Formaldehyde Detection Assay
Catalog Number: 11519

Kit Contents:

Component	Amount	Storage
BA (Buffering Agent) in dropper bottle	3 x 8mL	Room Temperature
FRP (Formaldehyde Reaction Powder)	2 x 1.5g	Room Temperature
Microspoon	1	Room Temperature
Sample Vial	2	Room Temperature
Color Card	1	Room Temperature
Graduated 5-mL Syringe	1	Room Temperature
Formaldehyde Spike (375 mg/l)	200ul	Room Temperature

Formaldehyde HCHO Test Method:

Formaldehyde is an organic compound with the formula CH_2O. It is mainly used in the production of industrial resins but has been found to be used as a preservative, disinfectant and biocide. Because of its toxicity and volatility formaldehyde poses a significant risk to human health. Attogene test uses the property of formaldehyde to react with the Formaldehyde Reaction Powder (FRP) to form a purple-red color. The formaldehyde concentration is measured by visual comparison of the reaction with the color scale derived from the Color Card.

Measuring range / color- Number of scale graduation	Number of determinations
0.1 – 0.25 – 0.4 – 0.6 – 0.8 – 1.0 – 1.5 mg/l HCHO	100

Instructions:

A. Aqueous liquid sample:

1. Remove cap from sample vials
2. Add 5mL of sample (unknown), distilled water (negative control) or spiked sample (positive control) into sample vial using graduated 5-mL syringe.
3. Add 5 drops of BA into each vial
4. Add 1 level microspoon of FRP into each vial
5. Add cap onto sample vial, tighten and mix by hand for 30 seconds
6. Incubate at room temperature for 5 minutes
7. Read off the corresponding results in mg/l HCHO by comparing to Color Card

Notes:

- Reclose the FRP Vials immediately after use
- Place FRP back into foil pouch bag following use
- Rinse the syringe and sample vials with distilled water

B. *Fish/Shrimp/Meat/Tofu/Vegetables/Feed:

1. Cut sample into small pieces using cutting tool
2. Add roughly 5g of the representative cut sample into a sample vial
3. Add 5mL of distilled water using graduated 5-mL syringe
4. Add cap onto sample vial, tighten and mix vigorously by hand for 3 minutes
5. Remove cap and transfer 5mL supernatant to a new Sample Vial using graduated 5-mL syringe
6. Add 5 drops of BA to the solution
7. Add 1 level microspoon of FRP
8. Add cap onto sample vial, tighten and mix vigorously for 30 seconds by hand
9. Incubate at room temperature for 5 minutes
10. Read off the corresponding results in mg/l HCHO by comparing to color card

Notes:

- Reclose the FRP Vials immediately after use
- Place FRP back into foil pouch bag following use
- Rinse the syringe and sample vials with distilled water only

Method control:

It is best to run standards with each unknown sample set to ensure comparable readings from the day, time and user. If quantitative results are required, it is possible to set up a set of standards at known concentrations of specific pesticides which can be used to extrapolate the concentration in the sample being analyzed, loading into a 96 well plate and reading the samples at 510nm.

A 375 mg/l Formaldehyde Solution is included in the kit to be used to produce spiked controls as needed. To spike a final concentration of 1.5mg/l of formaldehyde into 5mL reaction add 20ul of 375 mg/l formaldehyde spike Solution.

Notes on the measurement: The color of the reaction may continue to change after the specified reaction time has elapsed. This must not be considered in the measurement. If the color of the reaction zone is equal to or more intense than the darkest color on the scale, repeat the measurement using fresh, diluted samples until a value of less than 1.5mg/l HCHO is obtained.

Note: If the test shows a formaldehyde value of 1.5 mg/l, the concentration may actually be higher. In this case, we recommend carrying out a stepwise dilution of the sample

with distilled water, to bring the formaldehyde content into the measuring range of the color card. The dilution factor must be taken into account when calculating the formaldehyde content.

Method control: It is best to run negative and positive controls with each sample set run to ensure the interpretation of results.