

Technical Bulletin # 51

To: Coulometrics Support Personnel
From: Applications/Engineering Dept.
Date: February 10, 2004
Subject: Supply Usage for UIC Carbon Analysis Systems.

Listed below are the part numbers, descriptions and expected usage levels of consumable materials for UIC's Carbon analysis system components. Actual usage levels will vary depending on sample load, type, matrix, carbon levels and interfering substance levels.

Models CM5011, CM5012, CM5014 CO₂ Coulometers:

Part Number	Description	Everyday Usage	One Day Per Week Usage
CM300-001	Cathode Sltn, 1 gal	250 ml/wk	100 ml/wk
CM300-002	Anode Sltn, 16 oz.	32 ml/wk	14 ml/wk
CM300-003	Potassium Iodide, 50 g	3.2 g/wk	1.25 g/wk
CM101-033	Silver Electrode	600 analyses at 2500 ugC/sample	600 analyses at 2500 ugC/sample
CM101-034	Platinum Electrode	Only replace when broken	Only replace when broken
CM129-071	Cell Inlet Tube Fitting	1 per 6 mths	1 per 12 mths
CM140-005	Lamp	1 per 12 mths	1 per 24 mths

NOTE: An extra cell, CM200-051, should be kept on hand.

Models CM5130, CM5240 Acidification Units

Part Number	Description	Everyday Usage	One Day Per Week Usage
N/A	1:1 KOH Solution	15-25 ml/mth	15-25 ml/mth
N/A	2N Acid Solution	10 ml/sample	10 ml/sample
N/A	Post-Scrubber Solution	See note	See note

NOTE: Post-scrubber solutions are not indicated for a majority of analyses. Use and replace as indicated in the Owner's Manual. The use of sample flasks, boats and Teflon cups are also application dependent and their need for replacement depends largely on loss and breakage.

NOTE: For CM5240 only – The CO₂ Pre-scrubber, CM210-022, should be changed every year.
 For CM5240 only – An extra condenser (CM210-021, not heated or CM210-023, heated) should be kept on hand.

Models CM5300, CM5380, CM5200, CM5600 Furnace Units

For Dry, Solid Samples			
Part Number	Description	Everyday Usage	One Day Per Week Usage
CM300-008	Acid Dichromate, 14g	3.5 g/mth	7 g/yr
CM300-009	Manganese Dioxide, 5g	1.25 g/mth	2.5 g/yr
CM300-010	Magnesium Perchlorate	10 g/wk	10 g/mth
CM300-011	Barium Chromate	11 g/mth	66 g/yr
CM300-012	Reduced Silver	8.3 g/mth	49.8 g/yr
N/A	1:1 KOH Solution	15-25 ml/mth	90-150 ml/yr
CM101-113	Balston Filter	1 per 12 mths	1 per 24 mths
N/A	Oxygen	96 liters/day	96 liters/day

For Liquid Samples			
Part Number	Description	Everyday Usage	One Day Per Week Usage
CM300-008	Acid Dichromate, 14g	7 g/mth	3.5 g/mth
CM300-009	Manganese Dioxide, 5g	2.5 g/mth	1.25 g/mth
CM300-010	Magnesium Perchlorate	20 g/wk	20 g/mth
CM300-011	Barium Chromate	22 g/mth	66 g/yr
CM300-012	Reduced Silver	16.6 g/mth	8.3 g/mth
N/A	1:1 KOH Solution	15-25 ml/mth	90-150 ml/yr
CM101-113	Balston Filter	1 per month	1 per 3 mths
N/A	Oxygen	96 liters/day	96 liters/day
Various	Combustion Tubes	See note	See note

NOTE: For CM5200 only – Slotted Ceramic Inserts, CM251-012, are replaced or cleaned every 100-150 samples.

For CM5200 only – Tin Sample Boats, CM251-008, are used at the rate of 1 per sample.

For CM5200 and CM5600 only - The CO₂ Pre-scrubber, CM210-022, should be changed every year.

For CM5300 only – The Pre-combustion Tube, CM211-016, should be replaced or refilled every 6 months

NOTE: An extra combustion tube should be kept on hand. Samples having high salt content will devitrify the combustion tube, causing them to crack upon cooling.