ENVIROLOGIX™

QuickTox™ Kit for Melamine

Highlights:

- *Results in only 5 minutes*
- *Simple protocol*
- *Available in 50-strip individual kit format, 10-strip trial kit, or bulk packaging*

Contents of Kit:

- *50 QuickTox Strips packed in a moisture-resistant canister*
- *EB11 Extraction Buffer Concentrates A and B*
- *50 reaction vials*
- *50 disposable pipettes*

Items Not Provided:

- *Plastic sample cups with lids**
- *Graduated cylinder **
- *Deionized water*
- *Container for mixing and storing Extraction Buffer*
- *20 mesh screen*
- *Timer*

**Available as accessories – see list on Page 3*

Measure sample, add Buffer, shake

Catalog Number AS 073 BG

Intended Use

This EnviroLogix QuickTox Kit for Melamine is designed to detect the presence of melamine in corn gluten meal, soybean meal, distillers grains (DDG's), and cottonseed meal. The Kit is designed to provide a qualitative screen for melamine residues in these matrices at a 2.5 ppm cut off level.

How the Test Works

A representative sample is first collected, then extracted to solubilize any melamine present. Each sample should be ground to a fineness of 20 mesh and extracted with the buffer provided.

Each QuickTox Strip has an absorbent pad at each end. The protective tape with the arrow indicates which end of the strip to insert into the reaction vial. The sample extract travels up the membrane strip and is absorbed into the larger pad at the top of the strip. The portion of the strip between the protective tape and the absorbent pad at the top of the strip is used to view the reactions as described under “Interpreting the Results.”

Preparation of the Sample

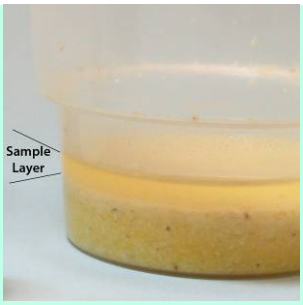
Step 1: Determine Number and Size of Sub-samples

1. Collect a composite sample according to your own sampling plan or USDA/ GIPSA guidelines. Consult USDA/GIPSA reference documents such as **http:// archive.gipsa.usda.gov/reference-library/handbooks/grain-insp/grbook1/ bk1.pdf** to help design a plan that fits your needs.
2. Use pre-ground samples, or grind samples using a mill, to provide a sample that passes through a 20 mesh sieve. Mix any ground material thoroughly before sub-sampling.

Step 2: Extract sample

Prior to testing, prepare Extraction Buffer according to the directions on the bottles. Instructions are also found in "Precautions and Notes." Be sure prepared Buffer is at room temperature before testing.

1. Weigh 25 grams of sample into a disposable sample cup with lid and add 50 mL room temperature Extraction Buffer. Sample of other sizes can also be tested, but the ratio must be kept at 2 mL Buffer per gram of sample (1:2 [w/v]).
2. Cap sample cup tightly and shake vigorously for 1 minute. Ensure that the sample has been thoroughly wetted and suspended in the liquid.
3. Allow mixture to settle, or filter more absorbent samples. A clear portion of the sample extract will be used in testing.
4. Using the disposable pipette provided, carefully remove 0.5 mL of the clear sample extract, avoiding particulates, and place into the 2 mL reaction vial provided. See "Precautions and Notes" for details on how to use the pipette. Use a new pipette and vial for each test to avoid cross-contamination.



Allow to settle, or filter


Transfer clear extract to vial


Add strip, interpret the results

How to Run the QuickTox Strip Test

1. Allow refrigerated canister to come to room temperature before opening. Remove the QuickTox Strips to be used. Avoid bending the strips. Reseal the canister immediately.
2. Place the strip into the reaction vial containing the sample extract. The arrow tape on the end of the strip should point into the reaction vial.
3. The sample extract will travel up the strip (flow may not be visible immediately—this is expected and normal). Reaction vials will stand on their own or may be inserted into the cardboard rack provided.
4. Allow the strip to develop for 5 minutes before making final assay interpretations.
5. To retain the strip, cut off and discard the bottom section of the strip covered by the arrow tape.

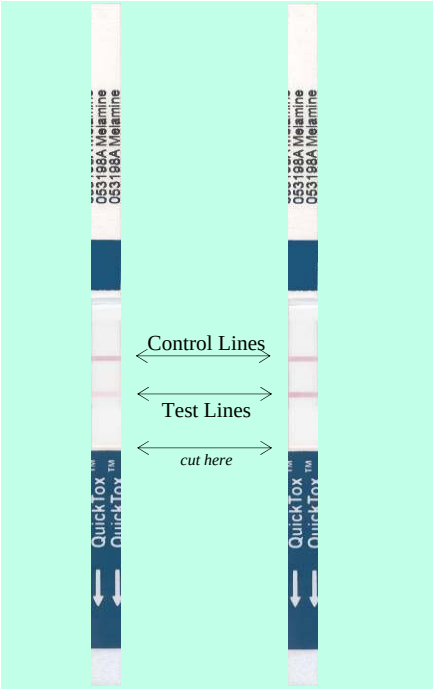
Interpreting the Results

Development of a Control Line within 5 minutes indicates that the strip has functioned properly. Any strip that does not develop a Control Line should be discarded. A new test may be run using the same extract but with a new strip and disposables.

Negative Results - A sample containing melamine residues of less than 2.5 ppm will develop a Test Line that is **equal to or slightly darker than the Control Line**.

Positive Results - A sample containing melamine residues of 2.5 ppm or higher will develop a Test Line that is **lighter than the Control Line**. At very high levels (>50 ppm), the Test Line may disappear.

Allow the strip to develop for the full 5 minutes before interpreting the results. Positive results may be confirmed with a quantitative method to determine the precise level of contamination, if desired.



Positive (2.5 ppm or greater) Test Line lighter than Control Line

Negative (less than 2.5 ppm) Test Line equal to or darker than Control Line

Cross Reactivity

The QuickTox Kit for Melamine and its antibodies have been tested for cross-reactivity to various other triazine analogues and potentially cross-reacting chemicals. In addition to detecting melamine, the antibodies used to develop this kit show cross reactivity to cyanuric acid, atrazine, diamino atrazine, and cyromazine (LARVADEX™).

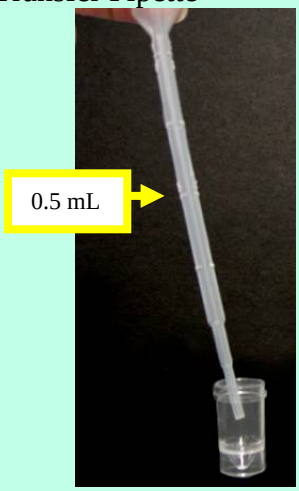
Kit Storage

This QuickTox Kit should be stored refrigerated. Note the shelf life on the kit box. The kit may be used in field applications; however, prolonged exposure to high temperatures may adversely affect the test results. Do not open the desiccated canister until ready to use the strips.

Precautions and Notes

- This kit is designed to screen for presence or absence at the detection level stated only, and is not designed to be quantitative.
- This product is currently applicable for use in ground corn, corn gluten meal, distiller grains, cottonseed meal, and soybean meal. Contact EnviroLogix Technical Support for information on testing a matrix other than those listed.
- As with all screening tests, it is recommended that results be confirmed by an alternate method when necessary.
- The assay has been optimized for use with the protocol provided in the kit. Deviation from this protocol may invalidate the results of the test.
- The results generated through the proper use of this diagnostic tool reflect the condition of the working sample directly tested. Extrapolation as to the condition of the originating lot, from which the working sample was derived, should be based on sound sampling procedures and statistical calculations which address random sampling effects, non-random seed lot sampling effects and assay system uncertainty. A negative result obtained when properly testing the working sample does not necessarily mean the originating lot is entirely negative for melamine.
- Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in vehicle.

Transfer Pipette



- To use disposable transfer pipettes:
  - Squeeze bulb tightly and insert tip in the sample layer
  - Release pressure to draw liquid up past the 0.5 mL mark
  - Squeeze carefully to expel excess sample back into the container so that the liquid left in the pipette is at the required mark (0.5 mL)
  - Hold the pipette over the reaction vial and expel the sample
  - Be sure to use a new pipette and vial for each test to avoid cross-contamination

- For convenience, certain accessories can be ordered through EnviroLogix:
  - Graduated cylinder Cat. # ACC 023
  - Set of 50 sample cups with caps Cat. # ACC 012

- Instructions for Preparing Extraction Buffer (also found on the bottle labels):

– 50-strip Kit	– 10-strip Trial Kit
o Add entire bottle of Buffer A to 2250 mL of deionized water. Mix well.	o Add entire bottle of Buffer A to 450 mL of deionized water. Mix well.
o Add entire bottle of Buffer B to Buffer A and water mixture. Mix well. Store refrigerated when not in use; allow to come to room temperature before testing.	

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