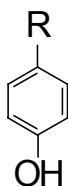


## Alkylphenol (AP) ELISA kit

**Alkylphenols (APs)** are chemical compounds used primarily to manufacture alkylphenol ethoxylates (APEs), which are used as cleaning agents or surfactants. APs like octylphenol (n=8) and nonylphenol (n=9), as well as nonylphenol carboxylic acids (NPnECs), are generated by microbial decomposition of APEs and are known to have estrogenic activity.

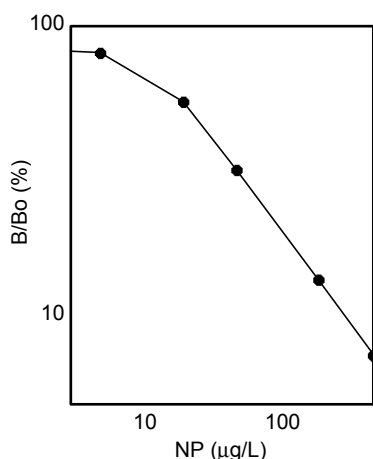
### Chemical Structure



R: C<sub>9</sub>H<sub>19</sub> Nonylphenol (NP)  
R: C<sub>8</sub>H<sub>17</sub> Octylphenol (OP)

**The Alkylphenol (AP) ELISA kit\*** specifically detects APs, APEs and NPnEC and does not cross-react with other surfactants or compounds with similar structure.

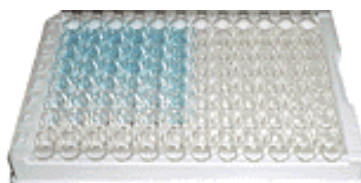
**The analysis** is based on a competitive reaction where enzyme-labelled standard AP competes with free AP in the sample for binding to a specific monoclonal antibody immobilised to the surface of the microtiter plate. The amount of labelled AP bound to the plate is determined by addition of a non-coloured substrate which is converted into a coloured product. The colour intensity is measured at 450 nm and is inversely proportional to the amount of AP in the sample. The assay is calibrated using a standard solution of AP supplied with the kit.



**The Alkylphenol (AP) ELISA kit** is suitable for applications such as analyses of waste and river water, textiles, detergent formulas and optimization of washing processes.

**The assay is highly sensitive, simple and rapid to perform.** The standard curve working range is 5-500 µg/L. A simple solid phase extraction protocol is available for samples with very low concentrations of AP.

**The kit is available microplate (96 wells) format.**



*\*) The Alkylphenol (AP) ELISA kit is licensed from Tokiwa Chemical Industries Co. Ltd.*

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## AP ELISA KIT



### Cross-reactivity pattern

<i>Compound</i>	<i>Reactivity (%)</i>
<b>Nonylphenol</b>	<b>100</b>
<b>Octylphenol</b>	<b>187</b>
NPE (Nonylphenol ethoxylate)	
NP10EO (average EO chain length = 10)	100
NP7.5EO (average EO chain length = 7.5)	112
NP5EO (average EO chain length = 5)	140
NP2EO (average EO chain length = 2)	175
NP1EO (nonylphenol mono ethoxylate)	127
Sodium dodecyl sulfate	16
Alkylether sulfate	31
OPE (Octylphenol ethoxylate)	
OP10EO (average EO chain length = 10)	156
Nonylphenol Carboxylic acid (NPnEC)	
NPnEC (n=2)	423
NPnEC (n=3)	423
Anionic surfactants	
Linear Alkylbenzene Sulfonates (LAS)	1.6
Sodium Dodecyl Sulfate (SDS)	1.0
Alkylether Sulfate (AES)	< 0.2
Sodium Laurate (SOAP)	0.3

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