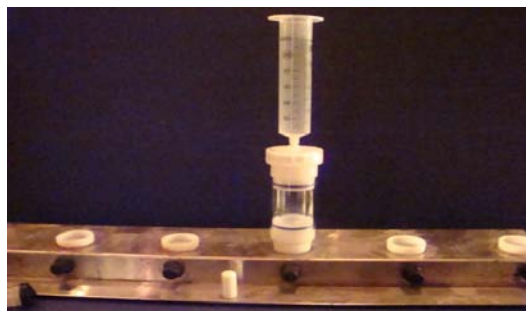


Elution of the Aqualytical Oasis HLB Disk

There are two ways to elute the Aqualytical HLB Oasis disk. The first is with a extraction manifold using a 50-100 ml glass or Teflon syringe Luer-Locked to the top male end of the disk. A Vacuum is applied to the disk first to draw any free water from the disk. This can be done by placing the disk on the manifold directly without the glass housing , the flat bottom of the disk will seat on the manifold base under vacuum. A 40 ml VOA vial is then placed inside the glass housing and the elution solvents added to the syringe barrel. The solvents used will be dependent on the analysis type whether LC/MS or GC/MS. For GC/MS analysis the disk can be rinsed with 40 ml of DCM allowing it to soak several minutes before drawing a vacuum, or acetone 10 ml first then followed by 30 ml of DCM. The elution solvent can be any elution scheme for the Waters HLB Oasis media application or in-house methods using this media. (See Photo below)



The second way is to use positive displacement with a syringe and plunger, and slowly force the solvent through the disk with the elution solvent scheme as listed above. The disk still needs to be dried with under a vacuum prior to elution to remove the excess moisture trapped within the disk.(See Photo below)



The volume of extracted solvent can be exchanged to fit the analysis type such as; hexane for 8081A using ECD, or DCM for GC/MS or GC/MS/MS analysis. The extract can then be concentrated to the desired volume required for detection requirements.

Aqualytical's Disk Material's and Construction

All of Aqualytical disks are manufactured using high density polypropylene. This is the same material used to construct all of the disposable SPE extraction cartridges, disks and syringes used in the laboratory for over 15 years. The HDPP is resistant to organic, chlorinated and aromatic solvents as well as all acids and bases. The use of the HDPP has not showed evidence of **leaching** except for low levels of phthalates, or **partitioning** of analytes into or off its surface, and is the material of choice for most all the cartridge housings for EPA SPE methods and sample cleanup techniques. The disks interior design uses HDPP media supporting screens, dispersion baffles, and glass pre-filtration filters to ensure an inert environment.

To ensure a clean and turnkey operation each disk is preconditioned by first rinsing with DCM followed by methanol, then rinsed with distilled water. The disks are then plugged with Luer-Lock plugs to insure its integrity. After deployment the plugs are re-installed for shipment to the laboratory insuring a sealed environment.

Procedure for Surrogate Additions

Aqualytical Services provides pre-conditioned spiked surrogate disks for both the HLB Oasis Disk and the C-18 SPE disk. The field surrogate used is Terphenyl d-14, and is applicable for PAH's, TPH and 8270 neutrals. The Disks are also available in the pre-conditioned surrogate free state. These disks are for use when other surrogates are indicated for other analysis, where standard additions are used, or matrix spikes are run. These disks can be pre-spiked for field deployment, or post spiked for elution efficacy. These disks need to be spiked at the customers facility prior to deployment or elution. The suggested spiking procedure is listed below;

- The spiking solution should be made up in a water soluble solvent such as methanol or acetone at a concentration that would use no more the 100 ul of solution per spiking addition.
- The disks come pre-conditioned so that the spike can be simply be added to a Luer lock syringe containing 30-50 ml DI water in a set up below (see photo)



- The spiked water is pushed through the syringe and followed by an additional 60 ml DI rinse water to set the spike onto the media.
- The disk can then be capped and is ready to be deployed into the field

Sampling a Positive Pressure Artesian Well using the HLB disk

The HLB is designed to be placed on the C.L.A.M a submersible extraction pump, to draw water through the disk integrating the trace organics of over 100 liters extraction event, representing days to weeks of sampling time. In certain cases with Artesian or pressured wells the Disk can be simply connected to the outlet of the well with 1/8th inch tubing and the pressure of the water will force its way through the disk integrating the trace organics into the media. A outlet control needle valve can regulate the flow rate out of the disk allowing a sampling event to any desired length of time and the effluent water from the disk can be collected and measured for the initial volume measurements. (See set up below)

