

MISSION CONTROL™
Blood Gas and Electrolyte Control

LOT: R9D129
 Exp: 2012/03

Level 2

PN: DD-92002D

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/Roche																													
945, 947	7.318	7.259	7.377	52	46	57	109	91	127																				
990, 995	7.318	7.259	7.377	52	46	57	107	89	125																				
Compact Series	7.328	7.269	7.387	53	47	59	107	89	125																				
982, 983, 985										139	132	146	4.13	3.79	4.46			105	97	114	0.99	0.87	1.11						
986										143	136	150	4.23	3.89	4.57			106	98	115						35	31	39	
984, 987	7.328	7.269	7.387							139	132	146	4.23	3.89	4.57	1.04	0.88	1.20											
OMNI	7.338	7.279	7.397	52	46	57	99	83	115	138	131	145	4.13	3.79	4.46	1.05	0.89	1.21	107	99	116								
Cobas b 121	7.368	7.309	7.427	52	46	57	95	79	111	138	131	145	4.13	3.79	4.46	0.98	0.82	1.14	107	99	116								
Cobas b 221	7.358	7.299	7.417	52	46	57	94	78	110	138	131	145	4.13	3.79	4.46	0.98	0.82	1.14	107	99	116								
9110, 9140	7.338	7.279	7.397							134	127	141	4.13	3.79	4.46	1.03	0.87	1.18											
9120, 9130										134	127	141	3.93	3.61	4.25			107	99	116									
9180, 9181										135	128	142	3.93	3.61	4.25	1.05	0.89	1.21	100	92	108	1.08	0.94	1.21					
Ciba-Corning/Bayer																													
238	7.35	7.29	7.41	52	46	57	101	84	118																				
248	7.348	7.289	7.407	52	46	57	96	80	112																				
348	7.363	7.304	7.422	52	46	57	104	87	121	135	128	141	4.03	3.70	4.35	1.05	0.89	1.21	103	95	111								
278	7.358	7.299	7.417	52	46	57	104	87	121																				
280	7.358	7.299	7.417	52	46	57	104	87	121																				
288	7.358	7.299	7.417	52	46	57	104	87	121	134	127	140	4.03	3.70	4.35	1.05	0.89	1.21	103	95	111								
664										136	129	142	4.03	3.70	4.35			103	95	111						35	31	39	
614, 644										135	128	141	4.03	3.70	4.35			103	95	111									
634	7.37	7.31	7.43												1.10	0.93	1.27												
654										135	128	141	4.03	3.70	4.35							1.00	0.87	1.12					
800 Series*	7.375	7.316	7.434	52	46	57	105	87	123	135	128	142	4.03	3.70	4.35	1.00	0.84	1.15	96	88	104								
Rapid 400, 405	7.368	7.309	7.427	52	46	57	105	87	123	132	125	138	4.03	3.70	4.35	1.06	0.89	1.22	105	96	113								
Diamond																													
GemLyte										135	128	142	4.10	3.77	4.43	1.08	0.91	1.24	96	89	104	0.98	0.86	1.10					
proLYTE										137	130	144	4.18	3.84	4.51			94	87	102									
IL																													
1304, 1306, 1312	7.338	7.279	7.397	51	45	56	104	87	121																				
BG3	7.338	7.279	7.397	52	46	57	103	86	120																				
BGE	7.338	7.279	7.397	52	46	57	102	85	119	133	126	139	3.83	3.52	4.14	1.08	0.91	1.24	103	95	111								
1610, 1620	7.338	7.279	7.397	52	46	57	104	87	121																				
1630, 1640, 1650	7.338	7.279	7.397	52	46	57	103	86	120	135	128	141	3.83	3.52	4.14	1.08	0.91	1.24	103	95	111								
Synthesis 10, 15, 20, 25	7.338	7.279	7.397	48	42	53	109	91	127	135	128	141	3.79	3.48	4.09	1.08	0.91	1.24	103	95	112								
Synthesis 30, 35, 40, 45	7.338	7.279	7.397	48	42	53	109	91	127	135	128	141	3.79	3.48	4.09	1.08	0.91	1.24	103	95	112								
GEM Premier	7.337	7.278	7.395	53	47	59	107	89	125	137	130	143	3.93	3.61	4.25	1.10	0.93	1.26											
GEM 3000	7.337	7.278	7.395	53	47	59	107	89	125	137	130	143	3.93	3.61	4.25	1.10	0.93	1.26											
ITC																													
IRMA TRUpoint	7.36	7.31	7.42	51	45	57	112	93	131																				
NOVA																													
Electrolyte Systems	7.348	7.289	7.407							137	130	143	4.13	3.79	4.46	1.04	0.88	1.20	103	95	111	1.06	0.93	1.19	35	31	39		
Stat Profile 1-5	7.348	7.289	7.407	52	46	57	99	83	115	136	129	142	4.13	3.79	4.46	1.04	0.88	1.20	103	95	111								
Stat Profile pHox series	7.396	7.371	7.421	42	39	45	119	113	125	133	129	137	4.16	3.91	4.41	1.07	0.99	1.15	95	90	99								
Osmetech																													
Opti 1	7.41	7.35	7.47	50	44	56	105	88	123																				
Opti CCA	7.41	7.35	7.47	51	45	57	103	86	120	139	132	145	4.17	3.83	4.50	0.99	0.83	1.14	106	98	115								
Opti LION	7.37	7.30	7.44							132	129	134	4.17	3.83	4.50	0.99	0.78	1.19	106	95	118								
Opti R	7.40	7.34	7.46	53	47	59	112	95	129	140	133	146	4.27	3.93	4.60	1.03	0.87	1.18											
Radiometer																													
ABL 3, 30	7.348	7.289	7.407	51	45	56	107	89	125																				
ABL 300, 330	7.348	7.289	7.407	51	45	56	104	87	121																				
ABL 5	7.33	7.27	7.39	51	45	56	103	86	120																				
ABL, 50, 500, 510, 520	7.338	7.279	7.397	49	44	55	113	94	132																				
ABL 505	7.338	7.279	7.397	49	44	55	107	89	124	134	127	140	4.03	3.70	4.35	1.06	0.89	1.22											
ABL555	7.338	7.279	7.397	49	44	55	106	88	124	134	128	141	4.01	3.69	4.34	1.06	0.89	1.22											
ABL 600, 610, 620	7.338	7.279	7.397	49	44	55	106	88	124	134	127	140	4.03	3.70	4.35	1.06	0.89	1.22	101	93	109								
ABL 70, 77	7.354	7.295	7.412	51	45	56	103	86	120	137	130	144	4.11	3.78	4.45	1.03	0.87	1.18	99	91	107								
ABL 700 Series**	7.338	7.279	7.397	52	46	57	101	84	118	134																			

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.

