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

LOT: MC-1015
Exp: 2011/03

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	7.086	7.029	7.143	85	75	95	76	62	89																		
990, 995	7.086	7.029	7.143	85	75	95	74	60	87																		
Compact Series	7.086	7.029	7.143	85	75	95	74	60	87																		
982, 983, 985										117	111	123	1.95	1.79	2.10				88	81	95	0.26	0.23	0.29			
986										117	111	123	1.95	1.79	2.10				89	81	96				27	22	30
984, 987	7.106	7.049	7.163							117	111	123	1.95	1.79	2.10	1.86	1.58	2.14									
OMNI	7.106	7.049	7.163	86	76	96	57	46	67	117	111	123	1.95	1.79	2.10	1.86	1.58	2.14	89	81	96						
Cobas b 121	7.136	7.079	7.193	83	74	92	46	35	56	119	113	125	2.15	1.99	2.30	1.79	1.51	2.07	88	80	95						
Cobas b 221	7.126	7.069	7.183	83	74	92	44	33	54	119	113	125	2.15	1.99	2.30	1.79	1.51	2.07	88	80	95						
9110, 9140	7.106	7.049	7.163							114	108	120	1.95	1.79	2.10	1.99	1.69	2.29									
9120, 9130										114	108	120	2.05	1.88	2.21				86	79	92						
9180, 9181										114	108	120	2.05	1.88	2.21	1.99	1.69	2.29	83	76	90	0.30	0.26	0.33			
Ciba-Corning/Bayer/Siemens																											
238	7.12	7.06	7.17	85	75	95	71	58	83																		
248	7.116	7.059	7.173	84	74	94	53	43	62																		
348	7.116	7.059	7.173	84	74	94	56	46	66	115	109	121	2.00	1.84	2.16	1.81	1.54	2.09	85	78	91						
278	7.116	7.059	7.173	85	75	95	67	55	79																		
280	7.116	7.059	7.173	85	75	95	67	55	79																		
288	7.116	7.059	7.173	84	74	94	63	51	74	117	111	123	1.64	1.51	1.77	1.81	1.54	2.09	85	78	91						
664										118	112	124	1.94	1.79	2.10				85	78	91				26	22	30
614, 644										118	112	124	1.94	1.79	2.10				85	78	91						
634	7.12	7.06	7.18													1.85	1.57	2.13									
654										118	112	124	1.96	1.80	2.11							0.26	0.23	0.29			
800 Series*	7.126	7.069	7.183	81	71	90	63	52	75	113	107	119	1.84	1.70	1.99	1.90	1.62	2.19	79	73	85						
Rapid 400, 405	7.126	7.069	7.183	87	76	97	61	50	71	115	109	120	1.84	1.70	1.99	1.90	1.62	2.19	80	74	87						
Diamond																											
GemLyte										113	107	118	2.03	1.80	2.19	1.80	1.47	2.13	79	72	85	0.29	0.26	0.33			
proLYTE										116	110	122	1.96	1.80	2.20				77	71	83						
IL																											
1304, 1306, 1312	7.106	7.049	7.163	80	70	89	62	51	73																		
BG3	7.106	7.049	7.163	83	73	93	63	51	74																		
BGE	7.106	7.049	7.163	84	74	94	62	51	73	118	112	124	1.84	1.70	1.99	1.80	1.53	2.07	88	81	95						
1610, 1620	7.106	7.049	7.163	86	76	96	60	49	70																		
1630, 1640, 1650	7.106	7.049	7.163	86	76	96	60	49	70	119	113	125	1.94	1.79	2.10	1.78	1.51	2.05	88	81	95						
Synthesis 10, 15, 20, 25	7.106	7.049	7.163	80	71	90	62	51	73	119	113	125	1.91	1.76	2.07	1.78	1.51	2.05	89	81	96						
Synthesis 30, 35, 40, 45	7.106	7.049	7.163	80	71	90	62	51	73	119	113	125	1.91	1.76	2.07	1.78	1.51	2.05	89	81	96						
GEM Premier	7.102	7.045	7.159	82	72	92	67	55	79	122	116	128	1.94	1.79	2.10	1.80	1.53	2.07									
GEM 3000	7.102	7.045	7.159	82	72	92	67	55	79	122	116	128	1.94	1.79	2.10	1.80	1.53	2.07									
ITC																											
IRMA TRUpoint	7.12	7.07	7.18	84	74	94	69	56	81																		
NOVA																											
Electrolyte Systems	7.126	7.069	7.183							119	113	125	2.14	1.97	2.31	2.27	1.93	2.61	90	83	97	0.28	0.25	0.31	28	24	32
Stat Profile 1-5	7.136	7.079	7.193	83	73	93	65	53	76	118	112	124	2.04	1.88	2.21	1.73	1.47	1.99	85	78	92						
Stat Profile pHOx series	7.203	7.178	7.228	68	63	73	67	61	73	114	110	118	2.29	2.09	2.49	1.76	1.66	1.86	86	81	91						
Osmetech/OptiMedical																											
Opti 1	7.14	7.09	7.20	84	74	94	71	58	83																		
Opti CCA	7.14	7.09	7.20	84	74	94	74	60	87	114	109	120	1.84	1.70	1.99	1.77	1.50	2.04	80	74	87						
Opti LION	7.10	7.04	7.17							102	100	105	1.44	1.40	1.49	1.72	1.45	1.99	83	76	91						
Opti R	7.14	7.09	7.20	85	75	95	81	67	94	111	106	117	1.34	1.20	1.49	1.68	1.41	1.95									
Radiometer																											
ABL 3, 30	7.126	7.069	7.183	83	73	93	67	55	79																		
ABL 300, 330	7.126	7.069	7.183	83	73	93	66	54	78																		
ABL 5	7.13	7.070	7.184	78	68	87	61	50	72																		
ABL, 50, 500, 510, 520	7.106	7.049	7.163	83	73	93	79	65	94																		
ABL 505	7.106	7.049	7.163	83	73	93	71	58	83	118	112	124	1.94	1.79	2.10	1.88	1.60	2.16									
ABL 555	7.090	7.033	7.146	84	74	94	71	58	83	118	112	124	1.94	1.78	2.09	1.88	1.60	2.17									
ABL 600, 610, 620	7.106	7.049	7.163	84	74	94	71	58	83	118	112	124	1.94	1.79	2.10	1.88	1.60	2.16	80	73	86						
ABL 70, 77	7.14	7.082	7.196	86	76	97	61	50	72	121	115	127	2.03	1.86	2.19	2.02	1.72	2.33	85	78	92						
ABL 700 Series**	7.106	7.049	7.163	84	74	94	69	56	81	121	115	127	1.94	1.79	2.10	1.88	1.60	2.16	80	73	86						
ABL 800 Series***	7.110	7.053	7.167	85	75	95	70	57	82	121	115	127	1.94	1.79	2.10	1.90	1.62	2.18	78	71	84						
EML-100										118	112	124	2.10	1.95	2.26	1.90	1.61	2.18	73	66	79						
i-STAT																											
BG, E+	7.106	7.049	7.163	84	74	94	74	60	87	118	112	124	1.94	1.79	2.10	1.72	1.46	1.97	91	83	98						
Medica, ILyte, Menarini																											
EasyElectrolytes										119	113	125	2.09	1.93	2.26	2.16	1.84	2.48	82	76	88	0.26	0.23	0.29			
EasyLyte Na/K, Na/K/Cl, Na/K/Li, Na/K/Cl/Li, Na/K/pH/Ca	7.105	7.048	7.162							119	113	125	2.09	1.93	2.26	2.16	1.84	2.48	80	74	86	0.27	0.24	0.30			
ISE Module										121	115	127	2.19	2.03	2.36	2.16	1.84	2.48	85	79	91	0.28	0.25	0.31			

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

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

***Includes 805, 810, 815, 820, 825, 830, 835, Basic

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_2, pO_2 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^+, HCO_3^-/CO_3^{-2}). It has been equilibrated with specific levels of CO_2, O_2, and N_2. 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.

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