

What is Roxarsone?

Roxarsone is an organic arsenic-containing, non-antibiotic feed additive produced by Alpharma, Inc., used to maintain good health in food production animals. The chemical is composed of 20 percent of the active additive (3-Nitro-4-hydroxyphenylarsonic acid) with the remaining 80 percent made up of calcium carbonate, mineral oil and rice hulls. Roxarsone has no known carcinogenic chemicals in the product and does not contain any chemicals listed in California Proposition 65.

Is Roxarsone safe for humans?

Arsenic is a metallic element that occurs naturally in the earth surface and is steel grey in color. A majority of the naturally occurring arsenic found in the environment (rock, soil, air, water) is in the inorganic form, which is commonly combined to other elements like oxygen or sulfur. Inorganic arsenic is harmful to humans.

Organic arsenic, compounds bound with carbon and hydrogen, are less harmful to humans as they are not considered carcinogenic. Roxarsone is an organic arsenic-containing, non-antibiotic feed additive. It has no known carcinogenic chemicals in the product and does not contain any chemicals listed in California Proposition 65. Roxarsone is not classified as an antibiotic, is not used in human medicine and has no known cross or increase in resistance with other antimicrobials.

A great misunderstanding of organic arsenic-containing compounds and the inaccurate association with arsenic poisoning, due to inorganic arsenic compounds, is the likely driving logic for the introduction of legislation to ban arsenic-containing products. However, the facts are clear.

Is Roxarsone approved by the FDA?

Roxarsone in one form has been approved for use in animal feed by the FDA since March 1944. Other common arsenicals approved for production animals include arsanilic acid, arsanilate sodium, carbarsone,

and nitararsone, but in 2006, Roxarsone accounted for over 80 percent of arsenical approvals.

Prior to approval for usage in animal feeds, all ingredients and additives must be shown to demonstrate to FDA efficacy, safety, and adequate manufacture. Safety includes:

- safety to the animal,
- safety to the environment, and
- safety to the people who consume meat products produced from the treated animal.

Based on its scientific review of the required data, FDA establishes a safe residue level and withdrawal times for the additive, to ensure that the additive is eliminated from the animal system prior entrance to the food chain.

In 2006, the FDA gave the following statement:

"...FDA has no data to suggest that there have been any adverse health effect in humans due to the use of these new animal drugs. In most areas, the use of arsenicals for poultry would not be expected to add significantly to existing background arsenic levels. In addition, there are many other industrial and agricultural uses of arsenical compounds ... and most of these uses dwarf the use of arsenic in veterinary drugs.

Given the natural occurrence of arsenic in the human diet (and in poultry feedstuffs), the relative importance of veterinary arsenical drugs in raising the amount of inorganic arsenic exposure in humans is likely small."

What are the benefits of using Roxarsone for food production animals?

Roxarsone has been approved as a Category II drug for the following applications in food production animals:

- Growing Chickens and Turkeys: Increasing rate of weight gain, preventing colonization of coccidian, improving feed efficiency and improving pigmentation

- Growing-finishing Swine: Increasing rate of weight gain and improving feed efficiency
- Swine: Aid in the treatment of swine dysentery, specifically hemorrhagic enteritis or bloody scours

Roxarsone also improves food safety by reducing *Salmonella* in broilers and improving intestinal strength leading to less contamination in processing. In addition, it also improves feed utilization efficiency, which supports environmental sustainability.

If roxarsone is banned, it could negatively affect animal health and welfare, food safety and environmental sustainability.

Third Party Experts

Frank T. Jones, Ph.D.
Professor Emeritus,
University of Arkansas
performpoultry@gmail.com
(479) 957-2610