



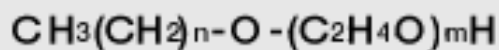
AE ELISA Kit

- The monoclonal antibody binds exclusively with C10-12 AEs regardless of ethylene oxide (EO) chain length (n=1-25).
- The detection range is between 0.02mg/L and 1.0mg/L. A simple concentration protocol based on solid phase extraction is available to determine much lower concentration.
- With ease of handling, the total time for measurement is only 2.5 hours.
- The kit, a 96-well microplate format, enables simultaneous measurement of multiple samples at more reasonable cost.

AE

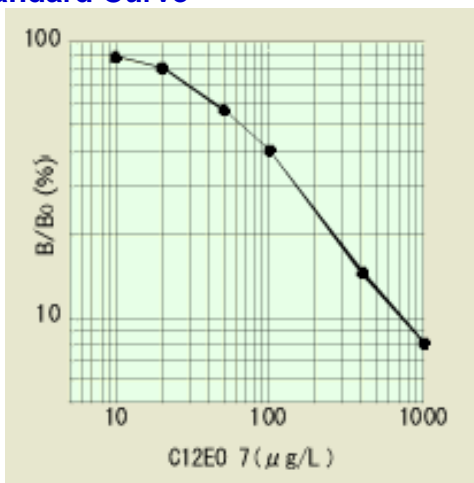
AE is an abbreviation for **A**lky **E**thoxylate, also called polyoxyethylene alkyl ether. AE belongs to nonionic surfactant and is used mainly for residential detergent. Production of AE has been increasing year by year and amounts to 140,000 tons in 1999, which corresponds to 30% of nonionic surfactants. Foaming ability of AE is equal to or more than that of anionic surfactants, which require the continuous monitoring for the control of drinking water quality.

Chemical Structure



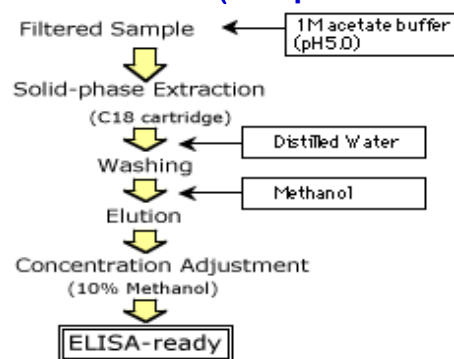
$$n=8-15, m=5-13$$

AE Standard Curve



Samples containing AE within the dynamic range (0.02mg/L- 1.0mg/L) can be directly applied to assay after filtration. Samples with AE content below the range must be concentrated with solid phase extraction prior to the ensuing session. Coefficient of variation(CV) is generally under 10% throughout the dynamic range.

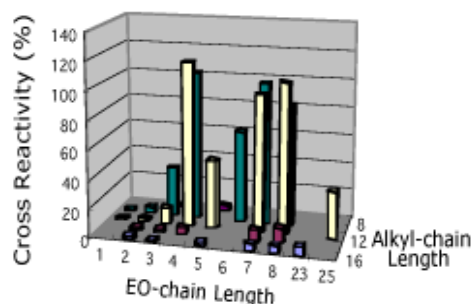
Pretreatment (Simplified Solid Phase Extraction)



With this concentration protocol, AE is measurable around the order of parts per trillion, or ng/mL. Pour sample liquid through a C18 solid-phase cartridge and elute AE with methanol for concentration. This protocol assures the simultaneous extraction of APE, another POE type nonionic surfactant, and removal of substances that may obstruct AE binding. Reconstitute the elute in 10% methanol aqueous solution after evaporation for the ELISA assay.

- The specific procedure may vary in sample quality.

Cross-reactivity Pattern



Compound	% reactivity
Nonionic surfactants	
AE(C12EO7)	100
Nonylphenol ethoxylate (NP10EO) (Ave. EO=7.5)	<1
Polyethylene glycol (PEG) (Ave. EO=2)	<1
Tween-20 (Ave. EO=2, -COOH)	3
Anionic surfactants	
Linear alkylbenzene sulfonates (LAS)	<1
Sodium laurate	10
Sodium dodecyl sulfate (SDS)	16
Alkylether sulfate (AES)	31
Cationic surfactants	
Hexadecyltrimethyl ammonium chloride	<1

Kit Format

Kit Format		Comment
Microplate	1 plate (96 wells) & reagents	Needs a microplate reader(450nm) For multiple and simultaneous measurement

