

## SOLUS TECHNICAL NOTE 1

### Potential Positive Control Failures

Solus DS2 can detect whether positive control has been correctly pipetted into well C1 of the microplate. It does this by “looking” for the black coloured reagent in the well. If the instrument detects that there is no black dye in the well an error message is reported. This allows the user to visually inspect the well and if necessary manually pipette the control into the well.

**Do not** ignore this error message. If the run is completed without the positive control it will not meet the acceptance criteria and be reported as a failed run.

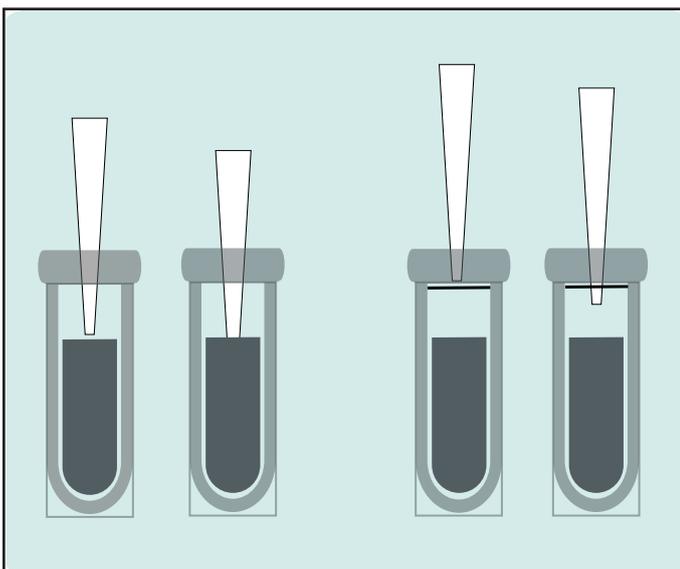
There are 2 main reasons why the positive control could be missing from well C1:

- The positive and negative controls have been loaded onto the DS2 in the wrong order, or into the wrong caddy. Always follow the on-screen instructions to ensure that vials are placed in the correct positions.
- DS2 failed to pipette the positive control into the well.

### Preventing Pipetting Failure

The control reagent contains a small amount of detergent, which can form bubbles if shaken or vigorously mixed. At the end of a run, it is common for any remaining control in the Dynex reagent vial to be sealed with a lid and stored along with the rest of ELISA reagents for further use. If this control vial is shaken before reuse, it is possible for a film or bubble to form across the rim of the tube, which remains in place when the lid is removed. When DS2 begins dispensing from this tube, liquid level sensing detects a pressure change as it touches the surface of this film. This then falsely sets the rim of the tube as the surface of the liquid and moves the pipetter down only a few millimetres to aspirate. As the actual liquid level is further below the film surface, the pipette aspirates only air.

Therefore, it is important when placing reagent tubes on the deck of DS2 to visually check that there is no film or bubble across the top of the tube. If there is a film, it can be easily burst with a clean pipette tip.



Correct liquid level sensing

DS2 detects film at rim of tube and sets liquid level incorrectly. Tip moves down a few millimetres and aspirates air