Liquid Column Breakage Warning

When making pedestal measurements on any of the Thermo Scientific NanoDrop Spectrophotometers, the liquid column breakage warning message is most likely due to one of the following reasons:

- Too little sample volume has been loaded
- Pedestals are "unconditioned"
- Instrument is out of calibration

Pedestal Sample Volume

- We recommend the use of a calibrated 2 ul pipettor for pedestal sample loading on the NanoDrop™ 2000/2000c and NanoDrop 1000 Spectrophotometers. Although the instruments are designed for 1 ul samples, using larger volumes (1.5-2.0 ul) will often overcome the inherent surface tension properties associated with some detergent based or volatile samples and eliminate problems with column breakage.
- Always use an 8-channel pipettor when loading multiple samples onto the NanoDrop 8000 to minimize evaporation due to delays in sample loading.
- It is recommended that all spectrophotometric measurements be made immediately after pipetting samples onto the pedestal as delays can compromise accuracy.

Pedestal Cleaning

Typically dH_20 is sufficient for removal of samples from the optical pedestals of a NanoDrop Spectrophotometer.

1. Apply 5 ul of dH_20 solution to the bottom pedestal.
2. Lower the upper pedestal arm to form a liquid column; let it sit for approximately 2-3 minutes.
3. Wipe away the water from both the upper and lower pedestals with a clean lab wipe.

When a more rigorous cleaning protocol is required (i.e. dried proteins) substitute 0.5M HCl for the dH_2O in the procedure above . After using HCl, repeat the process with 2-3 ul of dH_20 to remove any residual HCl. Do not use detergents or isopropanol as cleaning agents as their routine use may result in the pedestals becoming unconditioned. If a solution containing either is used, it is important to follow with 3- 5 ul of dH20.

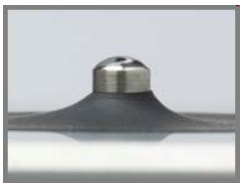

Figure 1- NanoDrop 2000/2000c

Pedestal Reconditioning

Use the instrument pedestal reconditioning kit, PR-1, as a rapid means of reconditioning the pedestals of a NanoDrop Spectrophotometer when the surface properties have been compromised and liquid columns break during measurement.

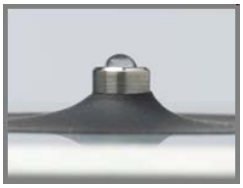

Figure 2- NanoDrop 2000/2000c

1. Open the vial containing PR-1 and use the applicator provided in the kit to remove a pin-head sized amount of the compound.
2. Apply a very thin, even layer of PR-1 to the surface of the upper and lower pedestals and wait 30 seconds for thee PR-1 to dry.
3. Fold a clean, dry laboratory wipe into quarters and remove the PR-1 by aggressively rubbing the surface of the upper and lower pedestals until all compound residue is removed. The appearance of a black residue on the laboratory wipe is normal.
4. Use canned air to remove excess lint from the diaphragm of the NanoDrop 2000/2000c.

Test the effectiveness of the re-conditioning by pipetting a 1ul sample of dH_2O (using a calibrated 2 ul pipettor) onto the lower measurement pedestal. Refer to figures 1-3 for images of water on unconditioned and properly conditioned pedestals.

Figure 3 - NanoDrop 8000

Pedestal Calibration Check

It is recommended that the calibration check be performed every six months using CF-1 to verify that the instrument is performing within specifications. Thermo Scientific CF-1 is available through Thermo Fisher Scientific or your local distributor.

For Technical Support contact us at 302-479-7707 or nanodrop@thermofisher.com.

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