

**Certificate of Analysis**

**Product:** Water  
**Grade:** LC-MS  
**Part No.'s:** 1939-5

<b>Lot:</b>	<b>MAP109</b>
<b>Mfg. Date:</b>	<b>2022-10-25</b>
<b>Exp. Date:</b>	<b>2 years after Mfg. Date</b>

Manufactured by Duksan Pure Chemicals

**LC-MS Suitability**

Test	Unit	Specification (Max)	Results
ESI+ mode (as Reserpine)	ppb	50	<50
ESI- mode (as 4-Nitrophenol)	ppb	50	<50
Residue After Evaporation	ppm	1	<1
<b>Ultraviolet Spectrophotometry</b>			
Wavelength	Unit	Maximum UV Absorbance	
200	nm	0.01	<0.01
250 - 400	nm	0.005	<0.005
<b>Gradient Elution Test</b>			
Test	Unit	Specification (Max)	
Largest Eluted Peak(254nm)	mAu	1	<1
Largest Eluted Peak(210nm)	mAu	5	<5
<b>Fluorescence Trace Impurities</b>			
Test	Unit	Specification (Max)	
At 450nm Emissions	ppb	0.1	<0.1
At Emissions Maximum for Impurities	ppb	0.2	<0.2

**Metal Impurities**

Metal	Unit	Specification (Max)	Results
Aluminum (Al)	ppb	25	<1
Barium (Ba)	ppb	5	<1
Cadmium (Cd)	ppb	5	<1
Calcium (Ca)	ppb	25	<20
Chromium (Cr)	ppb	5	<1
Cobalt (Co)	ppb	5	<1

Copper (Cu)	ppb	5	<1
Iron (Fe)	ppb	5	<1
Lead (Pb)	ppb	5	<1
Magnesium (Mg)	ppb	25	<5
Manganese (Mn)	ppb	5	<1
Lithium (Li)	ppb	5	<1
Nickel (Ni)	ppb	5	<1
Potassium (K)	ppb	25	<2
Silver (Ag)	ppb	5	<1
Sodium (Na)*	ppb	50	<8
Tin (Sn)	ppb	5	<1
Zinc (Zn)	ppb	5	<1

\* May change over time

Tested to ACS specifications

Filtered by 0.2um filter

Created By:

James Osborn  
Quality Supervisor