

BRODIFACOUM: PRIMARY TOXICITY

PRODUCT SCOPE

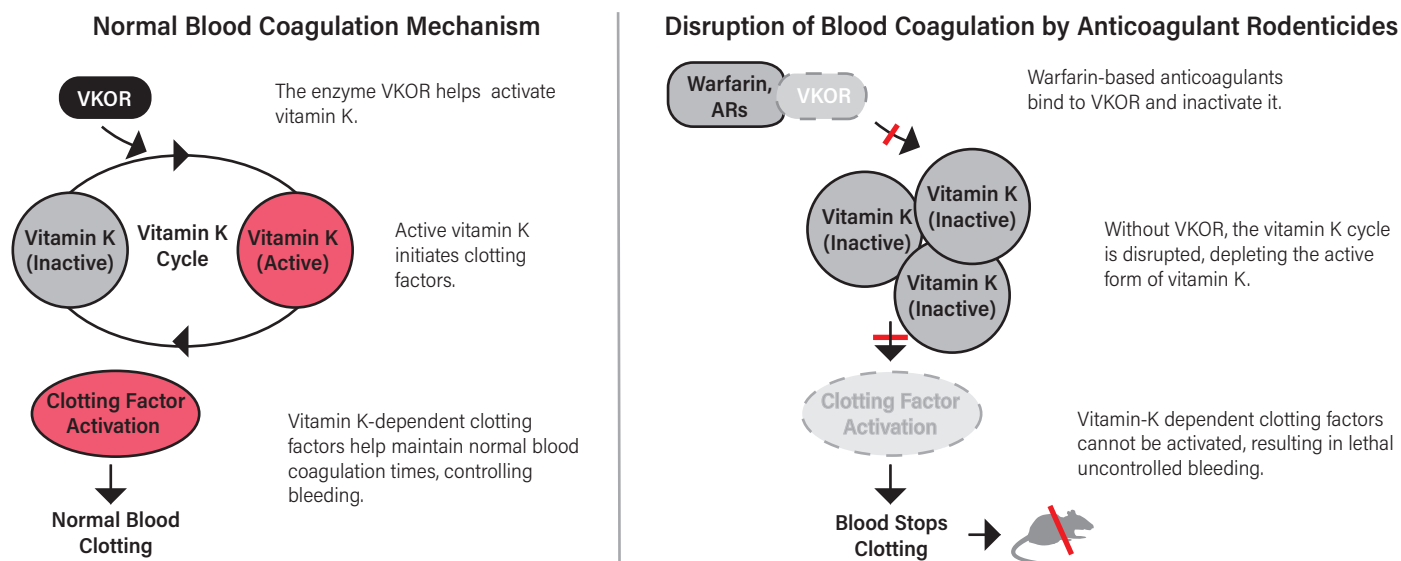
Primary toxicity (e.g., by direct consumption) of brodifacoum, the active ingredient in Final® and Formus® baits.

CLASSIFICATION

Brodifacoum belongs to a group of chemicals that act as anticoagulants, which prevent blood from clotting. It is further classified as a second generation anticoagulant rodenticide (SGAR), and was developed from the first generation anticoagulant (FGAR), warfarin, for use in warfarin-resistant rodent strains.

MECHANISM OF ACTION

Warfarin-based anticoagulants share a common mechanism of action for disrupting normal blood coagulation:



NONTARGET/TARGET TOXICITY

Many target and nontarget species have undergone acute oral lethal dose 50 (LD₅₀) testing for brodifacoum, which measures the amount of active ingredient that is lethal to 50% of test animals. The results of LD₅₀ testing can vary with methods, species, sex, age, and other factors, and **should not be used to determine practical toxicity**. However, broad comparisons can be made for the acute oral toxicity of brodifacoum:

	LD ₅₀ (mg/kg)*	Species
More Sensitive ↓	0 - 1	Mouse, Rat, Vole, Ground squirrel, Guinea pig, Rabbit, Dog Brush-tail possum, Pig, Quail
	1 - 10	Mallard duck, Pheasant (ring neck), Mink
Less Sensitive	10 - 100	Sheep, Cat (domestic), Chicken

Final® baits are "single feed," meaning that target rodents may consume a lethal dose in one feeding. Typically, the first deaths will be seen 4 days after consuming a lethal dose.

Accidental ingestion of brodifacoum bait by pets, livestock or companion animals can be treated with the antidote, vitamin K. In the event of an exposure, contact Poison Control (1-877-854-2494) or a veterinarian.

*For illustrative purposes only. Acute oral LD50 data is summarized by Erickson, W., & Urban, D. (2004, July). Potential Risks of Nine Rodenticides to Birds and Nontarget Mammals: a Comparative Approach and McLeod, L., & Saunders, G. (2013, August). Pesticides Used in the Management of Vertebrate Pests in Australia: A Review.