

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

**Level 2**

PN: DD-92002D

LOT: MC-1017

Exp: 2010/12

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	7.303	7.245	7.361	50	44	56	110	90	129																					
990, 995	7.303	7.245	7.361	50	44	56	108	88	127																					
<b>Compact Series</b>																														
982, 983, 985																														
986												140	133	147	4.28	3.93	4.62				110	101	119	1.03	0.91	1.15				
984, 987	7.313	7.254	7.372									144	137	152	4.38	4.03	4.73	1.14	0.97	1.32	108	99	117				34	30	38	
OMNI	7.323	7.264	7.382									140	133	147	4.38	4.03	4.73	1.14	0.97	1.32										
9110, 9140	7.323	7.264	7.382	50	44	56	100	82	117				139	132	146	4.28	3.93	4.62	1.14	0.97	1.32	111	102	120						
9120, 9130															4.28	3.93	4.62	1.12	0.96	1.29										
9180, 9181												132	126	139	4.08	3.75	4.40				109	100	118							
												132	126	139	4.08	3.75	4.40	1.14	0.97	1.32	102	94	110	1.11	0.98	1.24				
<b>Ciba-Corning/Bayer</b>																														
238	7.34	7.28	7.40	50	44	56	102	83	120																					
248	7.333	7.274	7.392	50	44	56	97	79	114																					
348	7.333	7.274	7.392	50	44	56	105	86	123	136	130	143				4.18	3.84	4.51	1.14	0.97	1.32	108	100	117						
278	7.343	7.284	7.402	50	44	56	105	86	123																					
280	7.343	7.284	7.402	50	44	56	105	86	123																					
288	7.343	7.284	7.402	50	44	56	105	86	123				135	129	142	4.18	3.84	4.51	1.14	0.97	1.32	108	100	117						
664												137	131	144	4.18	3.84	4.51				107	98	116				34	30	38	
614, 644												136	130	143	4.18	3.84	4.51				107	99	116							
634	7.36	7.30	7.42															1.10	0.94	1.27										
654												136	130	143	4.18	3.84	4.51							1.03	0.91	1.15				
800 Series*	7.353	7.294	7.412	50	44	56	106	87	125	133	127	140				4.18	3.84	4.51	1.04	0.88	1.20	100	92	108						
Rapid 400, 405	7.353	7.294	7.412	50	44	56	106	87	125	133	127	140				4.18	3.84	4.51	1.09	0.93	1.26	106	98	115						
<b>Diamond</b>																														
GemLyte												137	130	143	4.25	3.91	4.59	1.08	0.92	1.25	98	90	106	1.01	0.89	1.14				
proLYTE												139	132	146	4.33	3.98	4.67				96	88	104							
<b>IL</b>																														
1304, 1306, 1312	7.323	7.264	7.382	49	43	55	105	86	123																					
BG3	7.323	7.264	7.382	50	44	56	104	85	122																					
BGE	7.323	7.264	7.382	50	44	56	103	84	121	134	128	141				3.98	3.66	4.29	1.12	0.96	1.29	104	96	113						
1610, 1620	7.323	7.264	7.382	50	44	56	105	86	123																					
1630, 1640, 1650	7.323	7.264	7.382	50	44	56	102	83	120	136	130	143				3.98	3.66	4.29	1.12	0.96	1.29	104	96	113						
Synthesis 10, 15, 20, 25	7.323	7.264	7.382	46	41	52	110	90	129	136	130	143				3.94	3.62	4.25	1.12	0.96	1.29	105	97	113						
GEM Premier	7.322	7.263	7.380	51	45	57	108	88	127	138	131	145				4.08	3.75	4.40	1.14	0.97	1.32									
GEM 3000	7.322	7.263	7.380	51	45	57	108	88	127	138	131	145				4.08	3.75	4.40	1.14	0.97	1.32									
<b>ITC</b>																														
IRMA TRUpoint	7.35	7.29	7.41	50	44	56	113	92	133																					
<b>NOVA</b>																														
Electrolyte Systems	7.333	7.274	7.392									138	132	145	4.28	3.93	4.62	1.14	0.97	1.32	108	100	117	1.09	0.96	1.22	34	30	38	
Stat Profile 1-5	7.333	7.274	7.392	50	44	56	100	82	117	137	131	144				4.28	3.93	4.62	1.14	0.97	1.32	104	96	113						
<b>Osmetech</b>																														
Opti 1	7.39	7.33	7.45	49	43	55	106	87	125	140	133	147				4.32	3.97	4.66	1.09	0.93	1.26	108	99	117						
Opti CCA	7.39	7.33	7.45	50	44	56	104	85	122	140	133	147				4.32	3.97	4.66	1.09	0.93	1.26	108	99	117						
<b>Radiometer</b>																														
ABL 3, 30	7.333	7.274	7.392	49	43	55	108	88	127																					
ABL 300, 330	7.33	7.274	7.392	49	43	55	105	86	123																					
ABL 5	7.32	7.26	7.38	49	43	55	102	83	120																					
ABL 50, 500, 510, 520	7.323	7.264	7.382	50	44	56	110	90	130																					
ABL 505	7.323	7.264	7.382	50	44	56	107	87	126	135	129	142				4.18	3.84	4.51	1.16	0.99	1.34									
ABL555	7.323	7.264	7.382	50	44	56	107	88	126	136	129	143				4.16	3.83	4.49	1.16	0.99	1.34									
ABL 600, 610, 620	7.323	7.264	7.382	50	44	56	107	87	126	135	129	142				4.18	3.84	4.51	1.16	0.99	1.34	103	95	111						
ABL 70, 77	7.34	7.28	7.40	49	43	55	100	82	118	139	132	146				4.26	3.92	4.60	1.13	0.96	1.30	101	93	109						
ABL 700 Series**	7.323	7.264	7.382	50	44	56	102	83	120	135	129	142				4.18	3.84	4.51	1.16	0.99	1.34	102	94	110						
EML-100												135	129	142	4.18	3.84	4.51	1.16	0.99	1.34	102	94	110							
<b>i-STAT</b>																														
BG, E+	7.337	7.278	7.395	50	44	56	107	87	126	138	132	145				4.28	3.93	4.62	1.16	0.99	1.34	104	96	113						
<b>Medica, iLyte, Menarini</b>																														
EasyLyte Na/K, Na/K/Cl, Na/K/Li, Na/K/Cl/Li	7.355	7.296	7.414									139	132	146	4.30	3.95	4.64	1.19	1.01	1.37	104	96	113	1.12	0.98	1.25				

\*Includes 840, 845, 850, 855, 860, 865 Analyzers

\*\*Includes 705, 710, 715, 720, 725

Diamond Diagnostics recognizes all trademarks and copyrights referenced herein.

**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 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.

