

MISSION CONTROL™
Blood Gas and Electrolyte Control

Level 3

PN: DD-92003D

LOT: MC-1021

Exp: 2010/12

Expected Ranges Chart

Blood Gas/ISE Analyzers	pH			pCO ₂ mmHg			pO ₂ mmHg			Na ⁺ mmol/L			K ⁺ mmol/L			Ca ⁺⁺ mmol/L			Cl ⁻ mmol/L			Li ⁺ mmol/L			tCO ₂ mmol/L			
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	
AVL Scientific																												
945, 947	7.608	7.547	- 7.669	21	18 - 23		148	130 - 166																				
990, 995	7.661	7.599	- 7.722	21	18 - 23		144	127 - 161																				
Compact Series	7.618	7.557	- 7.679	20	18 - 23		141	124 - 158																				
982, 983, 985									166	158 - 174	7.14	6.57 - 7.71			122	113 - 132			2.09	1.84 - 2.34								
986									166	158 - 174	7.14	6.57 - 7.71			122	113 - 132						25	21 - 29.4					
984, 987	7.628	7.567	- 7.689						166	158 - 174	7.14	6.57 - 7.71	0.68	0.58 - 0.78														
OMNI	7.618	7.557	- 7.679	21	18 - 23		133	117 - 149	164	156 - 172	7.04	6.48 - 7.60	0.61	0.52 - 0.70	123	114 - 133												
9110, 9140	7.628	7.567	- 7.689						159	151 - 167	6.80	6.26 - 7.34	0.67	0.57 - 0.77														
9120, 9130									161	153 - 169	7.04	6.48 - 7.60			123	114 - 133												
9180, 9181									159	151 - 166	7.04	6.48 - 7.60	0.61	0.52 - 0.70	122	112 - 131			2.23	1.96 - 2.50								
Ciba-Corning/Bayer																												
238	7.638	7.58	- 7.70	20	18 - 23		127	112 - 143																				
248	7.638	7.577	- 7.699	22	19 - 25		128	113 - 144																				
348	7.648	7.587	- 7.709	20	18 - 22		138	122 - 155	156	148 - 164	6.60	6.07 - 7.13	0.56	0.47 - 0.64	120	111 - 130												
278	7.648	7.587	- 7.709	20	18 - 22		138	122 - 155																				
280	7.648	7.587	- 7.709	20	18 - 22		138	122 - 155																				
288	7.648	7.587	- 7.709	20	18 - 22		139	123 - 156	166	158 - 174	7.04	6.48 - 7.60	0.56	0.47 - 0.64	120	111 - 130												
664									166	158 - 174	6.84	6.29 - 7.39			121	112 - 131								25	21 - 29.4			
614, 644									166	158 - 174	6.84	6.29 - 7.39			121	112 - 131												
634	7.65	7.59	- 7.71										0.59	0.50 - 0.67														
654									166	158 - 174	6.94	6.39 - 7.50							2.09	1.84 - 2.34								
800 Series*	7.668	7.606	- 7.729	23	20 - 26		134	118 - 150	158	150 - 166	6.94	6.39 - 7.50	0.53	0.45 - 0.61	121	112 - 131												
Rapid 400, 405	7.668	7.606	- 7.729	20	18 - 23		134	118 - 150	166	158 - 174	6.94	6.39 - 7.50	0.53	0.45 - 0.61	121	112 - 131												
Diamond																												
Gemlyte									156	148 - 164	6.62	6.09 - 7.15	0.68	0.58 - 0.79	116	107 - 125			2.01	1.77 - 2.25								
proLYTE									163	155 - 171	6.59	6.06 - 7.11			116	107 - 125												
IL																												
1304, 1306, 1312	7.618	7.557	- 7.679	22	19 - 25		136	120 - 153																				
BG3	7.628	7.567	- 7.689	20	18 - 23		136	120 - 153																				
BGE	7.638	7.577	- 7.699	21	19 - 24		135	119 - 151	163	155 - 171	6.64	6.11 - 7.17	0.62	0.52 - 0.71	117	108 - 127												
1610, 1620	7.638	7.577	- 7.699	20	18 - 22		136	120 - 153																				
1630, 1640, 1650	7.638	7.577	- 7.699	19	17 - 22		134	118 - 150	163	155 - 171	6.64	6.11 - 7.17	0.61	0.52 - 0.70	117	108 - 127												
Synthesis 10, 15, 20, 25	7.618	7.557	- 7.679	22	19 - 24		136	120 - 152	163	155 - 171	6.81	6.27 - 7.36	0.61	0.52 - 0.70	117	108 - 127												
Gem Premier	7.638	7.577	- 7.699	19	17 - 22		139	123 - 156	163	155 - 171	6.64	6.11 - 7.17	0.61	0.52 - 0.70														
GEM 3000	7.638	7.577	- 7.699	19	17 - 22		139	123 - 156	163	155 - 171	6.64	6.11 - 7.17	0.61	0.52 - 0.70														
ITC																												
IRMA TRUpoint	7.68	7.62	- 7.74	20	18 - 23		147	129 - 164																				
NOVA																												
Electrolyte Systems	7.655	7.594	- 7.716						170	161 - 178	7.74	7.12 - 8.36	0.58	0.49 - 0.66	120	111 - 130			2.12	1.87 - 2.38			27	23 - 31.4				
Stat Profile 1-5	7.638	7.577	- 7.699	20	18 - 23		139	123 - 156	167	158 - 175	6.94	6.39 - 7.50	0.61	0.52 - 0.70	120	111 - 130												
Osmetech																												
Opti 1	7.73	7.67	- 7.79	20	18 - 23		137	121 - 154																				
Opti CCA	7.73	7.67	- 7.79	20	18 - 23		135	119 - 151	166	158 - 174	7.54	6.94 - 8.14	0.60	0.51 - 0.70	121	112 - 131												
Radiometer																												
ABL 3, 30	7.648	7.587	- 7.709	20	18 - 22		143	126 - 160																				
ABL 300, 330	7.648	7.587	- 7.709	21	18 - 23		141	124 - 158																				
ABL 5	7.628	7.57	- 7.69	22	19 - 25		139	123 - 156																				
ABL, 50, 500, 510, 520	7.633	7.572	- 7.694	22	19 - 25		140	123 - 157																				
ABL 505	7.638	7.577	- 7.699	20	18 - 22		141	124 - 158	164	156 - 172	6.84	6.29 - 7.39	0.62	0.52 - 0.71														
ABL 555	7.638	7.577	- 7.699	20	18 - 22		140	123 - 157	164	156 - 172	6.84	6.29 - 7.39	0.62	0.52 - 0.71														
ABL 600, 610, 620	7.638	7.577	- 7.699	20	18 - 22		140	123 - 157	164	156 - 172	6.74	6.20 - 7.28	0.62	0.52 - 0.71	115	106 - 125												
ABL 70, 77	7.651	7.59	- 7.71	21	18 - 23		127	112 - 142	161	153 - 169	6.79	6.25 - 7.33	0.62	0.53 - 0.71	119	109 - 128												
ABL 700 Series**	7.638	7.577	- 7.699	20	18 - 22		140	123 - 157	164	156 - 172	6.84	6.29 - 7.39	0.62	0.52 - 0.71	115	106 - 125												
EML-100									163	155 - 171	6.74	6.20 - 7.28	0.63	0.53 - 0.72	115	106 - 125												
i-STAT																												
BG, E+	7.668	7.606	- 7.729	20	18 - 23		134	118 - 150	164	156 - 172	6.84	6.29 - 7.39	0.62															

Manufacturer and Product Information

Diamond Diagnostics, 333 Fiske Street, Holliston, MA.
For Technical Assistance call:
Diamond Diagnostics Technical Services at 1-508-429-0450

Intended Use: MISSION CONTROL™ Blood Gas and Electrolyte Control is an assayed quality control material intended for monitoring the measurements of pH pCO₂, pO₂ in blood gas analyzers and sodium, potassium, chloride, lithium, ionized calcium and total carbon dioxide in ISE electrolyte analyzers.

Product Description: This control material is provided for monitoring analyzer performance. It is packaged in sealed glass ampules, each containing approximately 2 ml of solution. Ampules are packaged 10 per tray with each box containing 3 trays, for a total of 30 ampules per box.

Active Ingredients: MISSION CONTROL™ is a buffered solution of electrolytes (Na⁺, K⁺, Cl⁻, Ca⁺⁺, Li⁺, HCO₃⁻/CO₃⁻²). It has been equilibrated with specific levels of CO₂, O₂, and N₂. This control contains no human-based materials.

For in vitro diagnostics use.

Directions for Use

The control should be brought to a temperature of 20-23°C before use (see instructions regarding Expected Ranges). Allow at least four (4) hours for ampules to equilibrate to this temperature prior to testing.

For pH/blood gas values, the control should be analyzed within one (1) minute of opening. For electrolyte measurements, this product is stable for up to one (1) hour after opening.

Follow the procedures listed below:

1. Before use, hold the ampule at the top and bottom (with forefinger and thumb) and shake 15-20 times (about 10 seconds) to mix the solution. Tap the ampule to restore the liquid to the bottom on the ampule.
2. Open the ampule by snapping off the tip at the score. Use gauze, tissue, gloves, or an appropriate ampule opener to protect fingers from cuts.
3. Immediately introduce the liquid from the ampule to the analyzer. Follow the manufacturer's instructions for sampling a control material. Depending on the sampling procedure chosen, the following instructions apply:
 - a. Direct Aspiration: Sample the control directly from the ampule.
 - b. Syringe Transfer:
 - i. Use a clean, gas-tight syringe attached to a clean, blunt syringe needle (if available).
 - ii. Prime the syringe by slowly aspirating a small amount (0.2-0.3 ml) of solution from the ampule.
 - iii. Discard this liquid, leaving the dead space of the syringe filled with the control.
 - iv. Aspirate the control from the ampule into the primed syringe. Be careful that air is not drawn in with the liquid. Expel 1 to 2 drops, detach the needle and immediately inject the control into the analyzer sample port.
 - c. Ampule Injector/Dispenser: Assemble and fill the ampule injector following the manufacturer's instructions. Expel one or two drops to rinse the outlet tip and inject the control into the analyzer sample port.
 - d. Capillary Mode:
 - i. Install the appropriate adapter for micro sampling onto the instrument.
 - ii. Sample the contents of the ampule following the recommendations of the instrument manufacturer. Be certain to keep the sampling tip of the adapter below the surface of the liquid during aspiration.

Limitations

Limitation:

1. This control is sensitive to many instrument related factors that affect analytical results. Because it is not a blood-based material, it may not detect certain malfunctions, which would affect the testing of blood.
2. This product is intended for use as a quality control material and can assist in evaluating the performance of laboratory instruments. It is not for use as a calibration standard and its use should not replace other aspects of a complete quality control program.

Storage:

Store at 18-25°C. Avoid freezing and exposure to temperatures greater than 30°C. You may also store at 4-25°C without adverse effect.

Expected Ranges:

The values for each control analyte on the enclosed Expected Ranges Chart are based on multiple determinations performed on randomly selected samples from each lot. The listing for each instrument represents the expected range for these ampules when tested at 23°C. (Note: pO₂ values will vary inversely by about one percent (1%) per degree C that the temperature of the ampules varies from 23°C.

The Expected Ranges are provided as a guide in evaluating analyzer performance. Since instrument design and operating conditions may vary, each laboratory should establish its own expected values and control limits. The mean value established should fall within the Expected Ranges shown on the chart.

