For Training Purposes Only
These job aids are shortened versions of the procedures found in the source below. Each procedure is written as a standalone procedure to allow the procedures to be performed in any order. Information in the job aid is correct as of the date published. Verify you have the correct information.

Source: AU680 Chemistry Analyzer Instructions for Use B04779AB (June 2015)
WARNINGS AND PRECAUTIONS

Read all product manuals and consult with Beckman Coulter-trained personnel before attempting to operate the instrument.

Beckman Coulter, Inc. urges its customers and employees to comply with all national health and safety standards such as the use of barrier protection. This may include, but is not limited to, protective eyewear, gloves, suitable laboratory attire when operating or maintaining this or any other automated laboratory equipment.

INTENTION FOR USE

This document is not intended to replace the information in your Instructions for Use or Reference Manual. Information in the Instructions for Use and Reference Manual supersedes information in any other manual.

REVISION STATUS

Version 1.0 (September 2016)
Based on:
- AU680 Chemistry Analyzer Software version 4.0
- AU680 Chemistry Analyzer Instructions for Use B04779AB

TRADEMARKS

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Every Other Week or Every 3,000 Samples (ISE) Maintenance

Supplies Required:
- Alcohol prep pads (70% isopropyl alcohol)
- Clean, dry, lint-free absorbent tissue
- Freshly prepared 1% Wash solution (1 part Wash solution added to 99 parts DI water)
- Sonicator
- Beaker
- Disposable pipette tip attached to a squeeze bottle or syringe

Manually Clean the ISE Mix Bar, Liquid Level Sensors, Sample Pot and Sample Pot Tubing

Confirm the system is in *Warm Up* or *Standby* mode

Select *Home > Analyzer Maintenance > ISE Maintenance*

Place a ✓ in the *ISE Maintenance* check box

Select the *Drain Flowcell* button, select OK

Press the green *TABLE ROTATION DIAG* button to drain the flowcell

Lift the upper cover of the analyzer, then open the ISE cover

Disconnect the liquid level sensor connector 714 and mixing motor connector 706 of the mixing component

Loosen the knob securing the mixing component and gently lift to unseat it

Use an alcohol prep pad to wipe the two nozzles, two liquid level sensors, and the mix bar

Place the mixing component on the mixing component holder

Loosen the retaining knob securing the sample pot and lift the pot off the peg

Hold the sample pot in one hand and remove:
- Sample pot tubing from the inlet of the flow cell
- Bypass tubing labeled 5 from the pinch valve
- Bypass tubing labeled 5 at the Y-connector near the mixture aspiration roller pump

Continue on the next page
Fill the sample pot and bypass tubing with 1% wash solution using a disposable pipette tip attached to a squeeze bottle or syringe

- Place the pipette tip or syringe inside the bottom of the sample pot and force the wash solution through the sample pot tubing
- Place the pipette tip or syringe in the end of the bypass tubing and force the wash solution through it

Submerge the sample pot and all attached tubing in a beaker filled with 1% wash solution. Place the beaker in a sonicator filled with DI water and sonicate for 10 minutes

Rinse the sample pot and all tubing with DI water using the pipette tip or syringe and forcing the DI water through sample pot and all the tubing. Confirm the lines and the sample pot are rinsed thoroughly

Dry the sample pot and tubing with a clean, dry, lint-free tissue

Reinstall the sample pot and tubing by:
- Holding the sample pot and connecting the tubing to the inlet of the flowcell
- Slide the slot of the sample pot under the screw post and rotate the hole on the top of the sample pot to align with the peg on the opposite side. Tighten the screw
- Connect the pinch valve tubing at the Y-connector near the mixture aspiration pump and slide the pinch valve tubing into the top slot of the pinch valve

Mount the mixing component on the two positioning pins and tighten the knob. Reconnect 714 level sensor and 706 mixing motor connectors

Prime the lines:
- Press the TABLE ROTATION/DIAG button to re-prime with MID Standard solution. Confirm there are no bubbles coming from the bottom of the flowcell at line 6. Repeat priming by pressing the TABLE ROTATION/DIAG button until there are no bubbles.
- Select the Buffer Prime button, select OK and press the TABLE ROTATION/DIAG button
- Select the Total Prime button, select OK and press the TABLE ROTATION/DIAG button

Deselect the ISE Maintenance check box

Complete the procedure by:
- Closing the ISE cover and the upper cover
- Calibrating and processing QC for the ISE
- Documenting you completed the procedure on the paper maintenance log
Weekly (Analyzer and ISE) Maintenance

Supplies Required:
- Three 60 mL bottles
- Cleaning Solutions: 1 N HCL or 0.5% sodium hypochlorite solution (5% Sodium Hypochlorite Solution diluted 1:10)

Perform a W2

Confirm the system is in Warm Up or Standby mode

Fill the 60 mL bottles (do not fill in the neck of the bottle) with cleaning solutions (1 N HCL or diluted sodium hypochlorite solution. Never combine cleaning solutions and alternate the cleaning solutions each week)

Lift the upper cover of the analyzer and place the bottles in the appropriately labeled W2 positions on the analyzer. Close the upper cover

Select Home > Analyzer Maintenance

Select W2 F6, and select Start. Allow approximately 30 minutes for this procedure (the mode display will countdown the maintenance time left)

When the system returns to the Standby mode, remove all maintenance materials and return routine materials as required

Document you completed the procedure on the paper maintenance log

Note: For efficiency, combine this procedure with a photocal and enhanced ISE cleaning procedures at the W2 Start dialog.
Perform a Photocal

Confirm the system is in Standby mode

Confirm that the upper cover is closed

Select Home > Analyzer Maintenance

Select Photocal F7

Select either:
- **ALL Cuvettes** (perform on a weekly basis or when all cuvettes need a photocal, allow approximately 30 minutes)
- **Cuvettes No.** and enter a cuvette number in the No. field (Perform when only one cuvette failed the photocal or was replaced. Only one cuvette number can be entered at a time; allow approximately 7 minutes per cuvette)

Select Start (the mode display will countdown the maintenance time left)

When the system returns to the Standby mode, continue with the “Check Photocal Results” procedure

Note: This procedure can be combined with W2 and enhanced ISE cleaning procedures at the W2 Start dialog.
Check the Photocal Results

From the Analyzer Maintenance screen, select the Photocal Monitor tab

Check the results. A cuvette number displays in color and there will be an audible alarm if there is a failure

Perform the appropriate procedure found in the instructions for use:
- Clean or replace any cuvettes failing Mean Check (red) or Cuvette check (green)
- Replace the photometer lamp if any cuvettes failed the Lamp Check (orange)

Document you completed the procedure on the paper maintenance log

Did any cuvettes fail photocal?  

No

Yes

Perform a Photocal on any cuvette that was cleaned or replaced by selecting Maintenance tab, select Photocal F7

Select either:
- **ALL Cuvettes** (perform on a weekly basis or when all cuvettes need a photocal, allow approximately 30 minutes)
- **Cuvettes No.** and enter a cuvette number in the No. field (Perform when only one cuvette failed the photocal or was replaced. Only one cuvette number can be entered at a time; allow approximately 7 minutes per cuvette)

Select Start

At the completion, select the Photocal Monitor tab
Enhanced Cleaning of Electrode Line (ISE option only)

Supplies Required:
- ISE Cleaning Solution
- 1 Hitachi cup

1. Confirm the system is in Warm Up or Standby mode.
2. Select Home > Analyzer Maintenance > ISE Maintenance.
3. Open the STAT table cover and use the TABLE ROTATION/_DIAG button to place a Hitachi cup with at least 1.5 mL of ISE Cleaning Solution in the CLEAN position on the STAT table.
4. Close the STAT table cover.
5. Select Cleaning (Enhanced) F6, select OK.
6. When the system returns to the Standby mode, remove and discard the Hitachi cup from the STAT table.
7. Document you completed the procedure on the paper maintenance log.

Note: This procedure can be combined with the W2 and photocopy procedures at the W2 Start dialog.
Selectivity Check for the Na and K Electrodes

Supplies Required:
- ISE Na and K Selectivity Check Solutions
- 2 Hitachi cups

1. Confirm the system is in Warm Up or Standby mode
2. Fill the Hitachi cups with at least 500 μL of Na and K Selectivity Check Solutions
3. Open the STAT table cover and place the cups in the SEL-Na and SEL-K positions (use the green TABLE ROTATION/DIAG button as required to rotate the STAT table). Close the STAT table cover
4. Select Home > Analyzer Maintenance > ISE Maintenance
5. Select Selectivity Check tab, select Check Start, select OK
6. When the procedure completes, check the results
7. Select the Maintenance tab, place a ✓ in the ISE Maintenance box, select the MID/REF Prime button, select OK
8. Press the green TABLE ROTATION/DIAG button to prime. Repeat 3 times (a prime is complete when green light turns on)
9. Document you completed the procedure on the paper maintenance log

Failures will be displayed in yellow. Replace the electrode that failed.
Clean the Sample Probe and Mix Bars

- Confirm the system is in *Warm Up* or *Standby* mode
- Lift the upper cover of the analyzer
- Unscrew the silver connector above the sample probe and allow the fluid to drip from the probe
- Lift the probe out from the arm and wipe the tip with an alcohol prep pad
- Insert the stylet into the probe to remove any blockage
- Return the probe to its arm and tighten the silver connector on the top
- Remove mix bars individually and wipe each with an alcohol prep pad. Return spiral-shaped mix bars to R1/S positions and L-shaped mix bars to R2 positions

Select **Home > Analyzer Maintenance**

- Place a check in the check box at **Analyzer Maintenance**, select **Replacing Sample Probe**, enter 3 in the Start dialog, select **OK**
- Press the green **TABLE ROTATION/DIAG** button and confirm the probe dispenses fluid in a straight stream

Select **Replacing Mixing Bar**, select **The First Mixer** and enter 3 in the Start dialog, select **OK**

- Press the green **TABLE ROTATION/DIAG** button and watch the R1/S mix component perform a sequence

Select **Replacing Mixing Bar**, select **The Second Mixer** and enter 3 in the Start dialog, select **OK**

- Press the green **TABLE ROTATION/DIAG** button and watch the R2 mix component perform a sequence

**Supplies Required:**
- Alcohol prep pad (70% Isopropyl alcohol)
- Stylet 0.2 φ diameter (included in the startup kit)

Document you completed the procedure on the paper maintenance log

Replace the probe if it appears bent, damaged or does not dispense a straight stream of fluid
Replace mix bars if they appear bent, scratched or make unusual noise during sequence
**Clean the Pre-dilution Bottle**

**Supplies Required:**
- Extra 60 mL bottle (optional)
- 0.5% sodium hypochlorite solution (5% Sodium Hypochlorite Solution diluted 1:10)

1. **Confirm the system is in Warm Up or Standby mode**
2. **Lift the upper cover of the analyzer**
3. **Remove the pre-dilution bottle and discard the DI water**
   (located outside the R1 refrigerator in the position labeled 61.Diluent/W2)
4. **Wash the pre-dilution bottle by filling it with the diluted sodium hypochlorite solution**
5. **Thoroughly rinse the pre-dilution bottle with DI water to remove any sodium hypochlorite residue**
6. **Fill the pre-dilution bottle with DI water**
   **or**
   If an extra bottle is available, allow the cleaned bottle to air dry, and fill the extra 60 mL pre-dilution bottle with DI water
7. **Place the pre-dilution bottle filled with DI water on the analyzer**
8. **Close the upper cover**
9. **Document you completed the procedure on the paper maintenance log**