



## AccuDip™ Melamine Test Strip User Guide

(Product No. AAF-11103)

### General Description

Melamine is a trimer of cyanamide with the chemical formula  $C_3H_6N_6$ , and the IUPAC name 1,3,5-triazine-2,4,6-triamine. It is widely used in manufacturing of plastics, dyes, fertilizers, and textile. Like cyanamide, it is 66% nitrogen by mass, which leads to the practice in various countries of adding "melamine scrap" to animal feed, pet food, or milk in order to give the appearance of increased protein content. This practice can potentially contaminate animal products intended for human consumption like dairy products. Animal and human consumption of melamine could lead to kidney stones and renal failure, causing severe consequences including possible death.

The AccuDip™ Melamine test strip provides a convenient test to screen milk and animal feed samples for melamine contamination. It allows for **fast** (result shown in 10 minutes), **simple** (direct analysis for milk without pretreatment or dilution), **sensitive** and **reliable** detection of melamine in milk and animal feed. It can detect melamine at concentrations as low as 0.5  $\mu\text{g/ml}$  (0.5 ppm) in milk, and 5  $\mu\text{g/ml}$  (5 ppm) in animal feed. In addition, the result is stable for hours after sample is loaded.

### Intended Use

The AccuDip™ Melamine test strip is a competitive lateral flow strip test for the qualitative analysis of melamine in milk and animal feed. Test sensitivity is 0.5  $\mu\text{g/ml}$  (0.5 ppm) for milk, and 5  $\mu\text{g/ml}$  (5 ppm) for animal feed samples.

### Safety Instructions

To receive complete safety information on this product, contact AccuAffinity, Inc. and request Material Safety Data Sheet.



## Assay Principles

AccuDip™ Melamine test strip is based on a competitive immunoassay principle. An anti-melamine monoclonal antibody is conjugated to colloidal gold and placed on conjugate pad. Colloidal gold provides red color to visualize antibody-antigen binding. Melamine-protein conjugate is immobilized on nitrocellulose membrane. Test sample (milk or animal feed processed sample) is loaded onto sample pad, and subsequently mixed with gold-antibody conjugate and migrate along the membrane. If the sample contains no melamine or melamine concentration lower than detection limit, antibody conjugated to colloidal gold will bind melamine immobilized on membrane and present a red colored band on detection line on membrane. If melamine concentration is higher than detection limit in test sample, it will compete with immobilized melamine on binding to the antibody, preventing the red test line from showing up. A non-specific protein is immobilized on membrane in a separate line (control line) to ensure the validity of each strip test.

## Reagents and Materials in each pack

- a) 20 individually wrapped melamine test strips  
each test strip package contains 1 test strip, 1 disposable transfer pipette, 1 pack of desiccant
- b) 2 ml of animal feed sample diluent

## Test Procedure

Note: *Equilibrate test sample to room temperature (20-25°C)*

For milk sample

1. Use disposable transfer pipette to draw milk sample into the pipette
2. Add 4 drops into sample loading well
3. After sample loading, read result after 10 min

For animal feed sample

1. Pulverize representative sample into powder or very fine particles, and weigh out 1 g of pulverized sample
2. Add 5 ml of water, mix well, and let stand at room temperature for 15 min
3. Carefully remove 50 µl supernatant, and mix thoroughly with 50 µl sample diluent
4. Load 3-4 drops of mixed sample from Step 3 into sample loading well of test strip



5. After sample loading, read result after 10 min

Note: melamine concentration in this processed sample equals to 1/10 of melamine concentration in the original animal feed sample

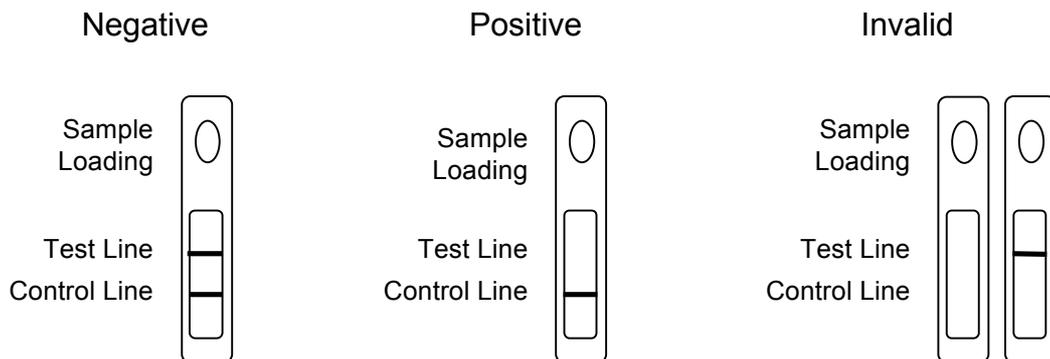
### Result Interpretation

Test result is interpreted by observing test line and control line shown in result window.

Negative: both test and control lines present, indicating melamine concentration of lower than 0.5 µg/ml in the sample

Positive: control line present and test line absent, indicating higher than 0.5 µg/ml melamine in the sample

Invalid test: no control line present, indicating incorrect usage or expired test strip. Please repeat measurement using a new test strip following this user guide.



### Precautions

1. Test strip is designed for single use, and may not be reused
2. After opening the package, test strip should be used on the same day
3. Test is performed at room temperature, and therefore test samples need to be equilibrated to room temperature before being loaded to strip

### Storage and Expiration Date

Storage: Room temperature (20-25°C) in unopened test strip package.

Expiration Date: 12 months after manufacturing date.



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### **Technical Assistance**

For ordering or technical assistance regarding this product, or for additional information about AccuAffinity products, please email [support@accuaffinity.com](mailto:support@accuaffinity.com) or call (408) 368-1364.

### **General Limited Warranty**

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