

**MISSION CONTROL™**  
**Blood Gas and Electrolyte Control**

LOT: MC-1011

Exp: 2010/07

**Level 3**

PN: DD-92003D

Expected Ranges Chart

Blood Gas/ISE Analyzers	pH			pCO <sub>2</sub> mmHg			pO <sub>2</sub> mmHg			Na <sup>+</sup> mmol/L			K <sup>+</sup> mmol/L			Ca <sup>++</sup> mmol/L			Cl <sup>-</sup> mmol/L			Li <sup>+</sup> mmol/L			tCO <sub>2</sub> 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	
<b>AVL Scientific</b>																												
945, 947	7.550	7.520	7.580	28	24	32	147	135	159																			
990, 995	7.550	7.520	7.580	29	25	32	143	132	154																			
<b>Compact Series</b>																												
982, 983, 985	7.560	7.518	7.590	28	25	31	140	132	148																			
986										164	159	169	7.1	6.6	7.6				119	114	124	2.09	1.91	2.31				
984, 987	7.570	7.540	7.600							164	159	169	7.1	6.6	7.6	0.65	0.50	0.80	119	114	124				30	26	34	
OMNI	7.560	7.530	7.590	29	25	32	133	122	143	164	159	169	7.1	6.6	7.6	0.65	0.50	0.80										
9110, 9140	7.570	7.540	7.600							162	157	167	7.0	6.5	7.5	0.64	0.49	0.79	120	115	125							
9120, 9130										160	155	165	7.0	6.5	7.5				120	115	125							
9180, 9181										157	152	162	7.0	6.5	7.5	0.58	0.48	0.68	118	113	123	2.23	2.05	2.45				
<b>Ciba-Corning/Bayer</b>																												
238	7.58	7.55	7.61	28	24	32	127	118	134																			
248	7.580	7.550	7.610	28	24	32	128	119	135																			
348	7.590	7.560	7.620	28	25	31	138	130	145	166	161	171	7.0	6.5	7.5	0.53	0.43	0.63	117	112	122							
278	7.590	7.560	7.620	28	25	31	138	130	145																			
280	7.590	7.560	7.620	28	25	31	138	130	145																			
288	7.590	7.560	7.620	28	24	31	139	131	145	164	159	169	7.0	6.5	7.5	0.53	0.43	0.63	117	112	122							
664										164	159	169	6.8	6.3	7.3				118	113	123				30	26	34	
614, 644										164	159	169	6.8	6.3	7.3				118	113	123							
634	7.59	7.56	7.62																									
654										164	159	169	6.9	6.4	7.4							2.09	1.91	2.31				
800 Series*	7.610	7.580	7.640	28	24	32	134	124	142	164	159	169	6.9	6.4	7.4	0.50	0.35	0.65	118	113	123							
Rapid 400, 405	7.610	7.580	7.640	28	24	32	134	124	142	164	159	169	6.9	6.4	7.4	0.50	0.35	0.65	118	113	123							
<b>IL</b>																												
1304, 1306, 1312	7.560	7.530	7.590	30	26	33	136	127	144																			
BG3	7.570	7.540	7.600	28	25	31	136	127	144																			
BGE	7.580	7.550	7.610	29	26	32	135	127	142	161	156	166	6.6	6.1	7.1	0.59	0.49	0.69	114	109	119							
1610, 1620	7.580	7.550	7.610	28	24	31	136	125	145																			
1630, 1640, 1650	7.580	7.550	7.610	27	24	30	134	125	142	161	156	166	6.6	6.1	7.1	0.58	0.48	0.68	114	109	119							
Synthesis 10, 15, 20, 25	7.560	7.530	7.590	30	27	34	135	127	144	161	156	166	6.7	6.2	7.2	0.58	0.48	0.68	114	109	119							
Gem Premier	7.580	7.550	7.610	27	24	30	139	129	148	161	156	166	6.6	6.1	7.1	0.58	0.48	0.68										
GEM 3000	7.580	7.550	7.610	27	24	30	139	129	148	161	156	166	6.6	6.1	7.1	0.58	0.48	0.68										
<b>ITC</b>																												
IRMA TRUpoint	7.624	7.574	7.674	28	22	34	146	131	161																			
<b>NOVA</b>																												
Electrolyte Systems	7.597	7.567	7.627							168	163	173	7.7	7.2	8.2	0.55	0.40	0.70	117	112	122	2.12	1.94	2.34	32	28	36	
Stat Profile 1-5	7.580	7.550	7.610	28	24	32	139	133	144	165	160	170	6.9	6.4	7.4	0.58	0.48	0.68	117	112	122							
<b>Osmetech</b>																												
Opti 1	7.67	7.64	7.70	28	24	33	137	122	152																			
Opti CCA	7.67	7.64	7.70	28	24	33	135	120	150	164	159	169	7.5	7.0	8.0	0.58	0.43	0.73	118	113	123							
<b>Radiometer</b>																												
ABL 3, 30	7.590	7.560	7.620	28	24	31	143	135	150																			
ABL 300, 330	7.590	7.560	7.620	29	25	32	140	132	148																			
ABL 5	7.570	7.540	7.600	28	24	31	139	129	148																			
ABL, 50, 500, 510, 520	7.580	7.550	7.610	28	24	32	139	130	148																			
ABL 505	7.580	7.550	7.610	28	24	31	139	130	148	162	157	167	6.8	6.3	7.3	0.59	0.49	0.69										
ABL 555	7.580	7.550	7.610	28	24	31	139	130	148	162	157	167	6.8	6.3	7.3	0.59	0.49	0.69										
ABL 600, 610, 620	7.580	7.550	7.610	28	24	32	139	130	148	162	157	167	6.7	6.2	7.2	0.59	0.49	0.69	112	107	117							
ABL 70	7.593	7.563	7.623	29	25	33	126	118	134	159	154	164	6.7	6.2	7.2	0.60	0.50	0.70	115	110	120							
ABL 77	7.593	7.563	7.623	29	25	33	126	118	134	159	154	164	6.7	6.2	7.2	0.60	0.50	0.70	115	110	120							
EML-100										162	156	167	6.7	6.2	7.2	0.60	0.50	0.70	112	107	117							
ABL 700 Series**	7.580	7.550	7.610	28	24	31	139	130	148	162	157	167	6.8	6.3	7.3	0.59	0.49	0.69	112	107	117							
<b>i-STAT</b>																												
BG, E+	7.610	7.580	7.640	28	24	32	133	124	142	162	157	167	6.8	6.3	7.3	0.59	0.49	0.69	112	107	117							
<b>proLYTE</b>																												
proLYTE										162	156	166	6.5	6.0	7.0				116	111	121							

**Manufacturer and Product Information**

Mission Diagnostics  
A Division of 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 pCO<sub>2</sub>, pO<sub>2</sub> 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<sup>+</sup>, K<sup>+</sup>, Cl<sup>-</sup>, Ca<sup>++</sup>, Li<sup>+</sup>, HCO<sub>3</sub><sup>-</sup>/CO<sub>3</sub><sup>-2</sup>). It has been equilibrated with specific levels of CO<sub>2</sub>, O<sub>2</sub>, and N<sub>2</sub>. 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: pO<sub>2</sub> 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.

