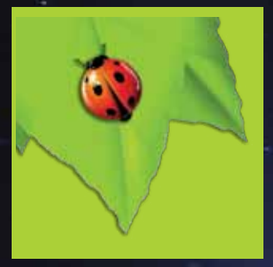
ULC/MS

Biosolve

Because you need quality!



cientisol
soluciones científicas

CIENTISOL, SLU
T. 981 936 338
info@cientisol.com · www.cientisol.com

High resolution and sensitivity
Micro filtered at 0,1 µm
solvents and formulations

Biosolve

Because you need quality!

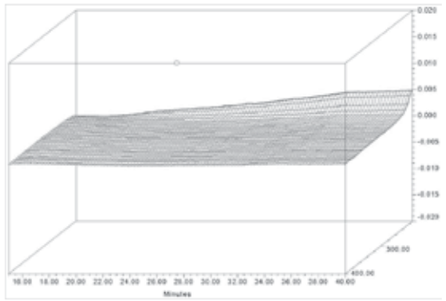
ULC/MS Grade

High chemical purity, high UV transmission, lowest peak impurities and drift in the gradient elution tests to ensure reproducibility. Low fluorescence impurities and low level of ionic background of less than 100 ppb of Alkali metal.

Recent improvements on the High and Ultra PLC instruments coupled with sensitive MS, PDA, ELSD, CAD, etc. detectors have led to special high-performing systems. Ultra low detection limits and valid analysis of molecular structures of proteins, peptides, oligonucleotides and other chemicals brought these new techniques a growing popularity especially in the pharmaceutical and biotechnology industry.

Biosolve ULC/MS solvents and formulations are micro filtered at 0.1 µm and have a very low residue on evaporation, offering the best protection for your columns and detectors. All ULC/MS reagents are packed under inert gas, for improved shelf life.

Comparison between the positive ESI spectra of Acetonitrile, MeOH & Water ULC/MS grade versus Reserpine 50ppb at 100-1000 m/z.



PDA gradient between 200-400 nm of Acetonitrile Vs. Water ULC/MS grade. Loading for 15 min. gradient 10-100% Acetonitrile in 20 min., hold 5 min. Column RP18, 3.5um; flow 1 ml/min.

3D chromatogram of Gradient elution test between 210-400nm by PDAD of Acetonitrile/Water ULC/MS lot No. 620121/621371

Acetonitrile ULC/MS

Specifications

	012041
Assay (GC, on anhydrous basis)	min. 99.97 %
Residue after evaporation	max. 0.0001 %w/w
Water (KF)	max. 0.01 %
Color (APHA)	max. 5
Acidity (as Acetic acid)	max. 0.001 %
Alkalinity (as Ammonia)	max. 0.0001 %
MS-ESI+ (as Reserpine)	max. 30 ppb
H.Peak by PDAD 210-400nm	max. 0.001 AU
Grad. elution H.Peak at 210nm	max. 0.001 AU
Grad. elution drift at 210nm	max. 0.006 AU
Grad. elution H.Peak at 254nm	max. 0.0003 AU
Grad. elution drift at 254nm	max. 0.002 AU
F254nm (as Quinine)	max. 0.3 ppb
F365nm (as Quinine)	max. 0.3 ppb
T191nm	min. 30 %
T195nm	min. 85 %
T200nm	min. 97 %
T215nm	min. 98 %
T>230nm	min. 99 %
Al (Aluminum)	max. 20 ppb
Ca (Calcium)	max. 50 ppb
Fe (Iron)	max. 20 ppb
K (Potassium)	max. 50 ppb
Mg (Magnesium)	max. 20 ppb
Na (Sodium)	max. 50 ppb

Water ULC/MS

Biosolve early recognized the importance of Water for sophisticated LC and LC-MS applications. Minor impurities in the water often “charge” the LC columns at the early stage of the gradient chromatographic run.

Such impurities may then be released as single or multiple peaks with rising gradient conditions. The operator might then consider the presence of such peak(s) as impurity(ies) that are present in the mobile phase co-solvent (e.g. Acetonitrile, Methanol) or inherent to the analyzed sample. Over the years the Water quality at Biosolve has been constantly upgraded and at present our Water ULC/MS is produced by not less than 11 monitored purification steps, including short UV treatment and final filtration through 0.1 µm membranes.

Our bottles are selected and treated to minimize ion release from the internal glass surface. The filling is performed under aseptic conditions.

Water ULC/MS

Specifications

	232141
Residue after evaporation	max. 0.0001 %w/w
Color (APHA)	max. 5
Resistivity (at manuf.)	min. 18.2 Mohm*cm
Acidity (as Acetic acid)	max. 0.0002 %
Alkalinity (as Ammonia)	max. 0.00005 %
TOC	max. 10 ppb
MS-ESI+ (as Reserpine)	max. 30 ppb
H.Peak by PDAD 210-400nm	max. 0.001 AU
Grad. elution H.Peak at 210nm	max. 0.001 AU
Grad. elution drift at 210nm	max. 0.008 AU
Grad. elution H.Peak at 254nm	max. 0.0005 AU
Grad. elution drift at 254nm	max. 0.005 AU
F254nm (as Quinine)	max. 0.3 ppb
F365nm (as Quinine)	max. 0.3 ppb
Filter test	Passes test
Al (Aluminum)	max. 20 ppb
Ca (Calcium)	max. 50 ppb
Fe (Iron)	max. 30 ppb
K (Potassium)	max. 50 ppb
Mg (Magnesium)	max. 20 ppb
Na (Sodium)	max. 50 ppb

- **Purified under 11 monitored steps**
- **High UV & Fluorescence transmittance**
- **Low level of ionic background**
- **TOC <10 ppb, Resistivity >18.2 MΩ*cm**
- **Filtered through 0.1 µm membrane**
- **Packed under aseptic conditions**

Biosolve

Because you need quality!

CIENTISOL, SLU · T. 981 936 338 · info@cientisol.com · www.cientisol.com

Methanol ULC/MS

Specifications

	136841
Assay (GC, on anhydrous basis)	min. 99.98 %
Residue after evaporation	max. 0.0001 %w/w
Water (KF)	max. 0.03 %
Color (APHA)	max. 5
Acidity (as Acetic acid)	max. 0.002 %
Alkalinity (as Ammonia)	max. 0.0001 %
MS-ESI+ (as Reserpine)	max. 30 ppb
H.Peak by PDAD 220-400nm	max. 0.004 AU
Grad. elution H.Peak at 220nm	max. 0.004 AU
Grad. elution drift at 220nm	max. 0.010 AU
Grad. elution H.Peak at 235nm	max. 0.002 AU
Grad. elution drift at 235nm	max. 0.005 AU
F254nm (as Quinine)	max. 0.5 ppb
F365nm (as Quinine)	max. 0.3 ppb
T210nm UV.1	min. 40 %
T220nm UV.1	min. 65 %
T230nm UV.1	min. 80 %
T260nm UV.1	min. 98 %
Al (Aluminum)	max. 20 ppb
Ca (Calcium)	max. 50 ppb
Fe (Iron) P.10	max. 20 ppb
K (Potassium)	max. 50 ppb
Mg (Magnesium)	max. 20 ppb
Na (Sodium)	max. 50 ppb

Isopropanol ULC/MS

Specifications

	162641
Assay (GC, on anhydrous basis)	min. 99.95%
Residue after evaporation	max. 0.0001 %w/w
Water (KF)	max. 0.03 %
Color (APHA)	max. 5
Acidity (as Acetic acid)	max. 0.001 %
Alkalinity (as Ammonia)	max. 0.0001 %
MS-ESI+ (as Reserpine)	max. 50 ppb
H.Peak by PDAD 235-400nm	max. 0.002 AU
Grad. elution H.Peak at 235nm	max. 0.001 AU
Grad. elution drift at 235nm	max. 0.010 AU
Grad. elution H.Peak at 254nm	max. 0.002 AU
Grad. elution drift at 254nm	max. 0.005 AU
F254nm (as Quinine)	max. 0.5 ppb
F365nm (as Quinine)	max. 0.5 ppb
T220nm	min. 80 %
T230nm	min. 90 %
T250nm	min. 99 %
Al (Aluminum)	max. 20 ppb
Ca (Calcium)	max. 50 ppb
Fe (Iron)	max. 20 ppb
K (Potassium)	max. 50 ppb
Mg (Magnesium)	max. 20 ppb
Na (Sodium)	max. 50 ppb

Formulations in acetonitrile ULC/MS

Specifications

	019141 Acetic acid 0.1% in Acetonitrile	019341 Formic acid 0.1% in Acetonitrile	019541 Trifluoroacetic acid 0.1% in Acetonitrile
Assay (T)	0.095-0.105 %v/v	0.095-0.105 %v/v	0.095-0.105 %v/v
Residue after evaporation	max. 0.0001 %w/w	max. 0.0001 %w/w	max. 0.0001 %w/w
Water (KF)	max. 0.02 %	max. 0.02 %	max. 0.02 %
Appearance	Clear colorless liquid	Clear colorless liquid	Clear colorless liquid
MS-ESI+ (as Reserpine)	max. 50 ppb	max. 50 ppb	max. 50 ppb
Grad. elution H.Peak at 254nm	max. 0.002 AU	max. 0.002 AU	max. 0.002 AU
Grad. elution drift at 254nm	max. 0.010 AU	max. 0.030 AU	max. 0.030 AU
F254nm (as Quinine)	max. 0.5 ppb	max. 0.5 ppb	max. 0.5 ppb
F365nm (as Quinine)	max. 0.5 ppb	max. 0.5 ppb	max. 0.5 ppb
T210nm	min. 20 %	min. 5 %	min. 35 %
T230nm	min. 50 %	min. 15 %	min. 50 %
T254nm	min. 98 %	min. 90 %	min. 90 %
Al (Aluminum)	max. 30 ppb	max. 30 ppb	max. 30 ppb
Ca (Calcium)	max. 100 ppb	max. 100 ppb	max. 100 ppb
Fe (Iron)	max. 50 ppb	max. 50 ppb	max. 50 ppb
K (Potassium)	max. 100 ppb	max. 100 ppb	max. 100 ppb
Mg (Magnesium)	max. 30 ppb	max. 30 ppb	max. 30 ppb
Na (Sodium)	max. 100 ppb	max. 100 ppb	max. 100 ppb

Tetrahydrofuran (unstab.) ULC/MS

Specifications

	202241
Assay (GC, on anhydrous basis)	min. 99.9 %
Residue after evaporation	max. 0.0001 %w/w
Water (KF)	max. 0.02 %
Color (APHA)	max. 10
Acidity (as Acetic acid)	min. 0.0020 %
Alkalinity (as Ammonia)	max. 0.0005 %
F254nm (as Quinine)	max. 1 ppb
F365nm (as Quinine)	max. 1 ppb
T215nm	min. 10 %
T245nm	min. 50 %
T265nm	min. 80 %
T275nm	min. 90 %
T310nm	min. 99 %
Peroxides (as H202)	max. 0.01 %
Al (Aluminum)	max. 20 ppb
Ca (Calcium)	max. 50 ppb
Fe (Iron)	max. 50 ppb
K (Potassium)	max. 50 ppb
Mg (Magnesium)	max. 50 ppb
Na (Sodium)	max. 50 ppb

Triethylamine ULC/MS

Specifications

	204141
Assay (GC, on anhydrous basis)	min. 99.8 %
Residue after evaporation	max. 0.005 %w/w
Water (KF)	max. 0.05 %
Appearance	Clear colorless liquid
Grad. elution H.Peak at 254nm	max. 0.005 AU
Grad. elution drift at 254nm	max. 0.080 AU
T250nm (0.1M in water)	min. 40%
T260nm (0.1M in water)	min. 87%
T270nm (0.1M in water)	min. 96%
T280nm (0.1M in water)	min. 98%
Al (Aluminum)	max. 200 ppb
Ca (Calcium)	max. 500 ppb
Fe (Iron)	max. 100 ppb
K (Potassium)	max. 500 ppb
Mg (Magnesium)	max. 100 ppb
Na (Sodium)	max. 500 ppb

Formulations in water ULC/MS

Specifications

	232341 Acetic Acid 0.1% in Water	232441 Formic acid 0.1% in Water in Water	232741 Trifluoroacetic acid 0.1% in Water
Assay (T)	0.095-0.105 %v/v	0.095-0.105 %v/v	0.095-0.105 %v/v
Residue after evaporation	max. 0.0001 %w/w	max. 0.0001 %w/w	max. 0.0001 %w/w
Appearance	Clear colorless liquid	Clear colorless liquid	Clear colorless liquid
MS-ESI+ (as Reserpine)	max. 50 ppb	max. 50 ppb	max. 50 ppb
Grad. elution H.Peak at 254nm	max. 0.002 AU	max. 0.002 AU	max. 0.002 AU
Grad. elution drift at 254nm	max. 0.010 AU	max. 0.010 AU	max. 0.010 AU
F254nm (as Quinine)	max. 0.5 ppb	max. 0.5 ppb	max. 0.5 ppb
F365nm (as Quinine)	max. 0.5 ppb	max. 0.5 ppb	max. 0.5 ppb
T210nm	min. 20 %	min. 5 %	min. 25 %
T230nm	min. 75 %	min. 45 %	min. 85 %
T254nm	min. 99 %	min. 99 %	min. 99 %
Al (Aluminum)	max. 30 ppb	max. 30 ppb	max. 30 ppb
Ca (Calcium)	max. 100 ppb	max. 100 ppb	max. 100 ppb
Fe (Iron)	max. 50 ppb	max. 50 ppb	max. 50 ppb
K (Potassium)	max. 100 ppb	max. 100 ppb	max. 100 ppb
Mg (Magnesium)	max. 30 ppb	max. 30 ppb	max. 30 ppb
Na (Sodium)	max. 100 ppb	max. 100 ppb	max. 100 ppb

Biosolve ULC/MS solvents and formulations are micro filtered at 0.1 µm

Biosolve

Because you need quality!

CIENTISOL, SLU · T. 981 936 338 · info@cientisol.com · www.cientisol.com

ULC/MS **Acids**

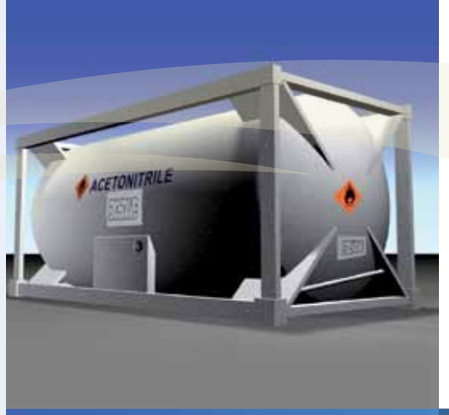
Specifications

	010741 Acetic acid glacial	069141 Formic acid 99%	202341 Trifluoroacetic acid
Assay (T, dry)	min. 99.95 %	min. 99.0 %w/w	min. 99.95 %w/w
Residue after evaporation	max. 0.0005 %w/w	max. 0.001 %w/w	max. 0.001 %w/w
Color (APHA)	max. 10	max. 10	max. 10
Water (KF)	max. 0.05 %	max. 1 %	max. 0.02 %
Grad. elution H.Peak at 254nm	max. 0.002 AU	max. 0.002 AU	max. 0.002 AU
Grad. elution drift at 254nm	max. 0.005 AU	max. 0.010 AU	max. 0.010 AU
F254nm (as Quinine)	max. 0.5 ppb (0,1% solution)	max. 0.5 ppb (0,1% solution)	max. 1 ppb (25% solution)
F365nm (as Quinine)	max. 0.5 ppb (0,1% solution)	max. 0.5 ppb (0,1% solution)	max. 1 ppb (25% solution)
T254nm	min. 30 %		
T260nm	min. 80 %	min. 15 %	min. 10 %
T265nm	min. 95 %		
T270nm		min. 83 %	min. 79 %
T275nm	min. 98 %		
T280nm		min. 90 %	min. 93 %
T300nm		min. 97 %	min. 95 %
T320nm		min. 98 %	min. 96 %
Al (Aluminium)	max. 10 ppb	max. 50 ppb	max. 50 ppb
Ca (Calcium)	max. 50 ppb	max. 200 ppb	max. 200 ppb
Fe (Iron)	max. 20 ppb	max. 200 ppb	max. 300 ppb
K (Potassium)	max. 20 ppb	max. 100 ppb	max. 100 ppb
Mg (Magnesium)	max. 10 ppb	max. 50 ppb	max. 50 ppb
Na (Sodium)	max. 50 ppb	max. 500 ppb	max. 500 ppb

ULC/MS Salts

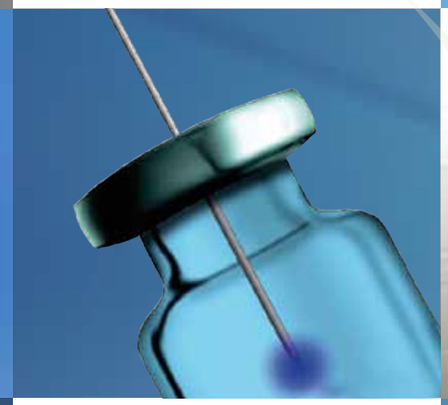
Specifications

	019841 Ammonium formate	012441 Ammonium acetate
Assay (T, dry)	99.0-100.5 %w/w	99.0-101.0 %
pH (1M in water)	5.5-7.5	6.0-7.5
Filter test (1M in Water)	Passes test	Passes test
Appearance of solution (1M in Water)	Complete, colorless solution	Complete, colorless solution
Water (KF)	max. 2 %	max. 1%
Grad. elution H.Peak at 254nm	max. 0.002 AU	max. 0.002 AU
Grad. elution drift at 254nm	max. 0.010 AU	max. 0.010 AU
F254nm (0.1%, as Quinine)	max. 0.5 ppb	max. 0.5 ppb
F365nm (0.1%, as Quinine)	max. 0.5 ppb	max. 0.5 ppb
T260nm (1M in water)	min. 98 %	min. 96%
T280nm (1M in water)	min. 98 %	min. 98%
Chloride (Cl)	max. 0.005 %	max. 0.0005 %
Sulfate (SO4)	max. 0.005 %	max. 0.001 %
Al (Aluminium)	max. 1 ppm	max. 1 ppm
Ca (Calcium)	max. 5 ppm	max. 5 ppm
Fe (Iron)	max. 1 ppm	max. 1 ppm
K (Potassium)	max. 5 ppm	max. 5 ppm
Mg (Magnesium)	max. 1 ppm	max. 1 ppm
Na (Sodium)	max. 5 ppm	max. 5 ppm



Our productlines:

HPLC, LC-MS, ULC/MS
HeadSpace analysis
Solvents for environmental analysis
DNA & RNA reagents,
amidites and modifiers
Synthetic Sphingolipids & Phospholipids
Supra Dry & Extra dry solvents
Peptide Chemistry
Molecular Biology
Custom Synthesis



Biosolve ULC/MS solvents and formulations have a very low residue on evaporation, offering the best protection for your columns and detectors.

All ULC/MS reagents are packed under inert gas ULC/MS Grade for improved shelf life.

Biosolve offer custom synthesis, formulations and packaging which may be discussed under complete confidentiality.

Biosolve

Because you need quality!

CIENTISOL, SLU · T. 981 936 338 · info@cientisol.com · www.cientisol.com