

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

LOT: MC-1003

Exp: 2010/07

**Level 1**

PN: DD-92001D

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	7.069	7.039	7.099	88	80	96	77	66	88																			
990, 995	7.069	7.039	7.099	88	80	96	75	65	85																			
Compact Series	7.069	7.039	7.099	88	80	96	75	65	85																			
982, 983, 985										117	112	122	1.9	1.4	2.4			89	84	94	0.24	0.11	0.41					
986										117	112	122	1.9	1.4	2.4			89	84	94						26	22	30
984, 987	7.089	7.059	7.119							117	112	122	1.9	1.4	2.4	1.80	1.65	1.95										
OMNI	7.089	7.059	7.119	89	81	97	58	46	70	117	112	122	1.9	1.4	2.4	1.80	1.65	1.95	89	84	94							
9110, 9140	7.089	7.059	7.119							112	107	117	1.9	1.4	2.4	1.86	1.71	2.01										
9120, 9130										112	107	117	2.0	1.5	2.5			86	81	91								
9180, 9181										112	107	117	2.0	1.5	2.5	1.86	1.71	2.01	81	76	86	0.28	0.13	0.43				
<b>Ciba-Corning/Bayer</b>																												
238	7.10	7.07	7.13	88	80	96	72	62	82																			
248	7.099	7.069	7.129	87	79	95	68	58	78																			
348	7.099	7.069	7.129	87	79	95	68	58	78	115	110	120	1.8	1.3	2.3	1.85	1.70	2.00	85	80	90							
278	7.099	7.069	7.129	88	81	95	68	58	78																			
280	7.099	7.069	7.129	88	81	95	68	58	78																			
288	7.099	7.069	7.129	87	80	94	64	54	74	117	112	122	1.6	1.1	2.1	1.85	1.70	2.00	85	80	90							
664										118	113	123	1.9	1.4	2.4			85	80	90						26	22	30
614, 644										118	113	123	1.9	1.4	2.4			85	80	90								
634	7.11	7.08	7.14												1.82	1.66	1.97											
654										118	113	123	1.9	1.4	2.4						0.24	0.09	0.39					
800 Series*	7.109	7.079	7.139	90	83	97	63	53	73	115	110	120	1.8	1.3	2.3	1.76	1.61	1.91	81	76	86							
Rapid 400, 405	7.109	7.079	7.139	90	83	97	62	52	72	115	110	120	1.8	1.3	2.3	1.76	1.61	1.91	81	76	86							
<b>IL</b>																												
1304, 1306, 1312	7.089	7.059	7.119	83	76	90	63	54	72																			
BG3	7.089	7.059	7.119	86	79	93	64	55	73																			
BGE	7.089	7.059	7.119	87	80	94	63	54	72	118	113	123	1.8	1.3	2.3	1.74	1.59	1.89	89	84	94							
1610, 1620	7.089	7.059	7.119	89	82	96	61	51	71																			
1630, 1640, 1650	7.089	7.059	7.119	89	82	96	61	51	71	119	114	124	1.9	1.4	2.4	1.72	1.57	1.87	89	84	94							
Synthesis 10, 15, 20, 25	7.089	7.059	7.119	84	77	91	63	54	72	119	114	124	1.9	1.4	2.4	1.72	1.57	1.87	89	84	94							
GEM Premier	7.085	7.055	7.115	86	79	93	68	58	78	122	117	127	1.9	1.4	2.4	1.74	1.59	1.89										
GEM 3000	7.085	7.055	7.115	86	79	93	68	58	78	122	117	127	1.9	1.4	2.4	1.74	1.59	1.89										
<b>ITC</b>																												
IRMA TRUpoint	7.11	7.07	7.15	87	77	97	70	58	82																			
<b>NOVA</b>																												
Electrolyte Systems	7.109	7.079	7.139							119	114	124	2.1	1.6	2.6	2.31	2.16	2.46	90	85	95	0.26	0.11	0.41	28	24	32	
Stat Profile 1-5	7.119	7.089	7.149	86	79	93	66	57	75	118	113	123	2.0	1.5	2.5	1.77	1.62	1.92	85	80	90							
<b>Osmetech</b>																												
Opti 1	7.13	7.09	7.17	87	77	97	72	57	87																			
Opti CCA	7.13	7.09	7.17	87	77	97	75	60	90	115	110	120	1.8	1.3	2.3	1.76	1.61	1.91	81	76	86							
<b>Radiometer</b>																												
ABL 3, 30	7.109	7.079	7.139	86	79	93	86	76	96																			
ABL 300, 330	7.109	7.079	7.139	86	79	93	85	75	95																			
ABL 5	7.11	7.08	7.14	80	73	87	75	65	85																			
ABL, 50, 500, 510, 520	7.089	7.059	7.119	86	79	93	90	80	100																			
ABL 505	7.089	7.059	7.119	86	79	93	90	80	100	118	113	123	1.9	1.4	2.4	1.92	1.69	2.15										
ABL 555	7.073	7.043	7.103	87	80	94	85	75	95	118	113	123	1.9	1.4	2.4	1.92	1.69	2.14										
ABL 600, 610, 620	7.089	7.059	7.119	87	80	94	90	80	100	118	113	123	1.9	1.4	2.4	1.92	1.69	2.15	80	75	85							
ABL 70	7.12	7.09	7.15	90	83	97	91	81	101	121	116	126	2.0	1.5	2.5	2.06	1.83	2.29	86	81	91							
ABL 77	7.12	7.09	7.15	90	83	97	91	81	101	121	116	126	2.0	1.5	2.5	2.06	1.83	2.29	86	81	91							
EML-100										118	113	123	1.9	1.4	2.4	1.94	1.72	2.15	80	75	85							
ABL 700 Series**	7.089	7.059	7.119	87	80	94	88	78	98	121	116	126	1.9	1.4	2.4	1.92	1.69	2.15	80	75	85							
<b>i-STAT</b>																												
BG, E+	7.089	7.059	7.119	87	80	94	75	65	85	118	113	123	1.9	1.4	2.4	1.76	1.61	1.91	91	86	96							
<b>proLYTE</b>																												
proLYTE										121	116	126	2.1	1.8	2.4			83	78	88								
<b>Medica, iLyte, Menarini</b>																												
EasyLyte Na/K, Na/K/Cl, Na/K/Li, Na/K/Cl/Li										119	114	124	2.1	1.8	2.4			86	81	91	0.25	0.15	0.35	</				

**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.

