

**Solution Kits** sold separately below include all of the solutions needed for accurate measurements. Each kit includes one reference filling pipette, one 60-mL bottle of reference fill solution, one 475-mL bottle of 1000 ppm standard solution, and one 475-mL bottle of ionic strength adjustor (except models 27502-69 and 27502-91, which come in a one-gallon bottle).

Replacement ionic strength adjustors come in 475-mL bottles (except model 27503-58, which comes in a one-gallon bottle).



Solution kit 27502-63 and ISA bottle 27503-51

Ion	Standards and fill solution kits			Replacement ionic strength adjustors <sup>†</sup>		
	Catalog number	Formulations for fill/standard solutions	Price	Catalog number	Solution formulation	Price
NH <sub>3</sub>	See adjacent ad for ordering information					
NH <sub>4</sub> <sup>+</sup>	<a href="#">GH-27502-53</a>	0.1 M NaCl/ 1000 ppm as N		<a href="#">GH-27503-53</a>	5 M NaCl	
Br <sup>-</sup>	<a href="#">GH-27502-55</a>	1 M KNO <sub>3</sub> / 1000 ppm as Br <sup>-</sup>		<a href="#">GH-27503-51</a>	5 M NaNO <sub>3</sub>	
Cd <sup>+</sup>	<a href="#">GH-27502-57</a>	1 M KNO <sub>3</sub> <sup>‡</sup>		<a href="#">GH-27503-51</a>	5 M NaNO <sub>3</sub>	
Ca <sup>2+</sup>	<a href="#">GH-27502-59</a>	4 M KCl/ 1000 ppm as Ca <sup>2+</sup>		<a href="#">GH-27503-52</a>	4 M KCl	
Cl <sup>-</sup>	<a href="#">GH-27502-63</a>	1 M KNO <sub>3</sub> / 1000 ppm as Cl <sup>-</sup>		<a href="#">GH-27503-51</a>	5 M NaNO <sub>3</sub>	
Cu <sup>2+</sup>	<a href="#">GH-27502-65</a>	1 M KNO <sub>3</sub> / 1000 ppm as Cu <sup>2+</sup>		<a href="#">GH-27503-51</a>	5 M NaNO <sub>3</sub>	
CN <sup>-</sup>	—	—		—	—	
F <sup>-</sup>	<a href="#">GH-27502-69</a>	4 M KCl/ 1000 ppm as F <sup>-</sup>		<a href="#">GH-27503-58</a>	TISAB I	
I <sup>-</sup>	<a href="#">GH-27502-73</a>	1 M KNO <sub>3</sub> / 1000 ppm as I <sup>-</sup>		<a href="#">GH-27503-51</a>	5 M NaNO <sub>3</sub>	
Pb <sup>2+</sup>	—	—		<a href="#">GH-27503-56</a>	5 M NaClO <sub>4</sub>	
NO <sub>3</sub> <sup>-</sup>	<a href="#">GH-27502-79</a>	0.1 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> / 1000 ppm as NO <sub>3</sub> <sup>-</sup>		<a href="#">GH-27503-60</a>	2 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	
ClO <sub>4</sub> <sup>-</sup>	<a href="#">GH-27502-85</a>	0.1 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> / 1000 ppm as ClO <sub>4</sub> <sup>-</sup>		<a href="#">GH-27503-60</a>	2 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	
K <sup>+</sup>	<a href="#">GH-27502-89</a>	0.1 M NaCl/ 1000 ppm as K <sup>+</sup>		<a href="#">GH-27503-53</a>	5 M NaCl	
Ag <sup>+</sup> / S <sup>2-</sup>	<a href="#">GH-27502-91</a>	1 M KNO <sub>3</sub> / 1000 ppm as Ag <sup>+</sup>		<a href="#">GH-27503-51</a>	5 M NaNO <sub>3</sub>	
Na <sup>+</sup>	<a href="#">GH-27502-93</a>	0.1 M NH <sub>4</sub> Cl/ 1000 ppm as Na <sup>+</sup>		<a href="#">GH-27503-54</a>	4 M NH <sub>4</sub> Cl with 4 M NH <sub>4</sub> OH	
X <sup>+</sup> /X <sup>-</sup>	<a href="#">GH-27502-95</a>	0.05 M Hyamine® and 0.01 M SLS <sup>††</sup>		—	—	
Ca <sup>2+</sup> / Mg <sup>2+</sup>	<a href="#">GH-27502-99</a>	4 M KCl/ 1000 ppm as Ca <sup>2+</sup>		<a href="#">GH-27503-52</a>	4 M KCl	

<sup>†</sup>A 475-mL bottle of ionic strength adjustor is supplied with kit.  
<sup>‡</sup>Customer-formulated standard solution required. <sup>††</sup>None required.

## Cole-Parmer® Ammonia Ion-Selective Electrodes

### Combines reference electrode and half-cell

- Fast and accurate readings in less than 30 seconds
- Save money with easily changeable membranes
- Measure concentrations to 17,000 ppm

Single-junction ammonia electrodes feature durable, epoxy bodies. The electrode with loose membranes is for users who prefer that style of installation. The electrode with pre-membraned caps makes electrode membrane replacement easier. Use electrodes with almost any existing meter.

**What's included:** 3.3-ft (1-m) cable and BNC connector, 15 mL of electrolyte, replacement membrane, and filling pipette. Order standards, ionic strength adjustors, and fill solution separately below.



27502-00



“Excellent performance.”



27512-00 with membrane cap

Type	Concentration range	Temp/ pH range <sup>†</sup>	Interferences	Catalog number	Price
<b>Electrode with loose membranes</b>					
Gas sensing	5 x 10 <sup>-7</sup> to 1.0 M (0.01 to 17,000 ppm)	0 to 50°C/ above 11	Volatile amines	<a href="#">GH-27502-00</a>	
<b>Electrode with pre-membraned cap</b>					
Gas sensing	5 x 10 <sup>-7</sup> to 1.0 M (0.01 to 17,000 ppm)	0 to 50°C/ above 11	Volatile amines	<a href="#">GH-27512-00</a>	

<sup>†</sup>Optimal pH range for direct measurement

#### Accessories

- [GH-27503-00](#) Ammonia standard, 0.1 M NH<sub>4</sub>Cl, 475-mL bottle
- [GH-27503-93](#) Ammonia standard, 1000 ppm ammonia as nitrogen, 475-mL bottle
- [GH-27503-94](#) Ammonia standard, 100 ppm ammonia as nitrogen, 475-mL bottle
- [GH-05730-51](#) Ionic strength adjustor, NaOH and EDTA, 475-mL bottle
- [GH-27503-71](#) Ammonia fill solution, 0.1 M NH<sub>4</sub>Cl, 125-mL bottle
- [GH-27503-95](#) Replacement membranes. Ten membrane tapes, one O-ring, and tweezers
- [GH-27512-95](#) Replacement membrane caps for 27512-00. Pack of 3