Sample Preparation Instructions for Aquacheck Trial UV-Absorbing Organic Constituents (254nm)

General Instructions

Sample Storage

All samples and spiking solutions should be stored in a refrigerator at 4(±2)C in the dark from the time of arrival at your laboratory. If a preservative is routinely added to the type of sample provided as part of your laboratory procedures, a suitable aliquot should be preserved as soon as possible in the normal way. Any dilutions that result from addition of preservatives should be corrected for before submission of results.

Sample Preparation

All samples should be equilibrated at room temperature 20(±5)C before any dilutions or analyses are performed. Samples should be prepared in accordance with the specific instructions for the group. The dilutions specified should be conducted in such a way as to ensure that any errors introduced by this dilution are much smaller than the analytical errors involved in your method. As a general rule it is suggested that the error from dilution should be less than 1%. Example dilutions are given for illustration to help clarify the meaning of the instructions. These procedures should be followed exactly to ensure comparability of results. **It is not necessary to correct results for the dilutions that are detailed as part of these procedures.**

Diluents Used

The Sample Preparation Instructions refer to various different diluents. If the diluent required is anything other than deionised water it is supplied by Aquacheck.

If an effluent concentrate is supplied, it must be diluted by a factor of 4 with deionised water before use.

Sample Analysis

Samples should be analysed by the normal methods used for those determinands by your laboratory. Replicate determinations can be made if this is normal laboratory procedure although only the mean value will be used by Aquacheck for statistical analysis and reporting on laboratory performance. Aquacheck samples should be treated like any other samples and all normal quality control procedures should be adopted.

Results should be corrected for recovery and blank, if appropriate and if this is the normal practice in the laboratory. **If the sample is diluted as part of the analytical process (this is apart from the dilutions in the sample preparation instructions), such dilutions should be corrected for.**

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Materials Supplied

- 1 x 60ml of unfiltered solution

Preparation

Determinand	Assigned value	Decimal places	Units	Instruction
UV Absorption	RMean	3	cm^{-1}	Analyse as supplied within 7 days of sample delivery. Mix the sample well and filter through 0.45 µm Millipore membrane filters. Set wavelength to 253.7nm and adjust spectrophotometer to read zero absorbance with the organic-free water blank.

Note: Absorbance is the negative logarithm of the percent transmittance divided by 100 and can be calculated by using the equation:

$$\text{Absorbance} = - \log (\% \text{ transmittance} / 100)$$