March 5, 2012

Mr. Devon Wm. Hill
Keller and Heckman, LLP
1001 G Street NW
Washington, DC 20001

Re: GRAS Notice No. AGRN 000-006

Dear Mr. Hill:

The Food and Drug Administration (FDA) is responding to the notice, dated April 8, 2011 that you submitted on behalf of Emerald Carolina Chemicals, LLC ("the notifier") under FDA's Center for Veterinary Medicine (CVM) Pilot Program for substances generally recognized as safe (GRAS) added to food for animals (See 75 FR 31800; June 4, 2010). FDA's Center for Veterinary Medicine received the notice on April 12, 2011, filed it on May 12, 2011, and designated it as GRAS Notice No. AGRN 000-006.

The subject of your notice is polyethylene glycol (400) dioleate. The notice informs FDA of the view of Emerald Carolina Chemicals, LLC that polyethylene glycol (400) dioleate is GRAS, through scientific procedures, as an incidental additive in animal feed as a result of its use as an emulsifier in the removal of oil from condensed distilllers solubles. Polyethylene glycol (400) dioleate may be present at levels up to 64 ppm in the condensed distiller solubles, which are typically incorporated into distillers grain products, resulting in a maximum level of 45 ppm in distillers grains on a dry weight basis. The substance serves no technical function in the distillers grains products or the animal feed containing distillers products. The intended food-producing target animal species are beef cattle, dairy cattle, poultry (turkey, broiler chickens, and egg laying hens), sheep, goat, and swine.

Emerald Carolina Chemicals, LLC provides information about the identity, characterizing specifications, method of manufacture, and conditions of use of polyethylene glycol (400) dioleate (CAS No. 9005-07-6).

Emerald Carolina Chemicals, LLC provides information about the manufacture of polyethylene glycol (400) dioleate. Polyethylene glycol (400) dioleate is produced through the reaction of ethylene oxide with oleic acid using an acid catalyst at high temperatures.

Emerald Carolina Chemicals, LLC provides information about the specifications for polyethylene glycol (400) dioleate, which is obtained from a supplier. The notifier states that the specifications set in 21 CFR 573.800 for polyethylene glycol (400) mono- and dioleate are not applicable to polyethylene glycol (400) dioleate because the molecular weight given in the regulation pertains only to the monooleate. The specifications given by the notifier are as follows: pH at 5% distilled (5.5-7.0), moisture content (1.0% maximum KF), saponification value (105-115), hydroxyl value (40 maximum), acid value (7.0 maximum), and Gardner color (5 maximum).

Emerald Carolina Chemicals, LLC describes the intended use of polyethylene glycol (400) dioleate as an emulsifier in one component of a defoamer product. Polyethylene glycol (400) dioleate contains both hydrophilic and hydrophobic parts that interact with the air-liquid interface of foam bubbles and interfere with the foam structure. Polyethylene glycol (400) dioleate is an approved food additive in feed and drinking water of animals according to 21 CFR 573.800 (which applies to both monooleate and dioleate) when it is used as a processing aid in the production of animal feeds when present as a result of its addition to molasses in an amount not to exceed 250 ppm of the molasses.

The notifier addresses human food safety issues associated with polyethylene glycol (400) dioleate. For the toxicology component of human food safety, the notifier discusses published toxicology studies as well as reviews by FDA, the Joint FAO/WHO Expert Committee on Food Additives (JECFA), and the Environmental Protection Agency (through the Surfactants Task Force and the Cosmetic Ingredient Review Expert Panel) relevant to the safety of the notified substance and its structurally related substances. To address residue chemistry, Emerald Carolina Chemicals, LLC discusses decisions by the Committee on Animal Nutrition of the National Research Council, in addition to the aforementioned sources, pertaining to the safety evaluation of the substance and potential residues in dried and wet distillers grains with solubles..  The notice also includes a dietary exposure assessment of the residues in the edible tissues from the target animal species.

To address target animal safety, Emerald Carolina Chemicals, LLC discusses published and unpublished toxicity information for polyethylene glycol (400) dioleate and other polyethylene glycol fatty acid esters. Acute toxicity, chronic toxicity, mutagenicity, and developmental and reproductive studies were discussed that used polyethylene glycol stearates administered to laboratory animals. The toxicity data from laboratory animal studies were used to determine an upper safe level of intake for the target animal species. The notifier discusses information on the dietary exposure of beef cattle, dairy cattle, poultry, sheep, and swine to polyethylene glycol (400) dioleate and cites information to support their exposure assessment from JECFA, European Food Safety Authority (EFSA), EPA, and FDA.

Based on the information provided by Emerald Carolina Chemicals, LLC, as well as other information available to FDA, the agency has no questions at this time regarding Emerald Carolina Chemicals, LLC’s conclusion that polyethylene glycol (400) dioleate is GRAS under the intended conditions of use. The agency has not, however, made its own determination regarding the GRAS status of the subject use of polyethylene glycol (400) dioleate. As always, it is the continuing responsibility of Emerald Carolina Chemicals, LLC to ensure that food ingredients that the firm markets are safe, and are otherwise in compliance with all applicable legal and regulatory requirements.

The Association of American Feed Control Officials (AAFCO) publishes a list of names and definitions for accepted feed ingredients. FDA recognizes these names as being the “common and usual” names for feed ingredients. FDA recognizes the name “polyethylene glycol (400) dioleate” as the common and usual name for polyethylene glycol (400) dioleate included in animal food.

In addition, in our review of Emerald Carolina Chemicals LLC's notice that polyethylene glycol (400) dioleate is GRAS for use as a component of a defoamer, FDA did not review whether food containing polyethylene glycol (400) dioleate would violate section 301(ll) of the Food, Drug, and Cosmetic Act (FDCA) [21 U.S.C. 331(ll)], or whether any of the exemptions in section 301(ll) apply to foods containing polyethylene glycol (400) dioleate Section 301(ll) of the FDCA prohibits the introduction or delivery for introduction into interstate commerce of any food that contains a drug approved under section 505 of the FDCA, a biological product licensed under section 351 of the Public Health Service Act, or a drug or a biological product for which substantial clinical investigations have been instituted and their existence made public, unless one of the exemptions in section 301(ll) (1)-(4) applies. *See* section 301(ll) of the FDCA.

In accordance with the proposed 21 CFR 570.36(f), a copy of the text of this letter, as well as a copy of the information in your notice that conforms to the information in the proposed GRAS exemption claim (21 CFR 570.36(c)(1)), is available for public review and copying on the Center for Veterinary Medicine's internet website (http://www.fda.gov/AnimalVeterinary/Products/AnimalFoodFeeds/GenerallyRecognizedasSafeGRASNotifications/ucm243845.htm).

If you have any questions about this letter, please contact Dr. Andrea Krause at 240-276-9768 or by email at andrea.krause@fda.hhs.gov. Please reference AGRN-0006 in any future correspondence regarding this submission.

Sincerely,

Daniel G. McChesney, Ph.D.
Director
Office of Surveillance and Compliance
Center for Veterinary Medicine