

















Thermo Scientific Orion Ion Selective Electrode Selection Guide

Species	Cat. No.	Construction	Measurement Range	Optimum Temperature Range	Required Reference Electrode	Reference Filling Solution	Calibration Standards	Required ISA
Ammonia standard (NH₃) 	9512BNWP ¹	Gas sensing combination	5 x 10 ⁻⁷ to 1.0 M 0.01 to 17,000 ppm	0 to 50 °C	Included	951202	0.1 M NH ₄ Cl / 951006	951211 
Ammonia high performance 	9512HPBNWP ¹	Gas sensing combination	5 x 10 ⁻⁷ to 1.0 M 0.01 to 17,000 ppm	0 to 50 °C	Included	951209	0.1 M NH ₄ Cl / 951006	951210 
Ammonium (NH₄⁺)	931801 ⁸	Plastic membrane half-cell	5 x 10 ⁻⁷ to 1.0 M 0.01 to 17,000 ppm	0 to 40 °C	900200	900002 inner/ 900018-WA outer	1000 ppm as N / 951007	–
Bromide (Br⁻) ionplus Design	9635BNWP ¹	ionplus sure-flow solid state combination	5 x 10 ⁻⁶ to 1.0 M 0.40 to 79,900 ppm	0 to 80 °C	Included	900063	0.1 M NaBr / 943506	940011
Bromide (Br⁻)	9435BN ² 9435SC ³	Solid state half-cell	5 x 10 ⁻⁶ to 1.0 M 0.40 to 79,900 ppm	0 to 80 °C	900200	900002 inner/ 900003 outer	0.1 M NaBr / 943506	940011
Cadmium (Cd²⁺) ionplus Design	9648BNWP ¹	ionplus sure-flow solid state combination	1 x 10 ⁻⁷ to 0.1 M 0.01 to 11,200 ppm	0 to 80 °C	Included	900061	Consult user guide	940011
Cadmium (Cd²⁺)	9448BN ² 9448SC ³	Solid state half-cell	1 x 10 ⁻⁷ to 0.1 M 0.01 to 11,200 ppm	0 to 80 °C	900200	900002 inner/ 900003 outer	Consult user guide	940011
Calcium (Ca²⁺) ionplus Design	9720BNWP ¹	ionplus sure-flow plastic membrane combination	5 x 10 ⁻⁷ to 1.0 M 0.02 to 40,100 ppm	0 to 40 °C	Included	900061	0.1 M CaCl ₂ / 922006 100 ppm CaCO ₃ / 923206	932011
Calcium (Ca²⁺)	9320BN ²	Plastic membrane half-cell	5 x 10 ⁻⁷ to 1.0 M 0.02 to 40,100 ppm	0 to 40 °C	900100	900011	0.1 M CaCl ₂ / 922006 100 ppm CaCO ₃ / 923206	932011
Carbon Dioxide (CO₂)	9502BNWP ¹	Gas sensing combination	1 x 10 ⁻⁴ to 1 x 10 ⁻² M 4.4 to 440 ppm	0 to 50 °C	Included	950202	0.1 M NaHCO ₃ / 950206 1000 ppm as CaCO ₃ / 950207	950210
Chloride (Cl⁻) ionplus Design 	9617BNWP ¹	ionplus sure-flow solid state combination	5 x 10 ⁻⁵ to 1.0 M 1.8 to 35,500 ppm	0 to 80 °C	Included	900062	0.1 M NaCl / 941706 100 ppm Cl ⁻ / 941707 1000 ppm Cl ⁻ / 941708	940011 or 941709 / CISA 
Chloride (Cl⁻) 	9417BN ² 9417SC ³	Solid state half-cell	5 x 10 ⁻⁵ to 1.0 M 1.8 to 35,500 ppm	0 to 80 °C	900200	900002 inner/ 900003 outer	0.1 M NaCl / 941706 100 ppm Cl ⁻ / 941707 1000 ppm Cl ⁻ / 941708	940011 or 941709 / CISA 
Chlorine (Cl₂) 	9770BNWP ¹ 9770SC ³	Solid state combination	1 x 10 ⁻⁷ to 3 x 10 ⁻⁴ M 0.01 to 20 ppm	0 to 50 °C	Included	None required	100 ppm as Cl ₂ / 977007	977010 / iodide reagent 977011 / acid reagent 
Cupric (Cu²⁺) ionplus Design	9629BNWP ¹	ionplus sure-flow solid state combination	1 x 10 ⁻⁸ to 0.1 M 6.4 x 10 ⁻⁴ to 6350 ppm	0 to 80 °C	Included	900063	0.1 M Cu(NO ₃) ₂ / 942906	940011
Cupric (Cu²⁺)	9429BN ² 9429SC ³	Solid state half-cell	1 x 10 ⁻⁸ to 0.1 M 6.4 x 10 ⁻⁴ to 6350 ppm	0 to 80 °C	900200	900002 inner/ 900003 outer	0.1 M Cu(NO ₃) ₂ / 942906	940011
Cyanide (CN⁻) ionplus Design 	9606BNWP ¹	ionplus sure-flow solid state combination	8 x 10 ⁻⁶ to 1 x 10 ⁻² M 0.2 to 260 ppm	0 to 80 °C	Included	900062	Consult user guide	951011 
Cyanide (CN⁻) 	9406BN ² 9406SC ³	Solid state half-cell	8 x 10 ⁻⁶ to 1 x 10 ⁻² M 0.2 to 260 ppm	0 to 80 °C	900200	900002 inner/ 900003 outer	Consult user guide	951011 
Fluoride (F⁻) ionplus Design 	9609BNWP ¹	ionplus sure-flow solid state combination	1 x 10 ⁻⁶ M to saturated 0.02 ppm to saturated	0 to 80 °C	Included	900061	0.1 M NaF / 940906 100 ppm F ⁻ / 940907 1 ppm F ⁻ w/ TISAB II / 040906 2 ppm F ⁻ w/ TISAB II / 040907 10 ppm F ⁻ w/ TISAB II / 040908	940909 / TISAB II 940911 / TISAB III
Fluoride (F⁻) 	9409BN ² 9409SC ³	Solid state half-cell	1 x 10 ⁻⁶ M to saturated 0.02 ppm to saturated	0 to 80 °C	900100	900001	0.1 M NaF / 940906 100 ppm F ⁻ / 940907 1 ppm F ⁻ w/ TISAB II / 040906 2 ppm F ⁻ w/ TISAB II / 040907 10 ppm F ⁻ w/ TISAB II / 040908	940909 / TISAB II 940911 / TISAB III

 Compliant with EPA testing method

 Signifies a hazardous solution. See terms and conditions for important shipping information at www.thermoscientific.com/water