

NPE-free Cocktails for Environmental LSC Measurements

Elmo Wiikinkoski,^{1,*} Teija Hovirinta²

¹*Hidex Oy, Turku, Finland*

**elmo.wiikinkoski@hidex.com*

Nonyl Phenol Ethoxylates (NPEs) are surfactants used in most of the LSC cocktails in the markets. Surfactants are needed for stable microemulsion formation with aqueous samples. NPEs are not readily biodegradable and produce metabolites that are known as endocrine disruptors. For this reason, the use of NPEs is restricted in EU as well as in many other countries.

Hidex has a comprehensive selection of NPE-free cocktails which can be used as alternatives to the conventional NPE-containing cocktails in almost all environmental LSC measurements. We present a comparison of NPE-containing cocktails and NPE-free cocktails for environmental LSC measurements (e.g. ^3H , ^{14}C , ^{90}Sr and ^{222}Rn). This study shows that the performance of NPE-free cocktails is at high level and NPE-free cocktails are good alternatives for environmental alpha and beta measurements as long as the most suitable cocktail is used and the sample preparation is done properly.