

The MH-5000 s2086 Measurement Range for Standard Condition

(Wavelength range: 200 nm - 860 nm)

Micro Emission Ltd.

◀ Detection limit with Solid Phase Extraction ◀ Detection limit ◯ Recommended range ◀ Detection limit of other model

Chemical Symbol	Name	Emission Line nm	Measurement Range								Solvent Info. (mol/L)				Solid Phase Ext.	Other Models		
			1	10	100	1	10	100	1000	Recom -mended	HNO ₃		HCl			s2035	s2043	
			μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L		0.1	1	0.1	1				
Ag	Silver	338.29		◀	◀	◯					HNO ₃ 0.5	★★	★★	(*1)		PM(A)	✓	✓
Al	Aluminium	396.15							◀	◀	HNO ₃ 2	★	★★	–	★★			✓
As	Arsenic	228.81							◀	◀	HCl 0.1	★★	★	★★	★★	As(A)	✓	✓
Au	Gold	242.80									HCl 1	★★	★	★★	★★	PM(A)	✓	✓
B	Boron	249.77									HCl 2	★★	★★	★★	★★	CH(A)	✓	✓
		545									HNO ₃ 0.1							
Ba	Barium	553.56									HNO ₃ 0.5	★★	★	★★	★	chelate		
Be	Beryllium	234.86									HNO ₃ 0.5	★	★★	★	★★		✓	✓
Bi	Bismuth	223.06									HNO ₃ 0.1	★★	★	★	★★	chelate	✓	✓
Ca	Calcium	422.67									HNO ₃ 0.1	★★	★★	★	★	chelate		✓
Cd	Cadmium	228.80		◀	◀	◯					HNO ₃ 0.1	★★	★	★★	★★	TE(A)	✓	✓
Co	Cobalt	240.73									HNO ₃ 0.1	★★	★	★	★★	chelate	✓	✓
Cr	Chromium	520.60									HCl 1	★	☆	★★	★★★★	Cr(A)		✓
Cs	Caesium	852.11									HNO ₃ 0.2	★★	★	★	★			
Cu	Copper	324.75									HNO ₃ 0.1	★★	★★	★★	★★	chelate	✓	✓
Eu	Europium	381.97									HCl 1	–	–	–	★			✓
Fe	Iron	248.82									HCl 2	★	☆	★★	★★	chelate	✓	✓
Ga	Gallium	417.21									HCl 1	★★	★★	★★	★★★★	chelate		✓
Ge	Germanium	265.12									HCl 0.2 + KOH 0.18	–	–	–	–		✓	✓
Hg	Mercury	253.65									HNO ₃ 0.1	★★	★	★★	★★	Hg(A)	✓	✓
I	Iodine	206.24									KI aq.	–	–	–	–		✓	✓
In	Indium	451.13									HNO ₃ 0.1	★★	★	★★	★	chelate	✓	✓
Ir	Iridium	254.60									HCl 3	–	–	–	–		✓	✓
K	Potassium	766.49									HNO ₃ 0.1	★★	★★	★	★	Pb(A)		
Li	Lithium	670.78									HNO ₃ 0.1	★★	★★	★	★	AM(B)		
Mg	Magnesium	518.36									HNO ₃ 0.1	★★	★★	★	★		✓	✓
Mn	Manganese	403.08									HCl 1	★★	★★	★★	★★★★	chelate	✓	✓
Mo	Molybdenum	379.83									HCl 0.4 + HNO ₃ 0.2	–	–	–	–	chelate		✓
Na	Sodium	589.00									HCl 0.2	★★	★★	★★	★★			
Ni	Nickel	232.00									HNO ₃ 0.1	★★	★★	★★	★★	chelate	✓	✓
P	Phosphorus	253.57									HCl 0.5	★★	★★	★★	★★		✓	✓
Pb	Lead	405.78									HCl 1	★★	★	★★	★★	Pb(A)	✓	✓
Pd	Palladium	363.47									HNO ₃ 2	★★	★★	★★	★★	PM(A)	✓	✓
Pt	Platinum	265.95									HCl 1	★★	★★	★★	★★	PM(A)	✓	✓
Rb	Rubidium	794.76									HCl 0.2	★★	★★	★★	★★			
Rh	Rhodium	369.24									HCl 1	–	★★	★★	★★		✓	✓
Ru	Ruthenium	372.80									HCl 3	★★	★★	★★	★★		✓	✓
Sb	Antimony	252.85									HCl 1	–	★	–	★★		✓	✓
Sc	Scandium	402.37									HNO ₃ 1	–	★	–	–	chelate		✓
		608																
Se	Selenium	203.99									HCl 0.5	★★	★	★★	★★	AN(A)	✓	✓
(*2)	Si	Silicon	251.61								KOH 0.5	☆	☆	☆	☆		✓	
Sn	Tin	380.10									HCl 1	–	★	–	★★	chelate	✓	✓
Sr	Strontium	460.73									HNO ₃ 2	★★	★★	★	★	chelate		✓
Te	Tellurium	214.28									HCl 0.5	★★	★	★★	★★		✓	✓
Tl	Thallium	535.05									HNO ₃ 0.1	★★	★	★★	★★		✓	✓
(*2)	W	Tungsten	239.71								NaOH 0.5	☆	☆	☆	☆			✓
Yb	Ytterbium	398.80									HCl 1	–	–	–	★			✓
Zn	Zinc	213.86									HNO ₃ 0.1	★★	★	★★	★★	chelate	✓	✓

These are based on typical data, not guaranteed value. Detection limits with solid phase extraction are shown only experimented.

(*1) Silver in hydrochloric acid result in a silver chloride precipitate.

But hydrochloric acid is better than nitric acid around detection limit.

(*2) MH-6000A with sapphire cuvette LepiCuve-SA

MH-5000 has only quartz cuvette LepiCuve-C, quartz is damaged by alkaline solution.

★★★★ Highly Recommended
 ★★★ Recommended
 ★ Acceptable
 ☆ Not Recommended
 – No Data

The MH-5000 s2043 Measurement Range for Standard Condition

(Wavelength range: 200 nm - 430 nm)

Micro Emission Ltd.

Detection limit with Solid Phase Extraction
 Detection limit
 Recommended range

Chemical Symbol	Name	Emission Line nm	Measurement Range								Solvent Info. (mol/L)				Solid Phase Ext.	Other Models			
			1	10	100	1	10	100	1000	Recom-mended	HNO ₃		HCl			s2035	s2086		
			μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L		0.1	1	0.1	1					
Ag	Silver	338.29										HNO ₃ 0.5	★★	★★	(*1)		PM(A)	✓	✓
Al	Aluminium	396.15										HNO ₃ 2	★	★★	–	★★			✓
As	Arsenic	228.81										HCl 0.1	★★	★	★★	★★	As(A)	✓	✓
Au	Gold	242.80										HCl 1	★★	★	★★	★★	PM(A)	✓	✓
B	Boron	249.77										HCl 2	★★	★★	★★	★★	CH(A)	✓	✓
Be	Beryllium	234.86										HNO ₃ 0.5	★	★★	★	★★		✓	
Bi	Bismuth	223.06										HNO ₃ 0.1	★★	★	★	★★	chelate	✓	✓
Ca	Calcium	422.67										HNO ₃ 0.1	★★	★★	★	★	chelate		✓
Cd	Cadmium	228.80										HNO ₃ 0.1	★★	★	★★	★★	TE(A)	✓	✓
Co	Cobalt	240.73										HNO ₃ 0.1	★★	★	★	★★	chelate	✓	✓
Cr	Chromium	357.87										HCl 1	★	☆	★★	★★★★	Cr(A)		✓
Cu	Copper	324.75										HNO ₃ 0.1	★★	★★	★★	★★	chelate	✓	✓
Eu	Europium	381.97										HCl 1	–	–	–	★			✓
Fe	Iron	248.82										HCl 2	★	☆	★★	★★	chelate	✓	✓
Ga	Gallium	417.21										HCl 1	★★	★★	★★	★★★★	chelate		✓
Ge	Germanium	265.12										HCl 0.2 + KOH 0.18	–	–	–	–		✓	✓
Hg	Mercury	253.65										HNO ₃ 0.1	★★	★	★★	★★	Hg(A)	✓	✓
I	Iodine	206.24										KI aq.	–	–	–	–		✓	✓
In	Indium	410.18										HNO ₃ 0.1	★★	★	★★	★	chelate	✓	✓
Ir	Iridium	254.60										HCl 3	–	–	–	–		✓	
Mg	Magnesium	285.21										HNO ₃ 0.1	★★	★★	★	★		✓	✓
Mn	Manganese	279.83										HCl 1	★★	★★	★★	★★★★	chelate	✓	✓
Mo	Molybdenum	379.83										HCl 0.4 + HNO ₃ 0.2	–	–	–	–	chelate		✓
Ni	Nickel	232.00										HNO ₃ 0.1	★★	★★	★★	★★	chelate	✓	✓
P	Phosphorus	253.57										HCl 0.5	★★	★★	★★	★★		✓	✓
Pb	Lead	363.96										HCl 1	★★	★	★★	★★	Pb(A)	✓	✓
Pd	Palladium	363.47										HNO ₃ 2	★★	★★	★★	★★	PM(A)	✓	✓
Pt	Platinum	265.95										HCl 1	★★	★★	★★	★★	PM(A)	✓	✓
Rh	Rhodium	369.24										HCl 1	–	★★	★★	★★		✓	✓
Ru	Ruthenium	372.80										HCl 3	★★	★★	★★	★★		✓	✓
Sb	Antimony	252.85										HCl 1	–	★	–	★★		✓	✓
Sc	Scandium	402.37										HNO ₃ 1	–	★	–	–	chelate		✓
Se	Selenium	203.99										HCl 0.5	★★	★	★★	★★	AN(A)	✓	✓
Sn	Tin	303.41										HCl 1	–	★	–	★★	chelate	✓	✓
Sr	Strontium	407.77										HNO ₃ 2	★★	★★	★	★	chelate		✓
Te	Tellurium	238.58										HCl 0.5	★★	★	★★	★★		✓	✓
Tl	Thallium	377.57										HNO ₃ 0.1	★★	★	★★	★★		✓	✓
W	Tungsten	239.71										NaOH 0.5	☆	☆	☆	☆			
Yb	Ytterbium	398.80										HCl 1	–	–	–	★			✓
Zn	Zinc	213.86										HNO ₃ 0.1	★★	★	★★	★★	chelate	✓	✓

(*2)

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(*1) Silver in hydrochloric acid result in a silver chloride precipitate.

But hydrochloric acid is better than nitric acid around detection limit.

(*2) MH-6000A with sapphire cuvette LepiCuve-SA

MH-5000 has only quartz cuvette LepiCuve-C, quartz is damaged by alkaline solution.

- ★★★★ Highly Recommended
- ★★ Recommended
- ★ Acceptable
- ☆ Not Recommended
- No Data

The MH-5000 s2035 Measurement Range for Standard Condition

(Wavelength range: 200 nm - 350 nm)

Micro Emission Ltd.

◀ Detection limit with Solid Phase Extraction
◁ Detection limit
◉ Recommended range

Chemical Symbol	Name	Emission Line nm	Measurement Range							Solvent Info. (mol/L)				Solid Phase Ext.	Other Models		
			1	10	100	1	10	100	1000	Recom -mended	HNO ₃		HCl		s2043	s2086	
			μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L		0.1	1	0.1				1
Ag	Silver	338.29								HNO ₃ 0.5	★★	★★	(*1)		PM(A)	✓	✓
As	Arsenic	228.81								HCl 0.1	★★	★	★★	★★	As(A)	✓	✓
Au	Gold	242.80								HCl 1	★★	★	★★	★★	PM(A)	✓	✓
B	Boron	249.77								HCl 2	★★	★★	★★	★★	CH(A)	✓	✓
Be	Beryllium	234.86								HNO ₃ 0.5	★	★★	★	★★		✓	
Bi	Bismuth	223.06								HNO ₃ 0.1	★★	★	★	★★	chelate	✓	✓
Cd	Cadmium	228.80								HNO ₃ 0.1	★★	★	★★	★★	TE(A)	✓	✓
Co	Cobalt	240.73								HNO ₃ 0.1	★★	★	★	★★	chelate	✓	✓
Cu	Copper	324.75								HNO ₃ 0.1	★★	★★	★★	★★	chelate	✓	✓
Fe	Iron	248.82								HCl 2	★	☆	★★	★★	chelate	✓	✓
Ge	Germanium	265.12								HCl 0.2 + KOH 0.18	-	-	-	-		✓	✓
Hg	Mercury	253.65								HNO ₃ 0.1	★★	★	★★	★★	Hg(A)	✓	✓
I	Iodine	206.24								KI aq.	-	-	-	-		✓	✓
In	Indium	303.94								HNO ₃ 0.1	★★	★	★★	★	chelate	✓	✓
Ir	Iridium	254.60								HCl 3	-	-	-	-		✓	
Mg	Magnesium	285.21								HNO ₃ 0.1	★★	★★	★	★		✓	✓
Mn	Manganese	279.83								HCl 1	★★	★★	★★	★★★	chelate	✓	✓
Ni	Nickel	232.00								HNO ₃ 0.1	★★	★★	★★	★★	chelate	✓	✓
P	Phosphorus	253.57								HCl 0.5	★★	★★	★★	★★		✓	✓
Pb	Lead	261.42								HCl 1	★★	★	★★	★★	Pb(A)	✓	✓
Pd	Palladium	340.46								HNO ₃ 2	★★	★★	★★	★★	PM(A)	✓	✓
Pt	Platinum	265.95								HCl 1	★★	★★	★★	★★	PM(A)	✓	✓
Rh	Rhodium	343.49								HCl 1	-	★★	★★	★★		✓	✓
Ru	Ruthenium	349.89								HCl 3	★★	★★	★★	★★		✓	✓
Sb	Antimony	231.15								HCl 1	-	★	-	★★		✓	✓
Se	Selenium	203.99								HCl 0.5	★★	★	★★	★★	AN(A)	✓	✓
(*2) Si	Silicon	251.61								KOH 0.5	☆	☆	☆	☆			
Sn	Tin	303.41								HCl 1	-	★	-	★★	chelate	✓	✓
Te	Tellurium	238.58								HCl 0.5	★★	★	★★	★★		✓	✓
Tl	Thallium	276.79								HNO ₃ 0.1	★★	★	★★	★★		✓	✓
Zn	Zinc	213.86								HNO ₃ 0.1	★★	★	★★	★★	chelate	✓	✓

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But hydrochloric acid is better than nitric acid around detection limit.

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MH-5000 has only quartz cuvette LepiCuve-C, quartz is damaged by alkaline solution.

★★★ Highly Recommended

★★ Recommended

★ Acceptable

☆ Not Recommended

- No Data