From: Hoepker, Alexander@OEHHA
To: Wolfe, Mary (NIH/NIEHS) [E]
Cc: Guy, Robbin (NIH/NIEHS) [E]
Subject: Public comment: Board of Scientific Counselors (BSC) meeting
Date: Monday, June 26, 2017 6:03:47 PM

I am submitting these comments on behalf of myself (private citizen) with regard to the talk: "Screening for Biological Activities of Concern in Consumer Products"

(1) Stir bar sorptive extractions (SBSE) using large capacity polymers such as polydimethylsiloxane (PDMS) – and other more polar polymer grafts such as EG-Silicone – have provided a cost- and labor effective way to enrich semi-polar and nonpolar chemicals from even very complex media onto a solid phase. These chemicals can be thermally desorbed for GC-MS analysis with typically very little loss in material.

(2) Polymer-based passive sampling (PDMS in particular but others as well: POM, TENAX, silicone rubber, EXACT, etc.) combined with either solvent spiking (of the polymer extracts) or passive dosing are a promising strategy to transfer mixtures from the environment into bioassays. Reference: Jahnke et al. Enviromental Science&Technology, 50, 2016, 5424. Such strategies may offer a way to extract chemical mixtures from consumer products immersed in water (+/- organic modifier or NaCl) or relevant artificial biological fluids, and dose this mixture into a bioassay without the mixture composition being altered.

(3) Passive dosing (partition controlled dosing) can be used to deliver a chemical mixture directly from a passive sampling device (see comment 2) to the in vitro bioassay. This methodology is especially powerful for hydrophobic organic chemicals. References: Kramer et al. Chemical Research in Toxicology, 2010, 23, 1806; Smith et al. Adv Biochem. Eng. Biotechnol 2016, 1-30, and Claessens et al. Marine Pollution Bulletin 2015, 93, 9-19.

Thank you very much for the chance to submit my comments!

Best,

Alexander Hoepker, PhD