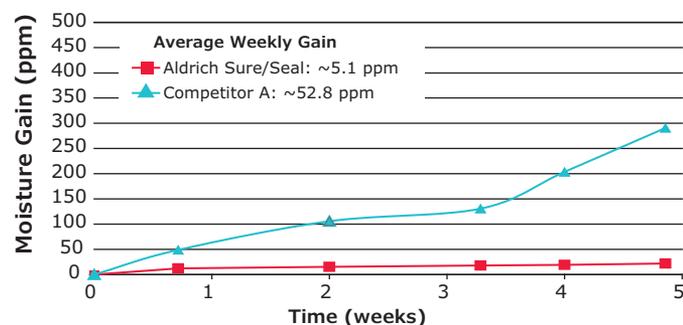
Learn more about the benefits of Sure/Seal™ system on: [SigmaAldrich.com/sureseal](https://www.sigmaaldrich.com/sureseal)

BEST OF THE TESTS

See how Sure/Seal™ system outperformed the competition

Moisture uptake

A comparative study was conducted to determine the effectiveness of the liners' seal and closure designs. Using a dried 18-gauge needle, triplicate sample sets from 100 mL bottles received four new punctures per liner per week during the five-week test period for a total of 20 punctures per liner. Karl Fischer (KF) titration was performed to measure the rate of moisture uptake.

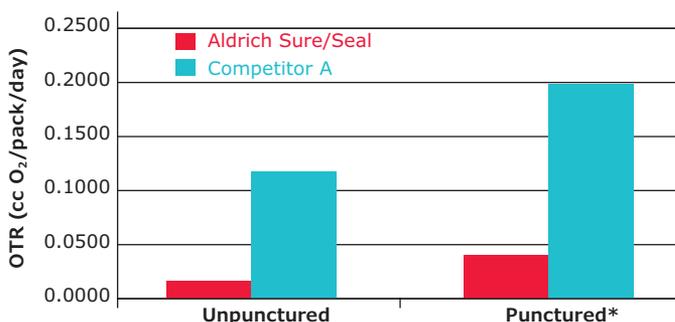


Summary:

Comprehensive testing confirmed that Sure/Seal™ system outperforms competitors' seals by maintaining low water absorption even after multiple punctures. See additional test results on [SigmaAldrich.com/sureseal](https://www.sigmaaldrich.com/sureseal)

Oxygen transmission rate

Oxygen transmission rate (OTR) is a measurement of the amount of O₂ allowed to permeate into the bottle over a certain period, and demonstrates the cap and liner's ability to maintain an airtight seal over time.



Summary:

OTR evaluation of Sure/Seal™ system versus Competitor A demonstrated that the Sure/Seal™ system allows significantly lower oxygen uptake.

Safety bulletin

It is essential to follow proper care and dispensing procedures when handling air-sensitive products. To assist you in this, please consult "Technical Bulletin AL-134: Handling Air-Sensitive Reagents" on [SigmaAldrich.com/technicalbulletins](https://www.sigmaaldrich.com/technicalbulletins)

| Cat. No. | Product name | Water Content |
|----------|--|---------------|
| 271004 | Acetonitrile, anhydrous, 99.8% | <0.001% |
| 296295 | Anisole, anhydrous, 99.7% | <0.002% |
| 401765 | Benzene, anhydrous, 99.8% | <0.001% |
| 294098 | Benzonitrile, anhydrous, ≥99% | <0.003% |
| 305197 | Benzyl alcohol, anhydrous, 99.8% | <0.003% |
| 309443 | (±)-1,3-Butanediol, anhydrous, ≥99% | <0.003% |
| 281549 | 1-Butanol, anhydrous, 99.8% | <0.005% |
| 294810 | 2-Butanol, anhydrous, 99.5% | <0.005% |
| 471712 | tert-Butanol, anhydrous, ≥99.5% | <0.005% |
| 287725 | Butyl acetate, anhydrous, ≥99% | <0.005% |
| 306975 | tert-Butyl methyl ether, anhydrous, 99.8% | <0.003% |
| 335266 | Carbon disulfide, anhydrous, ≥99% | <0.005% |
| 289116 | Carbon tetrachloride, anhydrous, ≥99.5% | <0.002% |
| 284513 | Chlorobenzene, anhydrous, 99.8% | <0.005% |
| 414255 | 1-Chlorobutane, anhydrous, 99.5% | <0.002% |
| 288306 | Chloroform, anhydrous, ≥99%, contains 0.5-1.0% ethanol as stabilizer | <0.001% |
| 372978 | Chloroform, anhydrous, contains amylenes as stabilizer, ≥99% | <0.001% |
| 227048 | Cyclohexane, anhydrous, 99.5% | <0.001% |
| 675970 | Cyclopentyl methyl ether, contains 50 ppm BHT as inhibitor, anhydrous, ≥99.9% | ≤0.005% |
| 791962 | Cyclopentyl methyl ether, inhibitor-free, anhydrous, ≥99.9% | ≤0.005% |
| 294772 | Decahydronaphthalene, mixture of cis + trans, anhydrous, ≥99% | <0.002% |
| 457116 | Decane, anhydrous, ≥99% | <0.005% |
| 271454 | Dibutyl ether, anhydrous, 99.3% | <0.003% |
| 240664 | 1,2-Dichlorobenzene, anhydrous, 99% | <0.003% |
| 284505 | 1,2-Dichloroethane, anhydrous, 99.8% | <0.003% |
| 270997 | Dichloromethane, anhydrous, ≥99.8%, contains 40-150 ppm amylene as stabilizer | ≤0.001% |
| 281662 | Diethylene glycol dimethyl ether, anhydrous, 99.5% | <0.005% |
| 296082 | Diethyl ether, contains 1 ppm BHT as inhibitor, anhydrous, ≥99.7% | <0.003% |
| 296856 | Diisopropyl ether, anhydrous, 99%, contains either BHT or hydroquinone as stabilizer | <0.002% |
| 259527 | 1,2-Dimethoxyethane, anhydrous, 99.5%, inhibitor-free | <0.003% |
| 271012 | N,N-Dimethylacetamide, anhydrous, 99.8% | <0.005% |
| 517127 | Dimethyl carbonate, anhydrous, ≥99% | <0.002% |
| 227056 | N,N-Dimethylformamide, anhydrous, 99.8% | <0.005% |
| 274380 | Dimethyl sulfide, anhydrous, ≥99.0% | <0.003% |
| 276855 | Dimethyl sulfoxide, anhydrous, ≥99.9% | <0.005% |
| 296309 | 1,4-Dioxane, anhydrous, 99.8% | <0.003% |
| 271020 | 1,3-Dioxolane, anhydrous, contains ~75 ppm BHT as inhibitor, 99.8% | <0.003% |
| 297879 | Dodecane, anhydrous, ≥99% | <0.003% |
| 270989 | Ethyl acetate, anhydrous, 99.8% | <0.005% |
| 459836 | Ethyl alcohol, Pure, 200 proof, anhydrous, ≥99.5% | <0.005% |
| 296848 | Ethylbenzene, anhydrous, 99.8% | <0.002% |

| Cat. No. | Product name | Water Content |
|----------|--|---------------|
| 324558 | Ethylene glycol, anhydrous, 99.8% | <0.003% |
| 246654 | Heptane, anhydrous, 99% | <0.001% |
| 296317 | Hexadecane, anhydrous, ≥99% | <0.003% |
| 296090 | Hexane, anhydrous, 95% | <0.001% |
| 227064 | Hexane, mixture of isomers, anhydrous, ≥99% | <0.001% |
| 471402 | 1-Hexanol, anhydrous, ≥99% | <0.005% |
| 306967 | Isopentyl acetate, anhydrous, ≥99% | <0.005% |
| 322415 | Methanol, anhydrous, 99.8% | <0.002% |
| 284467 | 2-Methoxyethanol, anhydrous, 99.8% | <0.005% |
| 296996 | Methyl acetate, anhydrous, 99.5% | <0.003% |
| 277258 | 2-Methylbutane, anhydrous, ≥99% | <0.001% |
| 721123 | 2-Methyl-2-butanol, anhydrous, ≥99% | ≤0.003% |
| 309435 | 3-Methyl-1-butanol, anhydrous, ≥99% | <0.003% |
| 300306 | Methylcyclohexane, anhydrous, ≥99% | <0.002% |
| 291056 | Methyl formate, anhydrous, 99% | <0.005% |
| 294829 | 2-Methyl-1-propanol, anhydrous, 99.5% | <0.003% |
| 328634 | 1-Methyl-2-pyrrolidinone, anhydrous, 99.5% | <0.005% |
| 673277 | 2-Methyltetrahydrofuran, anhydrous, ≥99%, Inhibitor-free | ≤0.002% |
| 414247 | 2-Methyltetrahydrofuran, anhydrous, ≥99.0%, contains 250 ppm BHT as stabilizer | <0.002% |
| 296821 | Nonane, anhydrous, ≥99% | <0.005% |
| 296988 | Octane, anhydrous, ≥99% | <0.002% |
| 297887 | 1-Octanol, anhydrous, ≥99% | <0.003% |
| 236705 | Pentane, anhydrous, ≥99% | <0.001% |
| 300314 | Petroleum ether, anhydrous | <0.001% |
| 279544 | 1-Propanol, anhydrous, 99.7% | <0.005% |
| 278475 | 2-Propanol, anhydrous, 99.5% | <0.003% |
| 310328 | Propylene carbonate, anhydrous, 99.7% | <0.002% |
| 270970 | Pyridine, anhydrous, 99.8% | <0.003% |
| 277649 | Reagent Alcohol, anhydrous, ≤0.003% water | ≤0.003% |
| 676829 | Reagent Alcohol, anhydrous, ≤0.005% water | ≤0.005% |
| 371696 | Tetrachloroethylene, anhydrous, ≥99% | <0.002% |
| 401757 | Tetrahydrofuran, anhydrous, ≥99.9%, inhibitor-free | <0.002% |
| 186562 | Tetrahydrofuran, anhydrous, contains 250 ppm BHT as inhibitor, ≥99.9% | <0.002% |
| 522651 | 1,2,3,4-Tetrahydronaphthalene, anhydrous, 99% | <0.005% |
| 293105 | Tetrahydropyran, anhydrous, 99% | <0.003% |
| 244511 | Toluene, anhydrous, 99.8% | <0.001% |
| 296104 | 1,2,4-Trichlorobenzene, anhydrous, ≥99% | <0.002% |
| 372145 | Trichloroethylene, anhydrous, contains 40 ppm diisopropylamine as stabilizer, ≥99% | <0.002% |
| 304050 | Triethyl orthoformate, anhydrous, 98% | <0.003% |
| 547948 | α,α,α-Trifluorotoluene, anhydrous, ≥99% | <0.001% |
| 360066 | 2,2,4-Trimethylpentane, anhydrous, 99.8% | <0.003% |
| 296325 | m-Xylene, anhydrous, ≥99% | <0.002% |
| 294780 | o-Xylene, anhydrous, 97% | <0.003% |
| 296333 | p-Xylene, anhydrous, ≥99% | <0.002% |

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Lit. No. MK_BR1383EN Ver. 1.0
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