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| **DiaSorin LIAISON XL Operating Procedure** | | | | | | |
| **Purpose** | This procedure provides instructions for OPERATION of the DiaSorin LIAISON®XL on the St. Paul campus. | | | | | |
| **Policy Statements** | * This procedure applies to all personnel responsible for operating the DiaSorin LIAISON®XL * Personnel operating the DiaSorin LIAISON®XL must demonstrate competence in its operation and applicable maintenance on an annual basis. * Each User is responsible for recording maintenance and troubleshooting on the maintenance log, SBAR, and/or in Unity Real Time QC software, as appropriate. | | | | | |
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| **Materials** | **Equipment** | | **Reagents** | | | **Supplies** |
|  | * DiaSorin LIAISON®XL Immunoassay Analyzer Serial Number 2210004259 * Network Printer Q3/SQ Printer 377 near Technical Specialist cubicles | | * LIAISON Borrelia burgdorferi Reagent and Controls PN 310870, 310871 * LIAISON CMV IgG Reagent and Control PN 310740, 310742 * LIAISON CMV IgM Reagent and Control PN 310750, 310752 * LIAISON EBV IgM Reagent and Control PN 310500, 310502 * LIAISON EBNA IgG Reagent and Control PN 310520, 310522 * LIAISON VCA IgG Reagent and Control PN 310510, 310512 * LIAISON VZV IgG Reagent and Control PN 310495, 310496 * LIAISON Measles IgG Reagent and Control PN 318810, 318811 * LIAISON Mumps IgG Reagent and Control PN 318840, 318841 * LIAISON Rubella IgG Reagent and Control PN 310460, 310461 * LIAISON BRAHMS PCT II GEN Procalcitonin Reagent and Control PN 318090, 318091 * LIAISON BRAHMS PCT II GEN Verifiers PN 318092 | | | * LIAISON®XL Cuvettes PN X0016 * LIAISON®XL Disposable Tips PN X0015 * LIAISON Starter with RFID PN 319200 * LIAISON®XL Instrument Wash PN 319100 * LIAISON®XL Solid Waste BioHaz Bags PN X0025 * LIAISON®XL Cleaning Kit PN 310995 |
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| **Sample** | See individual assay procedures for sample type and volume requirements. | | | | | |
| **System modules** | |  |  | | --- | --- | |  | Left Top Cover | |  | Right Top Cover | |  | Touch Screen | |  | Reservoir for cuvettes | |  | Drawers for disposable tip trays | |  | Loading bay for sample rack | |  | Loading bay for reagents | |  | Landing bay for starter reagents/pull-out workspace |      |  |  | | --- | --- | | 2,3 | Liquid waste tanks | | 4 | Cleaning solution tank ( weekly maintenance) | | 6 | Solid waste drawer | | 8,9 | Water tank, intermediate water tank | | 10,11 | Wash buffer tank, intermediate wash buffer tank | | 12 | PC Hard drive | | | | | | |
| **Special Safety Precautions** | **Biohazard**   * Follow standard precautions for protection from biohazards when placing specimens on instrument and when performing maintenance and troubleshooting procedures. * All internal parts of the system, that are not defined as user interfaces and for which specific procedures are described, must be treated as being potentially infectious. Improper handling of infectious parts can cause skin irritations, illnesses and possibly death. Proper personal protective equipment (PPE) should be used at all times when operating the DiaSorin LIAISON®XL.   **Chemical Hazards**   * User may be exposed to hazardous chemicals when handling reagents, calibrators and controls. * Consult [MSDS](https://msdsmanagement.msdsonline.com/a07dc954-23d8-42a9-b591-ef5763cdfd33/ebinder/?nas=True) for safe use instructions and precautions. * The starter reagents also include 4% sodium hydroxide and a 0.12% peroxide solution. If splashes of the NaOH solution or the alkaline peroxide solution get into eye, immediate and thorough washing with waters or a suitable buffer solution is recommended. If necessary, a physician should be consulted.   **Laser Light Hazards**   * Caution during operation and testing the laser (bar-code scanner and handheld barcode reader) must be taken due to the laser class (class 2). Laser radiation can cause eye irritations when looking into the laser beam for a long period of time. Wrong usage of operating elements or of adjustments or the non-observance of processes can cause a dangerous emission of laser radiation. Never look directly into the laser beam.   **Hazardous waste:**   * Recap and dispose of appropriate Starter in the Sodium Hydroxide Basic/Caustic waste. | | | | | |
| **Daily Startup**  **Daily Startup (cont.)**  **Daily Clean**  **Daily Clean, (cont.)** | |  |  | | --- | --- | | Step | Action | | 1 | Login using your login: CEXXXXXX, password: diasorin at the beginning of each shift and each new user.  Generic Login: labadmin  Generic Password: labadmin  To log off: Primary Tab> System, Secondary Tab> Account, then touch Logout. | | 2 | 1. Look at the analyzer status (just right of the start button). The status must be Standby. If analyzer is already in Standby move to step 3 2. If instrument is in NOT READY, NOT INITIALIZED, OR HALTED  * Check the Error log on the bottom of the touch screen. * Address and acknowledge all errors  1. Touch Stop (top left of touch screen) 2. Press **Init**. 3. Instrument will go into Maintenance briefly and switch between random screens as it initializes. (This will take several minutes.) | | 3 | **Check Consumables:** Refer to Loading Consumables section for detailed information on replacing consumables.  **NOTE:** Refer to **Prepare/Load Reagents** and **Adding Consumables**  sections of this procedure for detailed instructions**.**  Touch Primary Tab: STATUS, bottom right of the Touch screen.  All consumables on the instrument have been separated into the following 5 sections:   1. **Starters:**  * These are the only consumables that cannot be changed while the instrument is in Ready status. * While instrument is in Standby, replace necessary sets of Starter reagent. * Only one lot of Starter reagents 1 and 2 are allowed onboard at any time. * The system can run with only one set of Starters onboard. * When a new lot of Starter reagent is added, the liquid will prime for 15 minutes, then all tests must be recalibrated.  1. **System fluids:**  * Contains DiH20 and Instrument Wash. * Both primary tanks can be filled/changed while the instrument is running. * A blue color represents that there is 30% or more left in the primary tank. * Yellow indicates 12-29% fluid left and indicates that these should be changed soon. * Red represents <12% and fluid must be added immediately. * The system uses approximately 2 times as much DI H2O than Wash Solution  1. **Cuvettes :**  * The reservoir for cuvettes allows continuous loading of the **LIAISON®XL** system with cuvettes. * The cuvettes must be loaded in units of 200 pieces (1 bag). Cuvettes remain in the reservoir until they are utilized. * The management of the cuvettes in the system is performed by the **LIAISON®XL** software.  1. **Tips:**  * Two independent drawers for disposable tip trays provide continuous access to replacement, resulting in uninterrupted operation of the system. * Every drawer can be filled with up to three disposable tip trays with 96 disposable tips each. * The system need not be filled with 3 full or partial tip trays; some trays may be left empty if testing volumes are not low to moderate. * The loaded disposable tip trays are recorded by the **LIAISON®XL** software (see chapter 6.10.2 of the user manual). * An automatic consumption meter allows the exact indication of the disposable tips still present in the instrument.  1. **Waste:**  * Solid and Liquid waste are indicated by a % and a visual indicator. * White icon: tanks/solid waste bin empty. * Blue icon: tanks/solid waste bin are adequate. * Yellow indicates attention is needed soon * Red indicates immediate attention is required | | 4 | On the touch screen press Loading 🡺Reagent  Prepare and load any reagents you will need for the day. Refer to section **Prepare/Load Reagents** for detailed instructions | | 5 | Touch Start to begin daily prime of Starters, which takes approximately 10-15 minutes. Once primed, the analyzer will be in Ready status. |   **Daily Clean utilizes the LIAISON®XL Cleaning Kit/Tool, PN 310995. This must be performed daily due to the inherent “stickiness” of the IgM assays as a means of cleaning the analyzer reagent lines. The two Clean integrals and 10 vials allow for 20 Daily Clean cycles per Cleaning Kit.**   1. Make sure a Clean integral is on the instrument. (To check, press Loading 🡺Reagent on the screen) 2. If a Clean integral is not on the instrument, place one on the analyzer.    * Locate the clean kit.    * Open reagent bay    * Place integral onto instrument    * Mixing of integral is not required 3. Take the glass clean vial out of the clean kit. 4. Find the L rack and place the glass vial into spot 1 or 2. 5. Open the sample bay and place rack onto analyzer. 6. Click on Schedule. 7. Order the Clean🡺 Store. 8. If the Clean is ordered, the test will show up under the pending column. 9. Click Start.   Note: Each glass Clean vial is good for 2 cleanings. Place a slash across the cap after use to indicate that it has been used once. | | | | | |
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| **Prepare/Load Reagents**  **Add Consumables**  **Add Consumables, (cont.)**  **Load Samples, Calibrators or Controls**  **Qua****lity Control**  **Calibration**  **Weekly Maintenance**  **Weekly Maintenance, (cont.)** | |  | | --- | | **Prepare and Load New Reagents/Integrals**   1. Remove from refrigerated storage, maintaining upright orientation. 2. Inspect Integral for leakage. 3. Mix magnetic particle container manually for 30 seconds, until it turns brown 4. Seat test integral in Xcelerator for 30 seconds. 5. Gently rotate the magnetic particle vial again for 30 seconds to dislodge the microparticles on the sides of the vial. 6. Remove new integral top-seal foil flaps slowly. The center septum must be unhindered by foil remains. 7. Remove all liquid from the surfaces of the membranes using a kim wipe folded in half the long way to prevent cross-contamination of the reagent vials. Blot gently. 8. Touch Primary Tab> Loading, Secondary Tab> Reagents. 9. Open the reagent bay door on the analyzer. 10. Using a smooth motion, insert the integral into an unoccupied lane in the reagent area until it rests firmly against the docking pins at the rear. 11. The analyzer will mix the new reagent microparticles for 15 minutes prior to use.   **Note:** if more than one integral of the same reagent is loaded place the newest integral to the right of the old integral. The analyzer will sample from the left integral until empty then move right. | | All consumables can be changed while running, except Starter reagents 1 and 2. Instrument must be in Standby.  NOTE: Starting a new lot number of Starter reagent requires recalibration of all assays. Only one lot number of Starter reagents may be in use at a time.  **Change Starters:**   1. Open the bay door for Starter reagents. 2. The LED below the empty Starter reagent bottle should be off. If the LED is slow flashing, there is no Starter reagent bottle. 3. Remove the cap of the empty Starter reagent bottle. 4. Remove the empty Starter reagent bottle. 5. Remove the locking cap of the new Starter reagent bottle. 6. Place the **LIAISON®XL** system cap onto the new starter reagent bottle. 7. Insert the new starter reagent bottle into the **LIAISON®XL** system. 8. If the LED below starts flashing fast (three times per second), the Starter reagent bottle has not been recognized or it is the wrong Starter type. 9. If correct Starter has been verified, remove the Starter reagent bottle completely and re-insert it. The RFID on the back side of the bottle must be read by the back wall of the bay. 10. Close the Starter reagent bay door. The **LIAISON®XL** system will prime the new starter reagents automatically when possible. This takes 15 minutes.   **Add Cuvettes**:   1. Open bag along the perforated edge. 2. Open the cuvette drawer place bag past red line and let the cuvettes fall into the machine. 3. Touch the Add Bag+ button located under the Status tab.   **Note:** One cuvette bag = 200 cuvettes. Add Bag button will increase total by 200. The Reset button will reset the counter to 0. It is not possible to manually adjust the number. If Reset is selected by mistake, press the Add Bag button to the approximate number. Do not load 600 cuvettes. 400 is plenty. Overloading may cause jams.  **Add Disposable tips:**   1. Click on the **Disposable Tips** subcategory tab. 2. Click on the disposable tip tray position of drawer 1 or 2. 3. Click on the **Withdraw** button. The LED below the drawer on the system is flashing off and the indicator above the drawer on the software display changes to grey. 4. Pull out the selected drawer. 5. If present, remove the empty disposable tip tray(s). 6. Take a disposable tip tray from the packaging. 7. Using one hand, take a disposable tip tray by holding it on the longer side and insert it into the disposable tip drawer on the analyzer. 8. If necessary, repeat points 5-7 until all positions of the drawer have been loaded. 9. Close the drawer. 10. On the touch screen, highlight the tray location you changed (tray will be red when highlighted) 11. Click on the **Set All** button. 12. If more than one tray has been loaded in the selected drawer, click on the next refilled disposable tip tray position of the selected drawer and click on the **Set All** button again. 13. When ready, click on the **Assign** button. The LED below the drawer is permanently illuminated and the indicator above the drawer on the display changes to yellow. The pipettor has access to the drawer. NOTE: To remove the drawer it is necessary to repeat this procedure from step 1, regardless if the system is running or not.   **Add Deionized Water or Wash Solution**:   1. Open the cabinet doors. 2. Pull the right drawer out of the cabinet 3. Pull the primary tank up and out of the analyzer. 4. Fill the H20 tank with DiH20.   **NOTE:** Wash Buffer must be prepared and allowed to de-gas for 6 hours prior to being placed on the analyzer. To prepare wash solution, add DI H2O to the red line on the tank, then add 1 L of system Wash Buffer. One you load the new tank on the analyzer, make up another tank for use. There should be one extra tank of wash solution available at all times to avoid delays due to the 6-hour degassing period.   1. Holding the drawer by hand, place the full water tank/ washing solution into the right cabinet drawer of **LIAISON®XL** system. Note the audible click. The centering pin must fit the intermediate tank. 2. Push the right drawer back into the cabinet 3. Close the cabinet doors | | **Load Samples, Calibrators or Controls with a barcode:**   1. Select the correct rack:   I rack- Send out tubes  K rack- Micro specimen container (Liaison tube, not primary Microtainer draw tube)  L rack- Glass calibration and daily clean vials  T rack- QC   1. Place a send out tube with a minimum of 500uL on a rack with the barcode facing out 2. Samples volumes less than 500uL: Use a Liaison Micro Specimen container 3. Open the sample bay door: Place rack in the farthest open lane to the left indicated by a slowly flashing LED   **Note:** Wait for the LED light on the instrument to flash before loading the rack.   1. All ordered patient tests will download and be shown under the pending column.   **For QC and Calibrators:** see **Preparing and Manually Ordering Samples, QC, Calibrators** procedure, below.   1. Press Start (top middle). Testing will not commence without pressing Start. 2. To monitor status of testing: Touch Primary Tab> Results, Secondary Tab> Ongoing. Filter according to Today’s Results. QC may be started on Active calibrations. This means the calibration is running. Do not run patients until QC is in range in Unity Real Time QC Software.   **Preparing and Manually Ordering Samples, QC, Calibrators.**   * Sample ID Prefixes: $ designates a calibrator. # designates quality control. * QC and calibrators should be at room temperature prior to testing (~15 minutes). * Gently invert several times, avoiding bubbles, prior to removing the caps and loading onto the analyzer.  1. Load the appropriate rack onto the analyzer. 2. Once the sample has been recognized by the instrument, touch Schedule. 3. Highlight the assay(s) to be tested. 4. Touch Store. The tests that were selected will be in the Pending column. 5. Touch Start. Processing of samples will not occur until Start is selected.   **Remove a rack of QC, Samples, or Calibrator**   1. Once the LED are off on the instrument and on the touchscreen it is safe to remove the rack. 2. Press **in** on the rack until an audible click can be heard. 3. Pull the rack off the instrument. | | See individual assay procedures for Quality Control and volume requirements.  QC assessment is required on each method each day of patient testing. Refer to the procedure CH 2.07 Quality Control in Chemistry and the individual assay procedures for specific information on Quality Control frequency, materials and handling, requirements, and response codes.  QC is performed after a new integral is placed on the instrument, all PMs, and all replacements of critical components of the analyzer to ensure optimum performance.  **Add New lots of QC to the instrument:**   1. Locate the Certificate of Analysis/package insert from the box of QC 2. On the touch screen, select the Definitions tab. 3. Touch Control. 4. Touch Scan. A secondary box will pop up. 5. Scan the 2D barcode on the package insert according to the onscreen directions 6. Wait 5 seconds for the instrument to process 7. Touch Store. 8. Give the Certificate of Analysis to Technical Specialist or other Unity Real Time (URT) administrator to enter the new lot into URT. This must be completed prior to reporting QC and subsequent patients.   **Load and Run QC:**  See **Loading Samples, Calibrators or Controls** section | | Check individual assay procedures for frequency of calibrations. Procalcitonin calibrators are external and must be reconstituted. All calibrations use 6 tests from the integral.   1. On the touch screen press Loading 🡺Reagent 2. Highlight the test(s) requiring calibration 3. Press Calibrate. This function starts the calibration of a selected integral. For assays that share calibration within kit lot, this calibration will be available for all integrals of that kit lot, no matter if loaded on-board or not. If the calibration cannot be started (e.g. external calibrators not loaded) a pop-up will inform the user. In this case, no calibration will be created and no jobs will be scheduled.  |  |  | | --- | --- | | Symbol | Description | | no symbol | integral has a valid calibration | |  | A yellow bar indicates that an expired calibration is present. | |  | A red bar indicates that no valid calibration is present. | |  | A calibration is ongoing for the integral. | |  |  |  | | --- | --- | | Step | Action | |  | Run “Weekly Maintenance” task in Maintenance tab. This takes approximately 10 minutes hands-on time and 30 minutes automated.   * Select the Maintenance tab on the bottom of the touch screen * Find Weekly maintenance and touch to highlight * Click Perform indicated with a check mark * Follow the onscreen instructions, then continue to step 2 | |  | Step 1 of task wizard: “Prepare fresh cleaning solution”   * Find the cleaning solution bottle (located behind the liquid waste container) * Add 990mL of DIH20 (fill to line on bottle) * Add 10mL Liquinox | |  | Cleaning solution Bottle   * Place the cap on the full cleaning solution bottle. (Located behind the waste container) * Put the cleaning solution bottle into the dedicated slot of the waste bin. (see photos above) | |  | Once the cleaning solution bottle is properly placed, touch Accept  The Instrument will automatically continue with steps 2-16 of the task wizard | |  | **Step 17 Switch off the system and clean probes**   1. Touch Accept 2. In the top left corner of the touch screen, touch STOP 3. A secondary box will pop up. Select Shutdown. 4. Confirm by selecting Yes. 5. Select Shutdown a second time. 6. Turn off instrument around the side to the right. | |  | **Clean the pipettor probes**   * Once the instrument is turned off, open the top cover and move the right and left arm to a position easy to access; * Wipe the right and left arm probe with a tissue soaked with Liqui-Nox® solution from the weekly cleaning solution bottle in a downward motion only. * Wipe the right and left arm probe with a tissue soaked with DI water in a downward motion only. * Wipe the right and left arm probe with a dry tissue in a downward motion only. * Gently shut the top covers, starting with the right side. * Empty the cleaning solution bottle, rinse it with DI water, and then store it behind the liquid waste tanks. | |  | **Restart instrument and computer**   * See section Startup /Shutdown | |  | **Perform Data backup to external flash drive**   1. System --> Backup 2. Choose Database from the drop down then "Create". A file will be created at the bottom of that file box and automatically be highlighted in blue. Wait for the message at the top of the screen to say the backup file has been created successfully. 3. Insert your USB, choose it from the file drive dropdown (D drive, F drive, “the file that was created”) 4. Copy. 5. After the file and successfully exported to the USB you will get another "File Transferred Successfully" message at the top of the screen. 6. Leave the USB jump drive on the side of the instrument, if possible.   Note: These steps are all in the Quick Guide (small manual) that came with the instrument, in Section 8. | | | | | | |
| **Monthly Maintenance** | Monthly maintenance involves bleaching and cleaning the intermediate and overflow H2O and Wash Solution tanks. The rest of the monthly maintenance is the Weekly Maintenance, starting with step 4 below (steps 2-17 of the task wizard on the analyzer).   |  |  | | --- | --- | | Step | Action | |  | **Run “Monthly Maintenance”**   * Select Maintenance tab on the bottom of the touch screen * Find monthly maintenance and highlight it by touching it * Touch Perform indicated with a green check mark * Follow the onscreen instructions and Continue onto step 2 | |  | According to page 536 of the Operating Manual, prepare a bleach solution  Add 955mL of DiH2O to tanks  Add 45mLof 0.5-0.9% Bleach  The solution may be split between the tanks.  Set aside | |  | **Step one of task wizard “cleaning the liquid tanks”**  1. Open the lower cabinet right and middle doors.  2. Pull the right drawer out of the cabinet.   1. Remove the wash buffer main tank (white cap) and dispose of the liquid in a dirty sink. 2. Remove the yellow sponges placed in front of the intermediate tanks     Intermediate tank  B  A   1. Disconnect sensor (b) and liquid connectors (a) from the intermediate tank 2. Using the handle, move the intermediate tank to the front 3. Remove the black cap of the wash buffer intermediate tank and lift out to dispose of the liquid. 4. Fill each primary and intermediate tank with a portion of the sodium hypochlorite solution prepared according to step 2 5. Gently shake each tank, avoiding spilling and limiting the formation of foam. Cover the holes and tip the tanks so that the hollow handles are coated in bleach. 6. Empty each tank carefully and rinse it with DiH20 adequately. It is recommended to fill each tank at least half full. Rinse each tank a minimum of three times. 7. Replace the intermediate tank onto the analyzer. Push forward. Be sure to reconnect the senor and liquid connectors. Put sponge back in front of the intermediate tank 8. Fill the primary tank and replace on to instrument. 9. Follow steps 1-12 for the H20 primary and intermediate tank.   Note: When analyzer alarms press Mute alarm on the touch screen. | |  | **Step 2-17 of task wizard**   * Follow the on screen instructions * Refer to Weekly maintenance procedure listed above. | | | | | | |
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| **Startup /Shutdown** | **Startup:**  1. Ensure that the cover and the flaps are closed.  2. Switch on the instrument.  3. Switch on the integrated PC. The system starts the operating system and the **LIAISON®XL** software on the integrated PC.  4. After system start, the **LIAISON®XL** software shows the ***Startup*** display:  5. Follow instructions for daily start up.    Startup up  Login  **Shut down:**   1. On the touch screen press Stop 2. From the stop menu click shutdown. Click yes for the next pop up “do you with to continue” 3. Press shutdown on the DiaSorin LIAISON®XL screen. Note this will only turn off the computer 4. Turn off the instrument by pressing down on the switch around the corner to the right     #1  #2    #3  #4 | | | | | |
| **Waste Disposal**  **Waste Disposal, (cont.)** | **Solid waste disposal:**   1. Open the cabinet and pull the solid waste drawer out of the **LIAISON®XL** system. 2. Unhook the solid waste bag from the tensioner in the back of the drawer. 3. Unhook the solid waste bag from the front of the drawer. 4. Remove the solid waste bin (with the bag inside) from the drawer of the instrument\Close the solid waste bag with the dedicated strap. 5. Without removing it from the bin, bring the waste bag to the disposal point. 6. Once near the disposal point, dispose the bag once pulled out of the bin if the bag is wet. If not, reuse the bin 7. Place a new solid waste bag into the solid waste bin if the bag was disposed of: Hook the solid waste bag to the tensioner available in the back of the solid waste drawer. 8. Hook the solid waste bag to the front of the drawer. 9. Adjust the positioning of the bag inside the drawer, in order to guarantee the availability of the whole volume. 10. Slide the solid waste drawer into the **LIAISON®XL** system. 11. Close the cabinet. 12. Select the sub-category **Summary** of the category **Status** (refer to chapter 6.10.1) and press **Reset** button.     **Liquid waste disposal:**     1. Switch the full tank to the empty tank by pressing the arrow key. The tank with the Yellow LED light is the tank that waste is actively using. 2. Disconnect the sensor and remove the liquid tubing by carefully pulling up on the Plastic Joint (#3, below) 3. Then attach the cap (#6) to the membrane (#4) for transportation. 4. Lift out of the analyzer and dispose of liquid into an appropriate dirty sink drain. Remove cap (#6) before disposing to ensure minimal splashing. 5. Add a splash of bleach to the container. 6. Bring the empty container back to the analyzer. 7. Reconnect the sensor (#1), and liquid tubing (#2) into the membrane (#4).   Note: the sensor can only fit on one way. The notch must line up with the groove, as indicated below: | | | | | |
| **Reagent Display Icons** | |  |  |  | | --- | --- | --- | | **Symbol** | **Description** | **Comments** | |  | Loaded sample tube with known ***SID***. |  | |  | Loaded sample tube without barcode or unreadable barcode,  **or**  no tube loaded/***SID*** is empty |  | |  | Sample in process. |  | |  | Sample off-line | If a sample is off-line, unload it, check its status and reload again when OK. | |  | Calibrators |  | |  | Controls |  | |  | Caution, risk of danger to person or damage to equipment! Consult instructions for use! |  | |  | Biohazard! |  | |  | Electrical hazard! |  | |  | Laser hazard! |  | |  | Mechanical hazard! |  | |  | Cut injury hazard! |  | |  | Indication of the location of Main Switch / Emergency Stop button. | Right side of the instrument | | | | | | |
| **References** | 1. DiaSorin LIAISON® XL User Manual, Revision E, 8/2017 2. DiaSorin LIAISON® XL Quick Guide, Revision B, 8/2017 | | | | | |
| **Historical Record** | **Version** | **Written/Revised by:** | | **Effective Date:** | **Summary of Revisions** | |
| 1 | Stephen Gripentrog, Erin Bartos | | August 13, 2019 | Initial Version | |