

Triclosan in Water

• Intended Use

For detection of Triclosan and Triclosan methyl in water samples: groundwater, surface water, well water, effluent.

• Materials Required but Not Provided

Methanol (HPLC Grade or equivalent).

• Sample Information

Water samples should be collected in glass vessels (teflon in the cap liners). **Immediately** upon collection, methanol (HPLC grade) should be added to the samples (25% v/v final concentration of methanol) to prevent adsorptive losses to the glass containers.

After samples are diluted, those samples containing gross particulate matter should be filtered (e.g. 0.2 um Anotop™ 25 Plus, Whatman, Inc.) to remove particles.

• Procedural Notes and Precautions

Prepare water samples as described above. Follow the assay procedure as described in the Triclosan Abraxis Assay kit package insert.

As with all immunoassays, a consistent technique is the key to optimal performance. To obtain the greatest precision, be sure to treat each tube in an identical manner.

Add reagents directly to the bottom of the tube while **avoiding contact between the reagents and the pipet tip**. This will help assure consistent quantities of reagent in the test mixture.

Avoid cross-contaminations and carryover of reagents by using clean pipets for each sample addition and by avoiding contact between reagent droplets on the tubes and pipet tips.

• Results

Manual Calculations

1. Calculate the mean absorbance value for each of the standards.
2. Calculate the %B/Bo for each standard by dividing the mean absorbance value for the standard by the mean absorbance value for the Diluent/Zero Standard.
3. Construct a standard curve by plotting the %B/Bo for each standard on vertical Ln (Y) axis versus the corresponding Triclosan concentration on horizontal Linear (X) axis on the graph paper provided.
4. %B/Bo for controls and samples will then yield levels in ppt of Triclosan by interpolation using the standard curve.
(Contact Abraxis for detailed application information on specific photometers.)

Photometric Analyzer

Some instrument manufacturers make available photometers allowing for calibration curves to be automatically calculated and stored. Refer to instrument operating manual for detailed instructions. To obtain results for the Abraxis Triclosan Assay on instruments allowing data transformation the following parameter settings are recommended:

Multiply the sample and control results by a factor of 1.33 to account for the initial dilution of sample with methanol or alternatively program the Photometric Analyzer as listed below to automatically correct for the dilution factor.

Data Reduct : Lin. Regression
Xformation : Ln / Linear
Read Mode : Absorbance
Wavelength : 450 nm
Units : PPT
Rgt Blk : 0

Calibrators:
of Cals : 4
of Reps : 2

Concentrations:
#1: 0.00 PPT
#2: 25 PPT
#3: 100 PPT
#4: 1000 PPT

Range : 20 - 1000
Correlation : 0.990
Rep. %CV : 10%

• Availability

Abraxis Triclosan Assay Kit, 100T PN 530111
Triclosan Sample Diluent PN 530112

022306

• Performance Data

Sensitivity

The Triclosan Assay has an estimated minimum detectable concentration in water, based on a 90% B/Bo of 20 ppt (0.020 ppb).

Recovery

Four (4) samples, including a municipal water source, drinking water from a local well, a sample from a local pond and a small creek were spiked with various levels of Triclosan, diluted with methanol, and then assayed using the Triclosan Assay. The following results were obtained:

Amount of Triclosan Added (ppt)	Recovery		
	Mean (ppt)	S.D. (ppt)	%
62.5	52.2	4.8	83.4
125	109.1	10.8	87.3
250	252.5	9.1	101.0
500	565.6	28.4	113.1
Average			96.2

Precision

The following results were obtained:

Control	1	2	3
Replicates	5	5	5
Days	5	5	5
n	25	25	25
Mean (ppt)	40	124	519
% CV (within assay)	7.5	5.9	4.7
% CV (between assay)	11.4	10.4	6.2

• Assistance

For ordering or technical assistance contact:

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