AgBrief

The Maryland State Chemist

September 2015

The Maryland Department of Agriculture's State Chemist Section's laboratory and inspection programs have been in continuous operation since 1837. It is one of six sections that comprise the agency's Office of Plant Industries and Pest Management.

The State Chemist regulates the sale and distribution of products sold in Maryland by registration, inspection and laboratory analysis.

What does the State Chemist Section do for you?

Registration, inspection and laboratory analysis are designed to protect agriculture, public health and the environment from products which are unsafe or ineffective. Products that the State Chemist regulates are:

- Animal feeds for farm animals
- Pet foods
- Fertilizers
- Soil conditioners
- Limestone
- Pesticides
- Fertilizer/Pesticide combinations (Weed n' Feed type products)

The section requires that all products in these categories be registered. By registering products, the State Chemist can determine what materials are used in the manufacture of these products and can track these products in the marketplace.

During FY 2014, MDA State Chemist registered:

- 12,782 pesticide products;
- 4,076 fertilizers;
- 551 soil conditioners;
- 739 fertilizer/pesticide mixtures;
- 171 liming materials; and
- 17,628 commercial feeds.

MDA inspectors also brought 478 previously unregistered products into compliance and performed 1,050 on-site inspections.

Each product must have a label that:

1. Accurately describes the contents.
2. Provides directions for use.
3. Provides safety warnings, net contents and name of manufacturer / distributor.

Specially trained field inspectors visit distribution centers and retail outlets to **collect physical samples of the registered products**. MDA chemists analyze the collected samples in order to determine if they are accurately labeled. Products that do not conform to the labeling or contain harmful contaminants may be subject to enforcement action. Such regulation can include fines or a Stop Sale Order to remove the product from the marketplace.

The State Chemist Section works closely with the U.S. Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) to **ensure the integrity of pet foods and livestock feed sold in Maryland** as well as nationally. FDA may announce a nationwide recall if they, or state regulators, determine that the product may be unsafe for animals to eat. In these cases, retailers must remove the product from the shelf. State Chemist field inspectors check the stores to ensure the products have been

-- Over --

removed from store shelves and, depending upon the potential health danger, will issue a statewide Stop Sale Order.

The State Chemist Section is also responsible for **enforcing an FDA directive regarding BSE (bovine spongiform encephalopathy), also known as "mad cow disease,"** an incurable and fatal illness affecting humans, ruminant animals and cats. The field inspectors check feed mills and distributors for ruminant animal feeds. Their task is to ensure feeds containing ruminant material are not fed to other ruminant animals out of concern of spreading the BSE. A ruminant animal is an even-toed mammal with multiple stomachs such as cows, sheep, goats, deer, elk, etc.

The Section also provides **forensic chemical analysis** in support of MDA, U.S. Environmental Protection Agency and other state agencies conducting investigations pertaining to pesticide misuse, including human illnesses and death, fish kills, etc.

To learn more about the State Chemist Section and other offices within the Maryland Department of Agriculture, visit www.mda.maryland.gov

Recipe For Slime

Every year at the Maryland State Fair, staff members from the State Chemist help young children make slime to show them how chemistry works. Here's how you can do it at home.

Ingredients:

- 1 tablespoon of borax (like 20 Mule Team sold near detergents)
- 1 cup of water, warm not hot
- 2 tablespoons of white glue (like Elmer's)
- 2 tablespoons of water
- Food coloring, optional

Method:

- In 1 cup of water, dissolve 1 tablespoon of borax by stirring. This solution can be kept in a clean glass jar with lid if marked "borax solution" and used for future recipes.
- Mix 2 tablespoons of glue with 2 tablespoons of water. A small margarine tub with lid will do nicely and allow storage of the slime. Stir until well mixed. Add 1 or 2 drops of liquid food coloring, if desired.
- While stirring the glue-water mixture, pour in 2 teaspoons of borax solution. Keep stirring until the slime is of an even consistency. If after one minute of stirring all of the glue mixture has not formed a ball, add 1/2 teaspoon of borax solution and mix more.
- Enjoy playing!

This is non-toxic but tastes awful. We suggest you do not eat it. White glue contains polyvinyl alcohol.

Maryland Department of Agriculture
50 Harry S. Truman Parkway
Annapolis, Maryland 21114
www.mda.maryland.gov
mda.news@maryland.gov