Fisher Chemical

Product Information Package

UHPLC-MS Optima™ Solvents

What Is It?

Fisher Chemical introduces **UHPLC-MS Optima™ Acetonitrile, Methanol, and Water specifically qualified for UHPLC-MS applications**. These UHPLC-MS solvents are distinguished by ultra high purity to minimize chromatographic interferences. Submicron filtration ensures minimal clogging of columns and check valves.

Packaging in borosilicate glass bottles contribute to very low metal ions that reduce metal ion adduct formation in mass spectroscopic analysis. Fisher Chemical UHPLC-MS solvent bottles are designed for convenient storage and can be used directly on the UHPLC-MS instrument system.

Target Customers

- Pharmaceutical/Biotech (proteomics, metobolomics)
- Clinical (drug testing)
- Food Industry (residue pesticides) – and some Academia

Key Features and Benefits

- New solvent grade, UHPLC-MS Optima. Three ultra pure solvents: Acetonitrile(A956-1), Methanol (A458-1), and Water (W8-1).
- 0.1 micron filtration for UHPLC-MS Acetonitrile and Methanol, 0.03 micron filtration for Water.

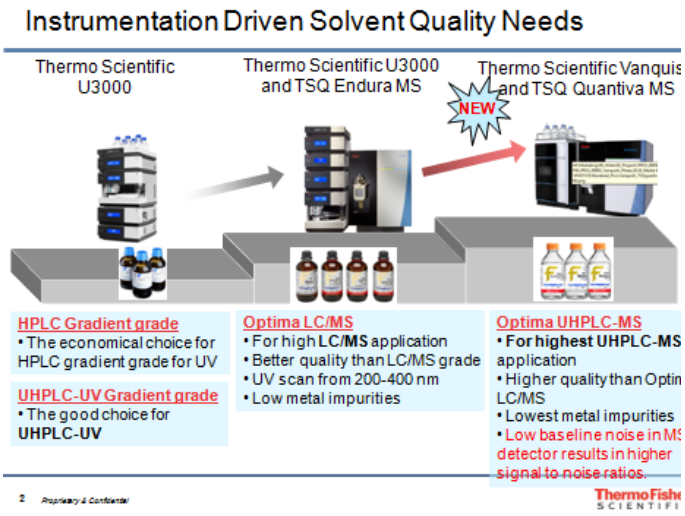
  Benefit: Submicron filtration ensures reduced clogging of instrument, columns and check valves.
- **Borosilicate glass reduces** significantly the leaching of metal cations (Na^+ and K^+) from the glass surfaces that occurs typically in standard soda-lime glass bottles.

  Benefit: Low metal content in mobile phase solvents minimizes formation of metal ion adducts
- Fisher Chemical UHPLC-MS solvents have an LC-UV Gradient Suitability specification which covers the full 200–400 nm range.

  Benefit: Mobile phase solvents have minimal UV-absorbing impurities providing customers with smooth baselines with minimal interference (a smooth baseline in chromatogram with minimal interference)
- **New solvent specification based on S/N ratio** of the propazine product ion from MS/MS fragmentation

  Benefit: The solvent quality of Optima UHPLC-MS solvents is linked directly to the sensitivity of the detector (mass spectrometer); unique specification for the chemical industry
- Convenient bottle design accommodates mobile phase bottle to sit on top of UHPLC-MS instrument

  Benefit: Ease of use directly on instrument.



Bundling Opportunities

*Fisher Chemical UHPLC-MS Optima solvents are ideal for **ANY** UHPLC system that is a **front end to ANY** Mass Spectrometry (MS) instrument.*

Examples of Front End UHPLC systems

- Thermo Scientific Vanquish™ UHPLC system
- Thermo Scientific Ultimate™ 3000
- Waters Acquity UPLC®
- Agilent Technologies 1220, 1260, and 1290 Infinitysystems
- Shimadzu Nexera X2 and XR systems

Note: UHPLC-MS solvents can also be used on stand-alone MS

Key Information

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Competing Solvent Products

	Fisher Chemical	SAF	JTBaker	Biosolve
	UHPLC-MS Optima	LC-MS Ultra CHROMASOLV®	Ultra LC/MS	ULC/MS
Acetonitrile	A956-1	14261	9853	12041
Methanol	A458-1	14262	9863	136841
Water	W8-1	14263	9823	232141

Why You Should Sell

Fisher Chemical UHPLC-MS Optima solvents offer the following specifications that are unique to the industry:

- UHPLC-MS Optima solvents have an LC-UV Gradient Suitability Specification which covers the full 200–400 nm range ensuring smooth chromatographic baselines with minimal UV-absorbing impurities.
- The quality of UHPLC/MS Optima solvents is linked directly to the sensitivity of the detector (mass spectrometer) using a new solvent specification based on the signal-to-noise ratio of the propazine product ion from MS/MS fragmentation. The S/N ratio of the propazine (m/z 230) generated product ion peak (mz/z 188) is > 10 at 250 ppt propazine using a water/acetonitrile gradient profile without additive.

Uncover the Need

- Identify instrumentation (refer to examples of front end UHPLC-MS in this document).
- Identify sub two micron columns.
- Ask the customer if they are running UHPLC-MS applications.
- Identify key solvents that the customer is currently using for UHPLC-MS applications.
- Ask the customer if they have issues with chromatographic interference(s) which they suspect is related to the mobile phase solvents.
- Identify which solvent manufacturer the customer purchases their solvents from.

Support Materials

- UHPLC-MS **flyer** (4 pages)
- **White paper** « new Solvent Grade targeted for Trace analysis by UHPLC-MS »
- UHPLC-MS **training deck** available on Revbase
- UHPLC-MS **poster**

Comparing Optima **UHPLC-MS** & Optima **LC/MS**

Take Away:

1- Both are scanned in full UV wavelength, ideal for dual detection.

2- For Both- suitability is tested with no additives, but UHPLC-MS Gradient has higher purity.

3- UHPLC-MS: **ONLY** competitor to have a Signal to Noise Spec directly linked to MS instrument, giving customers better peak profiles.

4- UHPLC-MS: have lower metal impurities with borosilicate bottles
(one liter square bottle)

Test	Optima UHPLC-MS	Optima LC/MS
UHPLC-UV Gradient Suitability		
Peak height with PDA (200–400 nm)	2 mAU maximum	2 mAU maximum
UHPLC-MS Gradient Suitability (no additive)		
Positive mode Ionization (as propazine in EIC)	25 ppb maximum	50 ppb maximum (as propazine)
Negative mode Ionization (as chloramphenicol in EIC)	25 ppb maximum 50 ppb maximum for MeOH	300 ppb maximum (as mecoprop)
Signal to noise ratio of production peak (MS/MS)		
250 ppt propazine (m/z 188)	> 10 S/N	N/A

Cation Traces	A956 Optima UHPLC/MS	A955 Optima LC/MS
Na	20 ppb max.	50 ppb max.
K	5 ppb max.	10 ppb max.
Fe	2 ppb max.	5 ppb max.
Ca	10 ppb max.	25 ppb max.