

MISSION CONTROL™

Blood Gas and Electrolyte Control

Level 2

PN: DD-92002D

Expected Ranges Chart

LOT: MC-1008

Exp: 2010/09

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	7.289	7.259	- 7.319	54	49 - 59		107	97 - 117																					
990, 995	7.289	7.259	- 7.319	54	49 - 59		105	95 - 115																					
Compact Series	7.299	7.269	- 7.329	55	50 - 60		105	95 - 115																					
982, 983, 985										140	135 - 145		4.3	3.8 - 4.8					108	103 - 113		1.03	0.88 - 1.18						
986										144	139 - 149		4.4	3.9 - 4.9					106	101 - 111					34	30 - 38			
984, 987	7.299	7.269	- 7.329							140	135 - 145		4.4	3.9 - 4.9	1.15	1.0 - 1.30													
OMNI	7.309	7.279	- 7.339	54	49 - 59		97	85 - 109		139	134 - 144		4.3	3.8 - 4.8	1.15	1.1 - 1.25	109	104 - 115											
9110, 9140	7.309	7.279	- 7.339							140	135 - 145		4.3	3.8 - 4.8	1.13	1.0 - 1.28													
9120, 9130										132	127 - 137		4.1	3.6 - 4.6			107	102 - 112											
9180, 9181										132	127 - 137		4.1	3.6 - 4.6	1.15	1.0 - 1.30	100	95 - 105		1.11	0.96 - 1.26								
Ciba-Corning/Bayer																													
238	7.324	7.294	- 7.354	54	48 - 60		99	89 - 109																					
248	7.319	7.289	- 7.349	54	48 - 60		94	84 - 104																					
348	7.319	7.289	- 7.349	54	48 - 60		102	92 - 112		136	131 - 141		4.2	3.7 - 4.7	1.15	1.0 - 1.30	107	102 - 112											
278	7.329	7.299	- 7.359	54	49 - 59		102	92 - 112																					
280	7.329	7.299	- 7.359	54	49 - 59		102	92 - 112																					
288	7.329	7.299	- 7.359	54	49 - 59		102	92 - 112		135	130 - 140		4.2	3.7 - 4.7	1.15	1.0 - 1.30	107	102 - 112											
664										137	132 - 142		4.2	3.7 - 4.7			105	100 - 110								34	30 - 38		
614, 644										136	131 - 141		4.2	3.7 - 4.7			106	101 - 111											
634	7.34	7.31	- 7.37												1.18	1.0 - 1.33													
654										136	131 - 141		4.2	3.7 - 4.7															
800 Series*	7.339	7.309	- 7.369	54	48 - 60		103	93 - 113		133	128 - 138		4.2	3.7 - 4.7	1.10	1.0 - 1.20	105	100 - 110		1.03	0.88 - 1.18								
Rapid 400, 405	7.339	7.309	- 7.369	54	48 - 60		103	93 - 113		133	128 - 138		4.2	3.7 - 4.7	1.10	1.0 - 1.20	105	100 - 110											
IL																													
1304, 1306, 1312	7.309	7.279	- 7.339	53	48 - 58		102	92 - 112																					
BG3	7.309	7.279	- 7.339	54	49 - 59		101	91 - 111																					
BGE	7.309	7.279	- 7.339	54	49 - 59		100	90 - 110		134	129 - 139		4.0	3.5 - 4.5	1.13	1.0 - 1.23	103	98 - 108											
1610, 1620	7.309	7.279	- 7.339	54	49 - 59		102	92 - 112																					
1630, 1640, 1650	7.309	7.279	- 7.339	54	49 - 59		99	89 - 109		136	131 - 141		4.0	3.5 - 4.5	1.13	1.0 - 1.23	103	98 - 108											
Synthesis 10, 15, 20, 25	7.309	7.279	- 7.339	50	45 - 55		107	97 - 117		136	131 - 141		3.9	3.4 - 4.4	1.13	1.0 - 1.23	103	98 - 108											
GEM Premier	7.308	7.278	- 7.338	55	50 - 60		105	95 - 115		138	133 - 143		4.1	3.6 - 4.6	1.15	1.0 - 1.30													
GEM 3000	7.308	7.278	- 7.338	55	50 - 60		105	95 - 115		138	133 - 143		4.1	3.6 - 4.6	1.15	1.0 - 1.30													
ITC																													
IRMA TRUpoint	7.34	7.31	- 7.37	54	47 - 61		110	98 - 122																					
NOVA																													
Electrolyte Systems	7.319	7.289	- 7.349							138	133 - 143		4.3	3.8 - 4.8	1.15	1.1 - 1.25	107	102 - 112		1.09	0.94 - 1.24				34	30 - 38			
Stat Profile 1-5	7.319	7.289	- 7.349	54	47 - 61		97	87 - 107		137	132 - 142		4.3	3.8 - 4.8	1.15	1.1 - 1.25	103	98 - 108											
Osmetech																													
Opti 1	7.38	7.34	- 7.42	53	46 - 60		103	91 - 115		140	135 - 145		4.3	3.8 - 4.8	1.10	1.0 - 1.25	106	101 - 111											
Opti CCA	7.38	7.34	- 7.42	54	47 - 61		101	89 - 115		140	135 - 145		4.3	3.8 - 4.8	1.10	1.0 - 1.25	106	101 - 111											
Radiometer																													
ABL 3, 30	7.319	7.289	- 7.349	53	48 - 58		105	95 - 115																					
ABL 300, 330	7.319	7.289	- 7.349	53	48 - 58		102	92 - 112																					
ABL 5	7.304	7.274	- 7.334	53	48 - 58		99	89 - 109																					
ABL, 50, 500, 510, 520	7.309	7.279	- 7.339	54	49 - 59		104	94 - 114																					
ABL 505	7.309	7.279	- 7.339	54	49 - 59		104	94 - 114		135	130 - 140		4.2	3.7 - 4.7	1.17	1.1 - 1.27													
ABL555	7.309	7.279	- 7.339	54	49 - 59		104	94 - 114		136	131 - 141		4.1	3.6 - 4.6	1.17	1.1 - 1.27													
ABL 600, 610, 620	7.309	7.279	- 7.339	54	49 - 59		104	94 - 114		135	130 - 140		4.2	3.7 - 4.7	1.17	1.1 - 1.27	101	96 - 105											
ABL 70	7.32	7.29	- 7.35	53	48 - 58		97	87 - 107		139	134 - 144		4.3	3.8 - 4.8	1.14	1.0 - 1.24	99	94 - 104											
ABL 77	7.32	7.29	- 7.35	53	48 - 58		97	87 - 107		139	134 - 144		4.3	3.8 - 4.8	1.14	1.0 - 1.24	99	94 - 104											
EML-100										135	130 - 140		4.2	3.7 - 4.7	1.17	1.1 - 1.27	100	95 - 105											
ABL 70, 77	7.325	7.295	- 7.355	53	48 - 58		97	87 - 107		139	134 - 144		4.3	3.8 - 4.8	1.14	1.0 - 1.24	99	94 - 104											
ABL 700 Series**	7.309	7.279	- 7.339	54	49 - 59		99	89 - 109		135	130 - 140		4.2	3.7 - 4.7	1.17	1.1 - 1.27	100	95 - 105											
i-STAT																													
BG, E+	7.323	7.293	- 7.353	54	49 - 59		104	94 - 114		138	133 - 143		4.3	3.8 - 4.8	1.17	1.1 - 1.27	103	98 - 108											
proLYTE																													
proLYTE										141	136 - 147		4.1	3.8 - 4.4			103	98 - 108											
Medica, ILyte, Menarini																													
EasyLyte Na/K, Na/K/Cl, Na/K/Li, Na/K/Cl/Li										139	134 - 144		4.3	4.0 - 4.6			103	98 - 108		1.12	1.06 - 1.18								

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

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.

