Formaldehyde Detection Assay Kit

Catalog Number EZ2012-01

ATTOGENE CORPATION

Solutions for Life Science

Table of Contents

Introduction

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 tetrazine. 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	Reactions
0.1 – 0.25 – 0.4 – 0.6 – 0.8 – 1.0 – 1.5 mg/l HCHO	100

Kit Contents:

Component Name	100 Reactions
BA (Buffering Agent) in dropper bottle	8mL x 3
FRP (Formaldehyde Reaction Powder)	1.5g x 2
Microspoon	1 each
Sample Vial	2 each
Graduated 5-mL Syringe	1 each
Formaldehyde Spike (375 mg/l)	200 µL

Storage and Stability:

All kit contents are stored at Room Temperature.

Formaldehyde HCHO Test Method(s):

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 only**

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**

C) Nix QC colorimeter:

1. Remove cap from the glass sample vials supplied in the Attotector formaldehyde detection kit.
2. Add sample:
    a. **FOR LIQUID SAMPLE**
    Add 5 mL of liquid sample directly into sample vial using the supplied graduated 5-mL syringe.
    b. **FOR SOLID SAMPLE**
    Add 5 grams of crushed or cut sample into the sample vial and add another 5 mL of clean pure water. The cap is added back onto the sample and shaken for 3 seconds.
3. Add 5 drops of a buffering agent (BA) into each vial using the supplied dropper bottle.
4. Add 1 heaping scoop of FRP using the supplied microspoon into each glass vial.
5. Reattach cap and mix by hand for 30 seconds.
6. Incubate at room temperature for 5 minutes.
7. Pour the liquid into the Nix glass cuvette and place into the Nix Liquid Adapter.
8. Hold the Nix QC against the Nix Liquid Adapter and scan.
9. Using L, A, B values, the Nix QC software will automatically match to the closest interval on the Attotector color card to determine the mg/L of CH_2O
10. This data is logged within the app and can be exported as a .csv file for later analysis.

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 20 µL of 375 mg/l formaldehyde spike Solution.

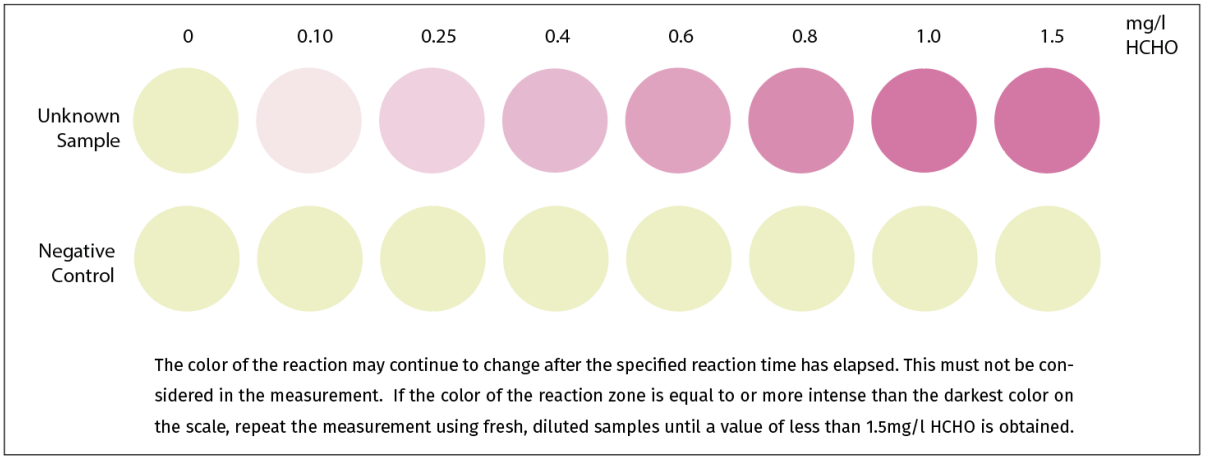
Notes on the measurement:

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.

Clear Liquid-Color Card Information:



Measuring range / color- Number of scale graduation	Reactions
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Who we are

Attogene is a biotechnology company located in Austin, Texas. Our focus is to enhance health and wellness of plants, animals and the environment by offering and developing customer focused Life Science Products domestically and internationally.

Our mission is to:

- Enhance detection technologies
- Enable rapid responses
- Enable impactful research discoveries

Contact Us

3913 Todd Lane, Suite 310
Austin, TX 78744

Phone: 512- 333-1330
Email: sales@attogene.com
Web: www.attogene.com

EZ2012.V3