hps high-purity standards

Greyhound CHROMATOGRAPHY AND ALLIED CHEMICALS

# Certified Reference Materials for Ion Chromatography

ISO 9001: 2015 Registered • ISO/IEC 17025:2005 Accredited • ISO 17034:2016 Accredited


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Greyhound CHROMATOGRAPHY AND ALLIED CHEMICALS

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## Certified Reference Materials for Ion Chromatography (IC)

High-Purity Standards (HPS) offers a broad range of single and multi-component standard for Ion Chromatography/Ion Selective Electrode applications. Associated with EPA Method 300, 300.1 and 300.2, Standard Method 4110 and ASTM Standard D4327.

| IC Single Standards - Anions | | | | | |
|---|---|---|---|---|---|
| **Component** | **Source** | **Concentration** | **Matrix** | **Volume** | **Part #** |
| Acetate | Sodium Acetate | 100 µg/mL | $H_2O$ | 100 mL | IC-AC-100 |
| Acetate | Sodium Acetate | 100 µg/mL | $H_2O$ | 250 mL | IC-AC-250 |
| Acetate | Sodium Acetate | 100 µg/mL | $H_2O$ | 500 mL | IC-AC-500 |
| Acetate | Sodium Acetate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-AC-M-100 |
| Acetate | Sodium Acetate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-AC-M-250 |
| Acetate | Sodium Acetate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-AC-M-500 |
| Bromate | Sodium Bromate | 100 µg/mL | $H_2O$ | 100 mL | IC-BRO3-100 |
| Bromate | Sodium Bromate | 100 µg/mL | $H_2O$ | 250 mL | IC-BRO3-250 |
| Bromate | Sodium Bromate | 100 µg/mL | $H_2O$ | 500 mL | IC-BRO3-500 |
| Bromate | Sodium Bromate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-BRO3-M-100 |
| Bromate | Sodium Bromate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-BRO3-M-250 |
| Bromate | Sodium Bromate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-BRO3-M-500 |
| Bromide | Sodium Bromide | 100 µg/mL | $H_2O$ | 100 mL | IC-BR-100 |
| Bromide | Sodium Bromide | 100 µg/mL | $H_2O$ | 250 mL | IC-BR-250 |
| Bromide | Sodium Bromide | 100 µg/mL | $H_2O$ | 500 mL | IC-BR-500 |
| Bromide | Sodium Bromide | 1,000 µg/mL | $H_2O$ | 100 mL | IC-BR-M-100 |
| Bromide | Sodium Bromide | 1,000 µg/mL | $H_2O$ | 250 mL | IC-BR-M-250 |
| Bromide | Sodium Bromide | 1,000 µg/mL | $H_2O$ | 500 mL | IC-BR-M-500 |
| Bromide | Sodium Bromide | 10,000 µg/mL | $H_2O$ | 100 mL | IC-BR-10M-100 |
| Bromide | Sodium Bromide | 10,000 µg/mL | $H_2O$ | 250 mL | IC-BR-10M-250 |
| Bromide | Sodium Bromide | 10,000 µg/mL | $H_2O$ | 500 mL | IC-BR-10M-500 |
| Chlorate | Sodium Chlorate | 100 µg/mL | $H_2O$ | 100 mL | IC-CLO3-100 |
| Chlorate | Sodium Chlorate | 100 µg/mL | $H_2O$ | 250 mL | IC-CLO3-250 |
| Chlorate | Sodium Chlorate | 100 µg/mL | $H_2O$ | 500 mL | IC-CLO3-500 |
| Chlorate | Sodium Chlorate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-CLO3-M-100 |
| Chlorate | Sodium Chlorate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-CLO3-M-250 |
| Chlorate | Sodium Chlorate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-CLO3-M-500 |
| Chloride | Sodium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-CL-100 |
| Chloride | Sodium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-CL-250 |
| Chloride | Sodium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-CL-500 |

## IC Single Standards - Anions (cont'd)

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Chloride | Sodium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-CL-M-100 |
| Chloride | Sodium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-CL-M-250 |
| Chloride | Sodium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-CL-M-500 |
| Chloride | Sodium Chloride | 10,000 µg/mL | $H_2O$ | 100 mL | IC-CL-10M-100 |
| Chloride | Sodium Chloride | 10,000 µg/mL | $H_2O$ | 250 mL | IC-CL-10M-250 |
| Chloride | Sodium Chloride | 10,000 µg/mL | $H_2O$ | 500 mL | IC-CL-10M-500 |
| Chlorite | Sodium Chlorite | 100 µg/mL | $H_2O$ | 100 mL | IC-CLO2-100 |
| Chlorite | Sodium Chlorite | 100 µg/mL | $H_2O$ | 250 mL | IC-CLO2-250 |
| Chlorite | Sodium Chlorite | 100 µg/mL | $H_2O$ | 500 mL | IC-CLO2-500 |
| Chlorite | Sodium Chlorite | 1,000 µg/mL | $H_2O$ | 100 mL | IC-CLO2-M-100 |
| Chlorite | Sodium Chlorite | 1,000 µg/mL | $H_2O$ | 250 mL | IC-CLO2-M-250 |
| Chlorite | Sodium Chlorite | 1,000 µg/mL | $H_2O$ | 500 mL | IC-CLO2-M-500 |
| Cyanide | Potassium Cyanide | 100 µg/mL | 2% KOH | 100 mL | IC-CN-100 |
| Cyanide | Potassium Cyanide | 100 µg/mL | 2% KOH | 250 mL | IC-CN-250 |
| Cyanide | Potassium Cyanide | 100 µg/mL | 2% KOH | 500 mL | IC-CN-500 |
| Cyanide | Potassium Cyanide | 1,000 µg/mL | 2% KOH | 100 mL | IC-CN-M-100 |
| Cyanide | Potassium Cyanide | 1,000 µg/mL | 2% KOH | 250 mL | IC-CN-M-250 |
| Cyanide | Potassium Cyanide | 1,000 µg/mL | 2% KOH | 500 mL | IC-CN-M-500 |
| Fluoride | Sodium Fluoride | 100 µg/mL | $H_2O$ | 100 mL | IC-FF-100 |
| Fluoride | Sodium Fluoride | 100 µg/mL | $H_2O$ | 250 mL | IC-FF-250 |
| Fluoride | Sodium Fluoride | 100 µg/mL | $H_2O$ | 500 mL | IC-FF-500 |
| Fluoride | Sodium Fluoride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-FF-M-100 |
| Fluoride | Sodium Fluoride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-FF-M-250 |
| Fluoride | Sodium Fluoride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-FF-M-500 |
| Fluoride | Sodium Fluoride | 10,000 µg/mL | $H_2O$ | 100 mL | IC-FF-10M-100 |
| Fluoride | Sodium Fluoride | 10,000 µg/mL | $H_2O$ | 250 mL | IC-FF-10M-250 |
| Fluoride | Sodium Fluoride | 10,000 µg/mL | $H_2O$ | 500 mL | IC-FF-10M-500 |
| Formate | Sodium Formate | 100 µg/mL | $H_2O$ | 100 mL | IC-FM-100 |
| Formate | Sodium Formate | 100 µg/mL | $H_2O$ | 250 mL | IC-FM-250 |
| Formate | Sodium Formate | 100 µg/mL | $H_2O$ | 500 mL | IC-FM-500 |
| Formate | Sodium Formate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-FM-M-100 |
| Formate | Sodium Formate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-FM-M-250 |
| Formate | Sodium Formate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-FM-M-500 |
| Iodide | Sodium Iodide | 100 µg/mL | $H_2O$ | 100 mL | IC-II-100 |
| Iodide | Sodium Iodide | 100 µg/mL | $H_2O$ | 250 mL | IC-II-250 |
| Iodide | Sodium Iodide | 100 µg/mL | $H_2O$ | 500 mL | IC-II-500 |
| Iodide | Sodium Iodide | 1,000 µg/mL | $H_2O$ | 100 mL | IC-II-M-100 |
| Iodide | Sodium Iodide | 1,000 µg/mL | $H_2O$ | 250 mL | IC-II-M-250 |
| Iodide | Sodium Iodide | 1,000 µg/mL | $H_2O$ | 500 mL | IC-II-M-500 |
| Lactate | Sodium Lactate | 100 µg/mL | $H_2O$ | 100 mL | IC-LAC-100 |
| Lactate | Sodium Lactate | 100 µg/mL | $H_2O$ | 250 mL | IC-LAC-250 |
| Lactate | Sodium Lactate | 100 µg/mL | $H_2O$ | 500 mL | IC-LAC-500 |

## IC Single Standards - Anions (cont'd)

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Lactate | Sodium Lactate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-LAC-M-100 |
| Lactate | Sodium Lactate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-LAC-M-250 |
| Lactate | Sodium Lactate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-LAC-M-500 |
| Nitrate | Sodium Nitrate | 100 µg/mL | $H_2O$ | 100 mL | IC-NO-100 |
| Nitrate | Sodium Nitrate | 100 µg/mL | $H_2O$ | 250 mL | IC-NO-250 |
| Nitrate | Sodium Nitrate | 100 µg/mL | $H_2O$ | 500 mL | IC-NO-500 |
| Nitrate | Sodium Nitrate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NO-M-100 |
| Nitrate | Sodium Nitrate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NO-M-250 |
| Nitrate | Sodium Nitrate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NO-M-500 |
| Nitrate | Sodium Nitrate | 10,000 µg/mL | $H_2O$ | 100 mL | IC-NO-10M-100 |
| Nitrate | Sodium Nitrate | 10,000 µg/mL | $H_2O$ | 250 mL | IC-NO-10M-250 |
| Nitrate | Sodium Nitrate | 10,000 µg/mL | $H_2O$ | 500 mL | IC-NO-10M-500 |
| Nitrite | Sodium Nitrite | 100 µg/mL | $H_2O$ | 100 mL | IC-N-100 |
| Nitrite | Sodium Nitrite | 100 µg/mL | $H_2O$ | 250 mL | IC-N-250 |
| Nitrite | Sodium Nitrite | 100 µg/mL | $H_2O$ | 500 mL | IC-N-500 |
| Nitrite | Sodium Nitrite | 1,000 µg/mL | $H_2O$ | 100 mL | IC-N-M-100 |
| Nitrite | Sodium Nitrite | 1,000 µg/mL | $H_2O$ | 250 mL | IC-N-M-250 |
| Nitrite | Sodium Nitrite | 1,000 µg/mL | $H_2O$ | 500 mL | IC-N-M-500 |
| Nitrogen from Nitrate | Sodium Nitrate | 100 µg/mL | $H_2O$ | 100 mL | IC-NO3-100 |
| Nitrogen from Nitrate | Sodium Nitrate | 100 µg/mL | $H_2O$ | 250 mL | IC-NO3-250 |
| Nitrogen from Nitrate | Sodium Nitrate | 100 µg/mL | $H_2O$ | 500 mL | IC-NO3-500 |
| Nitrogen from Nitrate | Sodium Nitrate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NO3-M-100 |
| Nitrogen from Nitrate | Sodium Nitrate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NO3-M-250 |
| Nitrogen from Nitrate | Sodium Nitrate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NO3-M-500 |
| Nitrogen from Nitrite | Sodium Nitrite | 100 µg/mL | $H_2O$ | 100 mL | IC-NO2-100 |
| Nitrogen from Nitrite | Sodium Nitrite | 100 µg/mL | $H_2O$ | 250 mL | IC-NO2-250 |
| Nitrogen from Nitrite | Sodium Nitrite | 100 µg/mL | $H_2O$ | 500 mL | IC-NO2-500 |
| Nitrogen from Nitrite | Sodium Nitrite | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NO2-M-100 |
| Nitrogen from Nitrite | Sodium Nitrite | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NO2-M-250 |
| Nitrogen from Nitrite | Sodium Nitrite | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NO2-M-500 |
| Oxalate | Sodium Oxalate | 100 µg/mL | $H_2O$ | 100 mL | IC-OX-100 |
| Oxalate | Sodium Oxalate | 100 µg/mL | $H_2O$ | 250 mL | IC-OX-250 |
| Oxalate | Sodium Oxalate | 100 µg/mL | $H_2O$ | 500 mL | IC-OX-500 |
| Oxalate | Sodium Oxalate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-OX-M-100 |
| Oxalate | Sodium Oxalate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-OX-M-250 |
| Oxalate | Sodium Oxalate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-OX-M-500 |
| Perchlorate | Sodium Perchlorate | 100 µg/mL | $H_2O$ | 100 mL | IC-CLO4-100 |
| Perchlorate | Sodium Perchlorate | 100 µg/mL | $H_2O$ | 250 mL | IC-CLO4-250 |
| Perchlorate | Sodium Perchlorate | 100 µg/mL | $H_2O$ | 500 mL | IC-CLO4-500 |
| Perchlorate | Sodium Perchlorate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-CLO4-M-100 |
| Perchlorate | Sodium Perchlorate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-CLO4-M-250 |
| Perchlorate | Sodium Perchlorate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-CLO4-M-500 |

## IC Single Standards - Anions (cont'd)

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Phosphate | Ammonium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 100 mL | IC-PP-100 |
| Phosphate | Ammonium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 250 mL | IC-PP-250 |
| Phosphate | Ammonium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 500 mL | IC-PP-500 |
| Phosphate | Ammonium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-PP-M-100 |
| Phosphate | Ammonium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-PP-M-250 |
| Phosphate | Ammonium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-PP-M-500 |
| Phosphate | Ammonium Dihydrogen Phosphate | 10,000 µg/mL | $H_2O$ | 100 mL | IC-PP-10M-100 |
| Phosphate | Ammonium Dihydrogen Phosphate | 10,000 µg/mL | $H_2O$ | 250 mL | IC-PP-10M-250 |
| Phosphate | Ammonium Dihydrogen Phosphate | 10,000 µg/mL | $H_2O$ | 500 mL | IC-PP-10M-500 |
| Phosphate from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 100 mL | IC-KPP-100 |
| Phosphate from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 250 mL | IC-KPP-250 |
| Phosphate from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 500 mL | IC-KPP-500 |
| Phosphate from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-KPP-M-100 |
| Phosphate from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-KPP-M-250 |
| Phosphate from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-KPP-M-500 |
| Phosphorus | Ammonium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 100 mL | IC-P-100 |
| Phosphorus | Ammonium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 250 mL | IC-P-250 |
| Phosphorus | Ammonium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 500 mL | IC-P-500 |
| Phosphorus | Ammonium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-P-M-100 |
| Phosphorus | Ammonium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-P-M-250 |
| Phosphorus | Ammonium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-P-M-500 |
| Phosphorus from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 100 mL | IC-KP-100 |
| Phosphorus from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 250 mL | IC-KP-250 |
| Phosphorus from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 100 µg/mL | $H_2O$ | 500 mL | IC-KP-500 |
| Phosphorus from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-KP-M-100 |
| Phosphorus from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-KP-M-250 |
| Phosphorus from $KH_2PO_4$ | Potassium Dihydrogen Phosphate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-KP-M-500 |
| Propionate | Sodium Propionate | 100 µg/mL | $H_2O$ | 100 mL | IC-PRO-100 |
| Propionate | Sodium Propionate | 100 µg/mL | $H_2O$ | 250 mL | IC-PRO-250 |
| Propionate | Sodium Propionate | 100 µg/mL | $H_2O$ | 500 mL | IC-PRO-500 |
| Propionate | Sodium Propionate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-PRO-M-100 |
| Propionate | Sodium Propionate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-PRO-M-250 |
| Propionate | Sodium Propionate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-PRO-M-500 |
| Sulfate | Sodium Sulfate | 100 µg/mL | $H_2O$ | 100 mL | IC-SS-100 |
| Sulfate | Sodium Sulfate | 100 µg/mL | $H_2O$ | 250 mL | IC-SS-250 |
| Sulfate | Sodium Sulfate | 100 µg/mL | $H_2O$ | 500 mL | IC-SS-500 |
| Sulfate | Sodium Sulfate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-SS-M-100 |
| Sulfate | Sodium Sulfate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-SS-M-250 |
| Sulfate | Sodium Sulfate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-SS-M-500 |
| Sulfate | Sodium Sulfate | 10,000 µg/mL | $H_2O$ | 100 mL | IC-SS-10M-100 |
| Sulfate | Sodium Sulfate | 10,000 µg/mL | $H_2O$ | 250 mL | IC-SS-10M-250 |
| Sulfate | Sodium Sulfate | 10,000 µg/mL | $H_2O$ | 500 mL | IC-SS-10M-500 |

## IC Single Standards - Anions (cont'd)

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Sulfur | Sodium Sulfate | 100 µg/mL | $H_2O$ | 100 mL | IC-SR-100 |
| Sulfur | Sodium Sulfate | 100 µg/mL | $H_2O$ | 250 mL | IC-SR-250 |
| Sulfur | Sodium Sulfate | 100 µg/mL | $H_2O$ | 500 mL | IC-SR-500 |
| Sulfur | Sodium Sulfate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-SR-M-100 |
| Sulfur | Sodium Sulfate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-SR-M-250 |
| Sulfur | Sodium Sulfate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-SR-M-500 |
| Thiocyanate | Sodium Thiocyanate | 100 µg/mL | $H_2O$ | 100 mL | IC-SCN-100 |
| Thiocyanate | Sodium Thiocyanate | 100 µg/mL | $H_2O$ | 250 mL | IC-SCN-250 |
| Thiocyanate | Sodium Thiocyanate | 100 µg/mL | $H_2O$ | 500 mL | IC-SCN-500 |
| Thiocyanate | Sodium Thiocyanate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-SCN-M-100 |
| Thiocyanate | Sodium Thiocyanate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-SCN-M-250 |
| Thiocyanate | Sodium Thiocyanate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-SCN-M-500 |
| Thiosulfate | Sodium Thiosulfate | 100 µg/mL | $H_2O$ | 100 mL | IC-S2O3-100 |
| Thiosulfate | Sodium Thiosulfate | 100 µg/mL | $H_2O$ | 250 mL | IC-S2O3-250 |
| Thiosulfate | Sodium Thiosulfate | 100 µg/mL | $H_2O$ | 500 mL | IC-S2O3-500 |
| Thiosulfate | Sodium Thiosulfate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-S2O3-M-100 |
| Thiosulfate | Sodium Thiosulfate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-S2O3-M-250 |
| Thiosulfate | Sodium Thiosulfate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-S2O3-M-500 |

## IC Single Standards - Cations

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Ammonia as Nitrogen | Ammonium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-NH3-N-100 |
| Ammonia as Nitrogen | Ammonium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-NH3-N-250 |
| Ammonia as Nitrogen | Ammonium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-NH3-N-500 |
| Ammonia as Nitrogen | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NH3-N-M-100 |
| Ammonia as Nitrogen | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NH3-N-M-250 |
| Ammonia as Nitrogen | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NH3-N-M-500 |
| Ammonium | Ammonium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-NH-100 |
| Ammonium | Ammonium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-NH-250 |
| Ammonium | Ammonium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-NH-500 |
| Ammonium | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NH-M-100 |
| Ammonium | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NH-M-250 |
| Ammonium | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NH-M-500 |
| Calcium | Calcium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-CA-100 |
| Calcium | Calcium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-CA-250 |
| Calcium | Calcium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-CA-500 |
| Calcium | Calcium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-CA-M-100 |
| Calcium | Calcium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-CA-M-250 |
| Calcium | Calcium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-CA-M-500 |
| Diethanolamine | Diethanolamine | 100 µg/mL | $H_2O$ | 100 mL | IC-DEA-100 |
| Diethanolamine | Diethanolamine | 100 µg/mL | $H_2O$ | 250 mL | IC-DEA-250 |
| Diethanolamine | Diethanolamine | 100 µg/mL | $H_2O$ | 500 mL | IC-DEA-500 |

## IC Single Standards - Cations (cont'd)

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Diethanolamine | Diethanolamine | 1,000 µg/mL | $H_2O$ | 100 mL | IC-DEA-M-100 |
| Diethanolamine | Diethanolamine | 1,000 µg/mL | $H_2O$ | 250 mL | IC-DEA-M-250 |
| Diethanolamine | Diethanolamine | 1,000 µg/mL | $H_2O$ | 500 mL | IC-DEA-M-500 |
| Dimethylamine | Dimethylamine | 100 µg/mL | $H_2O$ | 100 mL | IC-DMA-100 |
| Dimethylamine | Dimethylamine | 100 µg/mL | $H_2O$ | 250 mL | IC-DMA-250 |
| Dimethylamine | Dimethylamine | 100 µg/mL | $H_2O$ | 500 mL | IC-DMA-500 |
| Dimethylamine | Dimethylamine | 1,000 µg/mL | $H_2O$ | 100 mL | IC-DMA-M-100 |
| Dimethylamine | Dimethylamine | 1,000 µg/mL | $H_2O$ | 250 mL | IC-DMA-M-250 |
| Dimethylamine | Dimethylamine | 1,000 µg/mL | $H_2O$ | 500 mL | IC-DMA-M-500 |
| Ethanolamine | Ethanolamine | 100 µg/mL | $H_2O$ | 100 mL | IC-EA-100 |
| Ethanolamine | Ethanolamine | 100 µg/mL | $H_2O$ | 250 mL | IC-EA-250 |
| Ethanolamine | Ethanolamine | 100 µg/mL | $H_2O$ | 500 mL | IC-EA-500 |
| Ethanolamine | Ethanolamine | 1,000 µg/mL | $H_2O$ | 100 mL | IC-EA-M-100 |
| Ethanolamine | Ethanolamine | 1,000 µg/mL | $H_2O$ | 250 mL | IC-EA-M-250 |
| Ethanolamine | Ethanolamine | 1,000 µg/mL | $H_2O$ | 500 mL | IC-EA-M-500 |
| Lithium | Lithium Nitrate | 100 µg/mL | $H_2O$ | 100 mL | IC-LI-100 |
| Lithium | Lithium Nitrate | 100 µg/mL | $H_2O$ | 250 mL | IC-LI-250 |
| Lithium | Lithium Nitrate | 100 µg/mL | $H_2O$ | 500 mL | IC-LI-500 |
| Lithium | Lithium Nitrate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-LI-M-100 |
| Lithium | Lithium Nitrate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-LI-M-250 |
| Lithium | Lithium Nitrate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-LI-M-500 |
| Magnesium | Magnesium Chloride Hexahydrate | 100 µg/mL | $H_2O$ | 100 mL | IC-MG-100 |
| Magnesium | Magnesium Chloride Hexahydrate | 100 µg/mL | $H_2O$ | 250 mL | IC-MG-250 |
| Magnesium | Magnesium Chloride Hexahydrate | 100 µg/mL | $H_2O$ | 500 mL | IC-MG-500 |
| Magnesium | Magnesium Chloride Hexahydrate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-MG-M-100 |
| Magnesium | Magnesium Chloride Hexahydrate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-MG-M-250 |
| Magnesium | Magnesium Chloride Hexahydrate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-MG-M-500 |
| Morpholine | Morpholine | 100 µg/mL | $H_2O$ | 100 mL | IC-MOR-100 |
| Morpholine | Morpholine | 100 µg/mL | $H_2O$ | 250 mL | IC-MOR-250 |
| Morpholine | Morpholine | 100 µg/mL | $H_2O$ | 500 mL | IC-MOR-500 |
| Morpholine | Morpholine | 1,000 µg/mL | $H_2O$ | 100 mL | IC-MOR-M-100 |
| Morpholine | Morpholine | 1,000 µg/mL | $H_2O$ | 250 mL | IC-MOR-M-250 |
| Morpholine | Morpholine | 1,000 µg/mL | $H_2O$ | 500 mL | IC-MOR-M-500 |
| Nitrogen | Ammonium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-NT-100 |
| Nitrogen | Ammonium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-NT-250 |
| Nitrogen | Ammonium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-NT-500 |
| Nitrogen | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NT-M-100 |
| Nitrogen | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NT-M-250 |
| Nitrogen | Ammonium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NT-M-500 |
| Potassium | Potassium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-K-100 |
| Potassium | Potassium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-K-250 |
| Potassium | Potassium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-K-500 |

## IC Single Standards - Cations (cont'd)

| Component | Source | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|---|
| Potassium | Potassium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-K-M-100 |
| Potassium | Potassium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-K-M-250 |
| Potassium | Potassium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-K-M-500 |
| Sodium | Sodium Chloride | 100 µg/mL | $H_2O$ | 100 mL | IC-NA-100 |
| Sodium | Sodium Chloride | 100 µg/mL | $H_2O$ | 250 mL | IC-NA-250 |
| Sodium | Sodium Chloride | 100 µg/mL | $H_2O$ | 500 mL | IC-NA-500 |
| Sodium | Sodium Chloride | 1,000 µg/mL | $H_2O$ | 100 mL | IC-NA-M-100 |
| Sodium | Sodium Chloride | 1,000 µg/mL | $H_2O$ | 250 mL | IC-NA-M-250 |
| Sodium | Sodium Chloride | 1,000 µg/mL | $H_2O$ | 500 mL | IC-NA-M-500 |

## IC Multi Standards - Anions

| Component | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|
| Solution A*: Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate | 100 µg/mL | $H_2O$ | 2 solution set at 100 mL each | IC-1-100 |
| Solution B†: Nitrite | | $H_2O$ | | |
| Solution A*: Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate | 100 µg/mL | $H_2O$ | 2 solution set at 250 mL each | IC-1-250 |
| Solution B†: Nitrite | | $H_2O$ | | |
| Solution A*: Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate | 100 µg/mL | $H_2O$ | 2 solution set at 500 mL each | IC-1-500 |
| Solution B†: Nitrite | | $H_2O$ | | |
| Solution A**: Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate | 1,000 µg/mL | $H_2O$ | 2 solution set at 100 mL each | IC-2-100 |
| Solution B††: Nitrite | | $H_2O$ | | |
| Solution A**: Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate | 1,000 µg/mL | $H_2O$ | 2 solution set at 250 mL each | IC-2-250 |
| Solution B††: Nitrite | | $H_2O$ | | |
| Solution A**: Bromide, Chloride, Fluoride, Nitrate, Phosphate, Sulfate | 1,000 µg/mL | $H_2O$ | 2 solution set at 500 mL each | IC-2-500 |
| Solution B††: Nitrite | | $H_2O$ | | |
| Fluoride | 20 µg/mL | $H_2O$ | 100 mL | IC-AN5-1-100 |
| Chloride | 30 µg/mL | | | |
| Nitrate | 100 µg/mL | | | |
| Phosphate, Sulfate | 150 µg/mL | | | |
| Fluoride | 20 µg/mL | $H_2O$ | 250 mL | IC-AN5-1-250 |
| Chloride | 30 µg/mL | | | |
| Nitrate | 100 µg/mL | | | |
| Phosphate, Sulfate | 150 µg/mL | | | |

* This solution can be purchased separately: IC-1-A
** This solution can be purchased separately: IC-2-A
† This solution can be purchased separately: IC-N
†† This solution can be purchased separately: IC-N-M

## IC Multi Standards - Anions (cont'd)

| Component | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|
| Fluoride | 20 µg/mL | $H_2O$ | 500 mL | IC-AN5-1-500 |
| Chloride | 30 µg/mL | | | |
| Nitrate | 100 µg/mL | | | |
| Phosphate, Sulfate | 150 µg/mL | | | |
| Fluoride | 100 µg/mL | $H_2O$ | 125 mL | IC-AN6-1-100 |
| Chloride | 200 µg/mL | | | |
| Bromide, Nitrate, Sulfate | 400 µg/mL | | | |
| Phosphate | 600 µg/mL | | | |
| Fluoride | 100 µg/mL | $H_2O$ | 250 mL | IC-AN6-1-250 |
| Chloride | 200 µg/mL | | | |
| Bromide, Nitrate, Sulfate | 400 µg/mL | | | |
| Phosphate | 600 µg/mL | | | |
| Fluoride | 100 µg/mL | $H_2O$ | 500 mL | IC-AN6-1-500 |
| Chloride | 200 µg/mL | | | |
| Bromide, Nitrate, Sulfate | 400 µg/mL | | | |
| Phosphate | 600 µg/mL | | | |

## IC Multi Standards - Cations

| Component | Concentration | Matrix | Volume | Part # |
|---|---|---|---|---|
| Ammonium, Calcium, Magnesium, Potassium, Sodium | 100 µg/mL | $H_2O$ | 100 mL | IC-4-100 |
| Ammonium, Calcium, Magnesium, Potassium, Sodium | 100 µg/mL | $H_2O$ | 250 mL | IC-4-250 |
| Ammonium, Calcium, Magnesium, Potassium, Sodium | 100 µg/mL | $H_2O$ | 500 mL | IC-4-500 |
| Lithium | 50 µg/mL | $H_2O$ | 100 mL | IC-CAT6-1-100 |
| Sodium | 200 µg/mL | | | |
| Ammonium, Magnesium | 250 µg/mL | | | |
| Calcium, Potassium | 500 µg/mL | | | |
| Lithium | 50 µg/mL | $H_2O$ | 250 mL | IC-CAT6-1-250 |
| Sodium | 200 µg/mL | | | |
| Ammonium, Magnesium | 250 µg/mL | | | |
| Calcium, Potassium | 500 µg/mL | | | |
| Lithium | 50 µg/mL | $H_2O$ | 500 mL | IC-CAT6-1-500 |
| Sodium | 200 µg/mL | | | |
| Ammonium, Magnesium | 250 µg/mL | | | |
| Calcium, Potassium | 500 µg/mL | | | |

| IC Multi Standards - Cations (cont'd) | | | | |
|---|---|---|---|---|
| **Component** | **Concentration** | **Matrix** | **Volume** | **Part #** |
| Lithium | 50 µg/mL | $H_2O$ | 100 mL | IC-CAT6-2-100 |
| Magnesium, Potassium, Sodium | 200 µg/mL | | | |
| Ammonium | 400 µg/mL | | | |
| Calcium | 1,000 µg/mL | | | |
| Lithium | 50 µg/mL | $H_2O$ | 250 mL | IC-CAT6-2-250 |
| Magnesium, Potassium, Sodium | 200 µg/mL | | | |
| Ammonium | 400 µg/mL | | | |
| Calcium | 1,000 µg/mL | | | |
| Lithium | 50 µg/mL | $H_2O$ | 500 mL | IC-CAT6-2-500 |
| Magnesium, Potassium, Sodium | 200 µg/mL | | | |
| Ammonium | 400 µg/mL | | | |
| Calcium | 1,000 µg/mL | | | |

## Organic Acids
Standards for Ion Chromatography

- Starting materials are available in organic acids or salts
- Analyte concentrations are reported for the anion component of the acid starting material
- Highest purity and stability
- Products included in our ISO 9001:2015, ISO/IEC 17025:2005 and ISO 17034:2016 scope of accreditation

A cow's rumen ferments carbohydrates to make Volatile Fatty Acids

| Organic Acids | | | | | |
|---|---|---|---|---|---|
| **Component** | **Source** | **Concentration** | **Matrix** | **Volume** | **Part #** |
| Acetate | Sodium Acetate | 100 µg/mL | $H_2O$ | 100 mL | IC-AC-100 |
| Acetate | Sodium Acetate | 100 µg/mL | $H_2O$ | 250 mL | IC-AC-250 |
| Acetate | Sodium Acetate | 100 µg/mL | $H_2O$ | 500 mL | IC-AC-500 |
| Acetate | Sodium Acetate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-AC-M-100 |
| Acetate | Sodium Acetate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-AC-M-250 |
| Acetate | Sodium Acetate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-AC-M-500 |
| Butyrate | Sodium Butyrate | 100 µg/mL | $H_2O$ | 100 mL | IC-BTY-100 |
| Butyrate | Sodium Butyrate | 100 µg/mL | $H_2O$ | 250 mL | IC-BTY-250 |
| Butyrate | Sodium Butyrate | 100 µg/mL | $H_2O$ | 500 mL | IC-BTY-500 |
| Butyrate | Sodium Butyrate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-BTY-M-100 |
| Butyrate | Sodium Butyrate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-BTY-M-250 |
| Butyrate | Sodium Butyrate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-BTY-M-500 |

| Organic Acids (cont'd) | | | | | |
|---|---|---|---|---|---|
| **Component** | **Source** | **Concentration** | **Matrix** | **Volume** | **Part #** |
| Formate | Sodium Formate | 100 µg/mL | $H_2O$ | 100 mL | IC-FM-100 |
| Formate | Sodium Formate | 100 µg/mL | $H_2O$ | 250 mL | IC-FM-250 |
| Formate | Sodium Formate | 100 µg/mL | $H_2O$ | 500 mL | IC-FM-500 |
| Formate | Sodium Formate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-FM-M-100 |
| Formate | Sodium Formate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-FM-M-250 |
| Formate | Sodium Formate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-FM-M-500 |
| Glycolate | Sodium Glycolate | 100 µg/mL | $H_2O$ | 100 mL | IC-GLY-100 |
| Glycolate | Sodium Glycolate | 100 µg/mL | $H_2O$ | 250 mL | IC-GLY-250 |
| Glycolate | Sodium Glycolate | 100 µg/mL | $H_2O$ | 500 mL | IC-GLY-500 |
| Glycolate | Sodium Glycolate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-GLY-M-100 |
| Glycolate | Sodium Glycolate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-GLY-M-250 |
| Glycolate | Sodium Glycolate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-GLY-M-500 |
| Lactate | Sodium Lactate | 100 µg/mL | $H_2O$ | 100 mL | IC-LAC-100 |
| Lactate | Sodium Lactate | 100 µg/mL | $H_2O$ | 250 mL | IC-LAC-250 |
| Lactate | Sodium Lactate | 100 µg/mL | $H_2O$ | 500 mL | IC-LAC-500 |
| Lactate | Sodium Lactate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-LAC-M-100 |
| Lactate | Sodium Lactate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-LAC-M-250 |
| Lactate | Sodium Lactate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-LAC-M-500 |
| Oxalate | Sodium Oxalate | 100 µg/mL | $H_2O$ | 100 mL | IC-OX-100 |
| Oxalate | Sodium Oxalate | 100 µg/mL | $H_2O$ | 250 mL | IC-OX-250 |
| Oxalate | Sodium Oxalate | 100 µg/mL | $H_2O$ | 500 mL | IC-OX-500 |
| Oxalate | Sodium Oxalate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-OX-M-100 |
| Oxalate | Sodium Oxalate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-OX-M-250 |
| Oxalate | Sodium Oxalate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-OX-M-500 |
| Propionate | Sodium Propionate | 100 µg/mL | $H_2O$ | 100 mL | IC-PRO-100 |
| Propionate | Sodium Propionate | 100 µg/mL | $H_2O$ | 250 mL | IC-PRO-250 |
| Propionate | Sodium Propionate | 100 µg/mL | $H_2O$ | 500 mL | IC-PRO-500 |
| Propionate | Sodium Propionate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-PRO-M-100 |
| Propionate | Sodium Propionate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-PRO-M-250 |
| Propionate | Sodium Propionate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-PRO-M-500 |
| Valerate | Sodium Valerate | 100 µg/mL | $H_2O$ | 100 mL | IC-VAL-100 |
| Valerate | Sodium Valerate | 100 µg/mL | $H_2O$ | 250 mL | IC-VAL-250 |
| Valerate | Sodium Valerate | 100 µg/mL | $H_2O$ | 500 mL | IC-VAL-500 |
| Valerate | Sodium Valerate | 1,000 µg/mL | $H_2O$ | 100 mL | IC-VAL-M-100 |
| Valerate | Sodium Valerate | 1,000 µg/mL | $H_2O$ | 250 mL | IC-VAL-M-250 |
| Valerate | Sodium Valerate | 1,000 µg/mL | $H_2O$ | 500 mL | IC-VAL-M-500 |

## Custom Designed Standards

We realize that we will not include everything you need in our stock offerings. If you do not see the analyte, the concentration or the packaging size that you need, you can use the form on the back of this brochure or our online quote form to obtain a quotation.

We are available for technical support to help you design the right solutions for your laboratory needs.