

MISSION CONTROL™
Blood Gas and Electrolyte Control
Level 1
 PN: DD-92001D

LOT: MC-1013
 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	7.089	7.032	7.146	79	70	89	79	65	94																		
990, 995	7.089	7.032	7.146	79	70	89	77	63	91																		
Compact Series	7.089	7.032	7.146	79	70	89	77	63	91																		
982, 983, 985										117	111	123	1.93	1.78	2.09			88	81	95	0.23	0.20	0.26				
986										117	111	123	1.93	1.78	2.09			88	81	95				25	21	29	
984, 987	7.109	7.052	7.166							117	111	123	1.93	1.78	2.09	1.75	1.49	2.01									
OMNI	7.109	7.052	7.166	80	71	90	60	49	71	117	111	123	1.93	1.78	2.09	1.75	1.49	2.01	88	81	95						
9110, 9140	7.109	7.052	7.166							112	106	118	1.93	1.78	2.09	1.81	1.54	2.08									
9120, 9130										112	106	118	2.03	1.87	2.19			85	78	92							
9180, 9181										112	106	118	2.03	1.87	2.19	1.81	1.54	2.08	80	73	86	0.27	0.24	0.30			
Ciba-Corning/Bayer																											
238	7.12	7.06	7.18	79	70	89	74	61	88																		
248	7.119	7.062	7.176	78	69	88	56	46	66																		
348	7.119	7.062	7.176	78	69	88	59	49	70	115	109	121	2.22	2.04	2.40	1.80	1.53	2.07	84	77	90						
278	7.119	7.062	7.176	79	70	89	70	58	83																		
280	7.119	7.062	7.176	79	70	89	70	58	83																		
288	7.119	7.062	7.176	78	69	88	66	54	78	117	111	122	1.63	1.50	1.76	1.80	1.53	2.07	84	77	90						
664										118	112	124	1.93	1.77	2.08			84	77	90				25	21	29	
614, 644										118	112	124	1.93	1.77	2.08			84	77	90							
634	7.13	7.07	7.19												1.77	1.50	2.03										
654										118	112	124	1.93	1.77	2.08								0.23	0.20	0.26		
800 Series*	7.129	7.072	7.186	75	66	84	67	55	79	113	107	119	1.83	1.68	1.97	1.71	1.46	1.97	79	73	86						
Rapid 400, 405	7.129	7.072	7.186	81	72	91	64	53	76	115	109	120	1.83	1.68	1.97	1.71	1.46	1.97	79	73	86						
Diamond																											
GemLyte										113	107	118	2.01	1.85	2.17	1.79	1.52	2.06	78	72	85	0.27	0.23	0.30			
proLYTE										116	110	122	1.94	1.79	2.10			76	70	83							
IL																											
1304, 1306, 1312	7.109	7.052	7.166	74	65	83	65	54	77																		
BG3	7.109	7.052	7.166	77	68	87	66	54	78																		
BGE	7.109	7.052	7.166	78	69	88	65	54	77	118	112	124	1.83	1.68	1.97	1.69	1.44	1.95	87	80	94						
1610, 1620	7.109	7.052	7.166	80	71	90	63	52	75																		
1630, 1640, 1650	7.109	7.052	7.166	80	71	90	63	52	75	119	113	125	1.93	1.77	2.08	1.67	1.42	1.92	87	80	94						
Synthesis 10, 15, 20, 25	7.109	7.052	7.166	75	66	84	65	54	77	119	113	125	1.90	1.75	2.05	1.67	1.42	1.92	88	81	95						
GEM Premier	7.105	7.048	7.162	77	68	86	70	57	83	122	116	128	1.93	1.77	2.08	1.69	1.44	1.95									
GEM 3000	7.105	7.048	7.162	77	68	86	70	57	83	122	116	128	1.93	1.77	2.08	1.69	1.44	1.95									
ITC																											
IRMA TRUpoint	7.13	7.07	7.18	78	69	88	72	59	85																		
NOVA																											
Electrolyte Systems	7.129	7.072	7.186							119	113	125	2.13	1.96	2.30	2.26	1.92	2.60	89	82	96	0.25	0.22	0.28	27	23	31
Stat Profile 1-5	7.139	7.082	7.196	77	68	87	68	56	81	118	112	124	2.03	1.87	2.19	1.72	1.46	1.98	84	77	91						
Osmetech																											
Opti 1	7.15	7.09	7.20	78	69	88	74	61	88																		
Opti CCA	7.15	7.09	7.20	78	69	88	77	63	91	115	109	120	1.83	1.68	1.97	1.71	1.46	1.97	79	73	86						
Radiometer																											
ABL 3, 30	7.129	7.072	7.186	77	68	87	70	58	83																		
ABL 300, 330	7.129	7.072	7.186	77	68	87	69	57	82																		
ABL 5	7.13	7.073	7.187	72	63	81	65	53	77																		
ABL, 50, 500, 510, 520	7.109	7.052	7.166	75	66	84	79	65	93																		
ABL 505	7.109	7.052	7.166	77	68	87	74	61	88	118	112	124	1.93	1.77	2.08	1.87	1.59	2.15									
ABL 555	7.093	7.036	7.149	78	69	88	74	61	88	118	112	124	1.92	1.77	2.08	1.87	1.59	2.15									
ABL 600, 610, 620	7.109	7.052	7.166	78	69	88	74	61	88	118	112	124	1.93	1.77	2.08	1.87	1.59	2.15	79	73	85						
ABL 70, 77	7.14	7.085	7.199	81	71	91	65	53	76	121	114	127	2.01	1.85	2.17	2.01	1.71	2.31	84	78	91						
ABL 700 Series**	7.109	7.052	7.166	78	69	88	72	59	85	121	115	127	1.93	1.77	2.08	1.87	1.59	2.15	79	73	85						
EML-100										118	112	124	1.93	1.77	2.08	1.88	1.60	2.17	79	73	85						
i-STAT																											
BG, E+	7.109	7.052	7.166	78	69	88	77	63	91	118	112	124	1.93	1.77	2.08	1.71	1.45	1.96	90	83	97						
Medica, iLyte, Menarini																											
EasyLyte Na/K, Na/K/Cl, Na/K/Cl, Na/K/Cl/Li	7.108	7.051	7.165							119	113	125	2.08	1.91	2.24	2.15	1.83	2.47	84	78	91	0.24	0.21	0.27			

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.

