

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

**Level 3**

PN: DD-92003D

Expected Ranges Chart

LOT: MC-1010

Exp: 2010/04

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	7.591	7.561	7.621	24	20	28	153	141	165																				
990, 995	7.591	7.561	7.621	25	21	28	149	138	160																				
<b>Compact Series</b>																													
982, 983, 985	7.601	7.559	7.631	24	21	27	145	138	153																				
986										164	159	169	7.1	6.6	7.6						119	114	124	2.06	1.88	2.28			
984, 987	7.611	7.581	7.641							164	159	169	7.1	6.6	7.6	0.66	0.51	0.81			119	114	124				29	25	33
OMNI	7.601	7.571	7.631	25	21	28	138	127	148	162	157	167	7.0	6.5	7.5	0.59	0.49	0.69			120	115	125						
9110, 9140	7.611	7.581	7.641							162	157	167	7.0	6.5	7.5	0.65	0.50	0.80											
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	0.59	0.49	0.69			118	113	123	2.20	2.02	2.42			
<b>Ciba-Corning/Bayer</b>																													
238	7.62	7.59	7.65	24	20	28	132	124	139																				
248	7.621	7.591	7.651	26	22	30	133	125	140																				
348	7.631	7.601	7.661	26	22	30	143	136	150	166	161	171	7.0	6.5	7.5	0.54	0.44	0.64			117	112	122						
278	7.631	7.601	7.661	26	22	30	143	136	150																				
280	7.631	7.601	7.661	26	22	30	143	136	150																				
288	7.631	7.601	7.661	26	22	30	144	137	151	164	159	169	7.0	6.5	7.5	0.54	0.44	0.64			117	112	122						
664										164	159	169	6.8	6.3	7.3						118	113	123				29	25	33
614, 644										164	159	169	6.8	6.3	7.3						118	113	123						
634	7.63	7.60	7.66													0.57	0.42	0.72											
654										164	159	169	6.9	6.4	7.4								2.06	1.88	2.28				
800 Series*	7.651	7.621	7.681	26	20	28	139	130	147	164	159	169	6.9	6.4	7.4	0.51	0.36	0.66			118	113	123						
Rapid 400, 405	7.651	7.621	7.681	24	20	28	139	130	147	164	159	169	6.9	6.4	7.4	0.51	0.36	0.66			118	113	123						
<b>IL</b>																													
1304, 1306, 1312	7.601	7.571	7.631	26	22	29	141	133	149																				
BG3	7.611	7.581	7.641	24	21	27	141	133	149																				
BGE	7.621	7.591	7.651	25	22	28	140	133	147	161	156	166	6.6	6.1	7.1	0.60	0.50	0.70			114	109	119						
1610, 1620	7.621	7.591	7.651	24	20	27	141	131	150																				
1630, 1640, 1650	7.621	7.591	7.651	23	20	26	139	131	147	161	156	166	6.6	6.1	7.1	0.59	0.49	0.69			114	109	119						
Synthesis 10, 15, 20, 25	7.601	7.571	7.631	25	22	29	141	133	150	161	156	166	6.7	6.2	7.2	0.59	0.49	0.69			114	109	119						
Gem Premier	7.621	7.591	7.651	23	20	26	144	135	153	161	156	166	6.6	6.1	7.1	0.59	0.49	0.69											
GEM 3000	7.621	7.591	7.651	23	20	26	144	135	153	161	156	166	6.6	6.1	7.1	0.59	0.49	0.69											
<b>ITC</b>																													
IRMA TRUpoint	7.67	7.62	7.72	24	18	30	151	136	166																				
<b>NOVA</b>																													
Electrolyte Systems	7.638	7.608	7.668							168	163	173	7.7	7.2	8.2	0.56	0.41	0.71			117	112	122	2.09	1.91	2.31	31	27	35
Stat Profile 1-5	7.621	7.591	7.651	24	20	28	144	139	149	165	160	170	6.9	6.4	7.4	0.59	0.49	0.69			117	112	122						
<b>Osmetech</b>																													
Opti 1	7.71	7.68	7.74	24	20	29	142	127	157																				
Opti CCA	7.71	7.68	7.74	24	20	29	140	125	155	164	159	169	7.5	7.0	8.0	0.59	0.44	0.74			118	113	123						
<b>Radiometer</b>																													
ABL 3, 30	7.631	7.601	7.661	24	20	27	154	147	161																				
ABL 300, 330	7.631	7.601	7.661	25	21	28	151	144	159																				
ABL 5	7.61	7.58	7.64	24	20	27	150	140	160																				
ABL, 50, 500, 510, 520	7.621	7.591	7.651	24	20	28	152	143	161																				
ABL 505	7.621	7.591	7.651	24	20	27	152	143	161	162	157	167	6.8	6.3	7.3	0.60	0.50	0.70											
ABL 555	7.621	7.591	7.651	24	20	27	152	143	161	162	157	167	6.8	6.3	7.3	0.60	0.50	0.70											
ABL 600, 610, 620	7.621	7.591	7.651	24	20	28	152	143	161	162	157	167	6.7	6.2	7.2	0.60	0.50	0.70			112	107	117						
ABL 70	7.634	7.604	7.664	24	20	28	146	138	154	159	154	164	6.7	6.2	7.2	0.60	0.50	0.70			115	110	120						
ABL 77	7.634	7.604	7.664	24	20	28	146	138	154	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	0.61	0.51	0.71			112	107	117						
ABL 700 Series**	7.621	7.591	7.651	24	20	27	144	136	153	162	157	167	6.8	6.3	7.3	0.60	0.50	0.70			112	107	117						
<b>I-STAT</b>																													
BG, E+	7.651	7.621	7.681	24	20	28	138	130	147	162	157	167	6.8	6.3	7.3	0.60	0.50	0.70			112	107	117						
<b>proLYTE</b>																													
proLYTE										161	156	166	6.5	6.0	7.0						116	111	121						
<b>Medica, iLyte, Menarini</b>																													
EasyLyte Na/K, Na/K/Cl, Na/K/Li, Na/K/Cl/Li										158	153	163	6.6	6.1	7.1						118	113	123	2.20	1.92	2.52			

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

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

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**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.

