From: CP Environmental Engineering **Date:** August 31, 2022

Cyclopure PFAS Water Test Kit:
FAQs

1. Who is Cyclopure?

Cyclopure is a materials science and engineering firm devoted to the removal of PFAS chemicals from water supplies. Headquartered in Skokie, Illinois, the company has developed a novel adsorbent (tradename DEXSORB®) with molecular selectivity for diverse PFAS structures. DEXSORB is being commercialized for multiple PFAS applications, including (i) environmental testing, (ii) household filtration products, and (iii) municipal + industrial treatment systems.

2. What is the Cyclopure WTK?

Under a grant from the **National Institute of Environmental Health Sciences (NIEHS)**, Cyclopure developed a PFAS test kit that uses DEXSORB to provide a convenient, affordable and accurate way to detect PFAS compounds in tap water and surface water.

Introduced at the beginning of 2020, the company has tested over 2,000 water samples for PFAS in 42 states. Water testers include residents, municipalities, research institutions, and environmental organizations.

The PFAS sampler consists of a 250 ml collection cup with a DEXSORB-loaded extraction disc in a bottom filter. Using the PFAS sampler, the company can accurately measure and quantify the presence of short and long-chain PFAS in a convenient Point-of-Site, time specific extraction method.

3. How does sample collection work?

Point-of-Site sample extraction is made easy by filling the collection cup with 250 mL of water sample, and then allowing the water to pass through the DEXSORB-loaded extraction disc. This typically takes 20 minutes.

Once all water passes through the PFAS sampler. The PFAS sampler is ready for return to Cyclopure's lab; there is no shipping of water.

4. How are PFAS recovered and measured at the Cyclopure lab?

When the WTK is received, Cyclopure analytical chemists perform standard solid-phase extraction (SPE) to recover PFAS compounds collected in the DEXSORB extraction disc. The eluted PFAS sample is subsequently analyzed on a HPLC-MS/MS (QExactive hybrid quadrupole orbitrap, ThermoFisher).

Analytical procedures use isotope dilution for PFAS measurement and quantification. The analysis of water samples has been validated to the requirements of EPA Methods 533, 537 and 1633 (draft), and follow instrument procedures for internal standardization and calibration.

5. How many PFAS compounds does Cyclopure test for?

Cyclopure tests for 55 PFAS structures, including 21 precursors and all PFAS listed under EPA Methods 533, 537 and 1633 draft. See attached Appendix for the complete list.

6. What are the reporting limits of Cyclopure analytical methods?

The limit of quantification (LOQ) for all 55 PFAS tested under Cyclopure analytical methods is 1.0 ppt (ng/L) for all PFAS, other than GenX which is 2.0 ppt. Reporting limits have been validated to the accuracy criteria of EPA methods, including Minimum Reporting Limit (MRL) confirmation.

7. How is Cyclopure testing different?

Cyclopure testing for PFAS follows the same analytical methods as other commercial labs, and have been validated to EPA's Demonstration of Capability Quality Control Requirements.

Prior to analysis on HPLC-MS/MS, Cyclopure and other commercial labs process water samples using standard SPE methods to extract and recover PFAS.

The difference in methods is that other labs peform PFAS extractions *in lab* on water samples collected by customers, while Cyclopure customers perform PFAS extractions *in the field* using the company's DEXSORB-loaded extraction disc. Field extraction avoids trip contamination; PFAS are adsorbed and securely locked into DEXSORB's cyclodextrin cups.

DEXSORB is a confirmed and highly selective adsorbent for PFAS, currently used in residential filtration products and the treatment of PFAS contaminated surface water and groundwater. The rapid kinetics, high capacity and selective PFAS adsorption of DEXSORB uniquely enable Point-of-Site sample extraction, providing a convenient and accurate way to test tap and surface waters for PFAS.

8. How much water should I collect for each WTK?

The outside of each WTK collection cup contains volume markings, and should be filled with water sample to the maximum 250 mL line. Please wear included gloves during this step.

9. After filling the WTK with a water sample, what should I do next?

After filling, the WTK will start to filter/drain through a hole in the cup bottom, passing through the DEXSORB-loaded extraction disc. Sample filtration takes about 20 minutes. Some filtrations may be slower. Be patient. This is the most important part of the process.

10. How do I return the WTK to Cyclopure after sampling?

After sampling, the WTKs should be placed back in their original boxes and sent back to Cyclopure. Use the included return shipping label.

11. PFAS Results Report?

After lab analysis, Cyclopure will provide an individualized report, detailing the concentration of each PFAS structure measured in the tested water sample.