

#0000743

## Pharmaceutical and Personal Care Product Chemical Concentration and Biological Activity Analysis

**Sample ID:** #0000743  
**County:** Wilson  
 Date Sample received: 3/10/2011  
 Extraction date: 3/10/2011  
 GCMS date: 3/28/2011  
 Yeast assay date: 5/18/2011

Chemicals Analysis	Use	MDL (ng/L, ppt)	Concentration (ng/L, ppt)
DEET	insect repellent	10	BDL
Diethyl phthalate	plasticizer	10	BDL
4-tert-Octylphenol	nonionic detergent metabolite	10	BDL
Ibuprofen	non-steroidal anti-inflammatory	1000	BDL
Cotinine	nicotine metabolite	50	BDL
Atrazine	herbicide	10	BDL
Caffeine	stimulant	10	BDL
4-nonylphenol	nonionic detergent metabolite	10	BDL
Fluoxetine	antidepressant (Prozac)	50	BDL
Fluoranthene	PAH	4	BDL
Triclosan	antiseptic, disinfectant	250	BDL
Bisphenol A	plasticizer	100	BDL
Carbamazepine	anticonvulsant	100	BDL
Sertraline	antidepressant (Zoloft)	10	BDL
Coprostanol	fecal steroid	75	BDL

MDL = Minimum detection limit

BDL = Below detection limit

Biological Activity	MDL (ng/L, ppt)	Activity
Estrogenic+	~0.5	BDL
Androgenic++	~9	BDL
Toxicity		>62.5X

Estrogenic+= Activity reported as concentration relative to 17 $\beta$  estradiolAndrogenic++= Activity reported as concentration relative to 5 $\alpha$ -dihydrotestosterone

Toxicity= Activity is reported as concentration factor below which no decrease in bioluminescence is seen

MDL = Minimum detection limit

BDL = Below detection limit

DBNQ = Signal Detected, but was below the detection limit and not quantifiable

## Methods

**Chemical :** Sample Concentration: Solid phase extraction (EPA 1694)  
 Analytical Detection : GCMS (Agilent 6890 GC with 5973N MS)

**Biological:** Sample Concentration: 250x - 0.0625x  
 Biological Strains: *S. cerevisiae* BLYES, BLYAS, BLYR  
 Sanseverino et al 2005, Eldridge et al 2007, Sanseverino et al 2009