



Nu•phase™ Oil & Grease SPE Disks & Supplies

Pursuant to the Montreal Protocol on Substances that Deplete the Ozone Layer, worldwide countries continue progress toward effectively phasing out the use of all Chlorofluorocarbons. In connection with these efforts, the U.S. EPA Method 1664 employs n-Hexane as the extraction solvent instead of Freon® and most importantly, permits use of solid phase extraction techniques.

When compared to liquid/liquid extraction, CPI's Nu•phase™ SPE disks for Oil & Grease are much easier to use:

- **Speedy Extraction Time** – Faster flow rates on most samples
- **Save Money** – Less expensive than liquid/liquid extraction
- **Sediment Trapping Design** – Patented design traps sediment while ridges allow sample to pass
- **Eliminate Emulsions and Freon®** – Eliminate shaking, emulsion formation, and reduce solvent usage

Using SPE for Method 1664

According to the Method, the first step in “demonstrating equivalency” of the “modified method” is to determine Initial Precision and Recovery (IPR) using the modified method. The results obtained must meet or exceed stated method limits. At CPI, we've done research up front to ensure that your lab receives required recoveries and precision the first time you try our Nu•phase™ Oil & Grease SPE disks. The results of our IPR analysis are presented below.

Key Data	Required Limit Per 1664	CPI O&G Disk Performance
HEM Precision	10%	6.48%
HEM Recovery	83 - 101%	99.25%
HEM MDL	1.4mg/L	.78mg/L

Other Data	CPI O&G Disks
Standard Deviation	0.378
RSD	0.022
Extraction Time	25min.
Elution Time	5min.
Total Solvent Used	45mL
Solvent Saved by Using SPE	45mL



Why wait for Teflon® SPE Disks to filter particulate samples?

Our goal in developing a high-flow, high-retention SPE disk was to increase sample flow rate without compromising recoveries. To meet this objective, we use a porous glass-fiber filter media to contain the phase instead of Teflon® or a glass frit (both of which impede flow rate due to their density and propensity for clogging). The result is an SPE disk yielding reproducible recoveries at an outstanding flow rate, as indicated on the table below.

Flow Rate Comparison - 1 Liter Sample

Sample Type	CPI O&G Disks	Membrane Disks	Other Glass Fiber Disks
Citrus Producer	1hr. 38min.	Clogged at 2 hrs. after filtering only 200mL. Total time: 5hrs.	Clogged at 3hrs. after filtering only 300mL. Total time: 4hrs.
Foods Manufacturer	1hr. 48min.	2hrs. 18min.	4.5hrs.
Airline	21min.	56min.	41min.
Car Wash	25min.	42min.	37min.

We use only the highest quality Silica...

Nu•phase™ SPE disks are manufactured with only the highest quality bonded-phase silica. With a mean pore size of 60Å, our silica provides maximum total surface area with even bonding. Our specialized, controlled manufacturing procedures result in only nominal variances in total surface area from lot to lot.



Even Silica distribution through unique, patent pending processes...

Reproducible performance depends upon consistent and even loading of the bonded silica from disk to disk and from lot to lot. To help promote consistency in loading, we incorporate our bonded silica during production of the fiber filter media. Through this unique patent pending manufacturing technology, we are able to achieve an SPE disk with maximum loading and even phase distribution throughout the entire depth of the fiber media.

Part Number	Replaces Empore™	Description
Nu•phase™ Oil & Grease SPE Disks		
4350-13	2270	Nu•phase™ Oil & Grease SPE Disks, 47mm, 20/pk
4350-13A	2270	Nu•phase™ Lite Oil & Grease SPE Disks, 47mm, 20/pk
4350-139	2370	Nu•phase™ Oil & Grease SPE Disks, 90mm, 10/pk
4350-139A	2370	Nu•phase™ Lite Oil & Grease SPE Disks, 90mm, 10/pk
4350-139C		Nu•phase™ Choice Oil & Grease SPE Disks, 90mm, 50/pk
4350-010089		FastFlo™ Prefilter, for 47mm glass, 20pk
4350-010091		SPE Prefilter, 47mm, 50/pk
4350-010092		SPE Prefilter, 90mm, 50/pk
4401-1664-2		Oil & Grease Standard*, 100mL
4401-1664-4		Oil & Grease Standard*, 4mg/mL
4350-12	2215	Nu•phase™ C18 Fiber SPE Disks, 47mm, 20/pk
4350-12HF		Nu•phase™ C18 High Flow SPE Disks, 47mm, 20/pk
4350-12HS		Nu•phase™ C18 High Solids SPE Disks, 47mm, 20/pk
4350-14	2315	Nu•phase™ C18 Fiber SPE Disks, 90mm, 10/pk
4350-14HS		Nu•phase™ C18 High Solids SPE Disks, 90mm, 10/pk
4350-22	2240	Nu•phase™ SDVB Fiber SPE Disks, 47mm, 20/pk
4350-24	2240	Nu•phase™ SDVB Fiber SPE Disks, 90mm, 10/pk
4350-32	2214	Nu•phase™ CB Fiber SPE Disks, 47mm, 20/pk
4350-34	2314	Nu•phase™ CB Fiber SPE Disks, 90mm, 10/pk
4350-52	2214	Nu•phase™ SPE Disks for Method 549.1, 47mm, 20/pk

Color Key by EPA Method

1664
506, 507, 508.1, 525.1, 525.2, 550.1, 608, 8015, 8081, 8082
526.1, 527, 8041, 8270-1311-TCLP, 8321-TCLP, 8330

*This standard contains Hexadecane and Stearic Acid at 2mg/mL each in Acetone.



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