

Selected Mammal and Bird Repellents: 9,10-Anthraquinone (122701), 1-Butanethiol (1-Butylmercaptan) (125001), Fish Oil (122401), Meat Meal (100628), Methyl Anthranilate (128725), Red Pepper (Chile Pepper) (070703) Fact Sheet

Summary

These active ingredients help keep animals and birds away from green plants and other places where they are not wanted. Butanethiol, fish oil, meat meal, and red (chile) pepper repel mammals. Anthraquinone and methyl anthranilate are used as bird repellents at various sites, such as on golf courses and at airports. Methyl anthranilate, fish oil, and red pepper are regularly eaten by humans and animals with no known harmful effects. No adverse effects to humans, the environment, pets, or wildlife are expected from proper use of these six substances.

I. Description of the Active Ingredient

Active Ingredient Name: 9,10-Anthraquinone
OPP Chemical Code 122701; (CAS # 84-65-1)

Active Ingredient Name: 1-Butanethiol (1-Butylmercaptan)
OPP Chemical Code 125001; (CAS # 109-79-5)

Active Ingredient Name: Fish Oil
OPP Chemical Code: 122401; (CAS # 8016-13-5)

Active Ingredient Name: Meat Meal
OPP Chemical Code: 100628

Active Ingredient Name: Methyl Anthranilate
OPP Chemical Code: 128725; (CAS # 134-20-3)

Active Ingredient Name: Red Pepper (Chile Pepper)
OPP Chemical Code: 070703

Except for meat meal, the other five active ingredients are found in the environment (See table). Red pepper and meat meal are registered for use in the same two products, although they have different roles in the product; the meat meal repels browsers, such as deer, and

the red (chile) pepper keeps animals such as dogs and coyotes away from the bag containing the meat meal. Butanethiol is the chemical that gives skunk spray its characteristic odor.

II. Assessing Risks to Human Health

No harmful effects to humans are expected from using products containing these active ingredients as specified on the label. Three of the active ingredients are common in the food supply. Meat meal is sterilized and considered safe for its intended use, which does not involve direct contact with food. Meat meal is often used in animal feed and in fertilizer.

III. Assessing Risks to the Environment

No risks to the environment are expected when these repellents are used according to the label instructions because 1) they are not toxic to animals or birds when ingested; 2) they are used as repellents, so there is little or no contact between animals and the active ingredients; 3) except for meat meal, which is manufactured, they are found in the environment and degrade quickly. Butanethiol and methyl anthranilate are toxic to some aquatic organisms, and labels generally tell users not to contaminate bodies of water.

IV. Additional Contact Information

[Ombudsman, Biopesticides and Pollution Prevention Division](#) (7511P)
Office of Pesticide Programs
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460