

**Severity and Probability Charts for Animal Food Safety Hazards
Developed by Office of the Texas State Chemist**

(Updated: 3/20/2023)

Pet foods - Biological and Chemical hazards

Hazard	Hazard type	Source	Severity	Probability	n	Control
Salmonella	Biological	Animal Protein	High	36.6%	589	
	Biological	Fish Meal	High	33.1%	165	
	Biological	Plant Protein	High			
	Biological	Finished Product	High	0%	756	
BSE	Biological	Feather meal	High	2.8%	70	
Aflatoxins	Chemical	Corn	High			
		Plant Protein	High			
Fumonisin	Chemical	Corn and corn by-products	High			
Deoxynivalenol (DON)	Chemical	Corn	High			
		Small grains	High			
Nutrient Deficiency	Chemical	Thiamine	High			
Nutrient toxicity	Chemical	D and D3	Moderate	27%	11	

Low Acid Canned Food (LACF) for Dog and Cat Food Manufacturers – Physical and Chemical Hazards

Hazard	Hazard type	Source	Severity	Probability	n	Control
Nutrient deficiency or toxicity	Chemical	Vitamin premix	High			PC necessary
Drug residue	Chemical	Meat. fat, organs	High			
Metal, wood, plastic, glass	Physical	Incoming material	High			

Dog and Cat Food (Not Heat processed) – Biological and Chemical Hazards

Hazard	Hazard type	Source	Severity	Probability	n	Control
Salmonella	Biological		High	22.7%	22	PC necessary
Listeria monocytogenes	Biological		High	0%	22	
BSE	Biological		High			
Nutrient deficiency or toxicity	Chemical					
Heavy Metals	Chemical		High			
Drugs	Chemical		High			

Renderers and Protein blenders – Biological and Chemical Hazards

Hazard	Hazard type	Source	Severity	Probability	n	Control
Salmonella	Biological	Animal	High	36.6%	528	
	Biological	Fish Meal	High	33.1%	164	
Listeria Mono	Biological	Animal	High	0%	170	
	Biological	Fish Meal	High	0	92	
E. coli	Biological	Animal	High	0	12	
	Biological	Fish Meal	High	0	8	
Prohibited animal protein	Biological	Fish Meal	Moderate	0	4	
Toxin Screen GC-MS	Chemical	Animal and fish	High	0%	50	
Arsenic	Heavy Metal	Animal and fish	High	0%	50	
Cadmium	Heavy Metal	Animal and fish	High	0%	50	
Selenium	Heavy Metal	Animal and fish	Moderate	8%	23	
PCB & Dioxins	Industrial contaminant	Animal	High	10%	9	
PCB & Dioxins	Industrial contaminant	Fish	High	3%	190	
Calcium	Macro-mineral	Animal	Low	31.8%	475	
		Fish	Low	26.8%	150	
Phosphorus		Animal and fish	Low	2%	204	

Livestock medicated and non-medicated feed - Biological and Chemical hazards

Hazard	Hazard type	Source	Severity	Probability	n	Control
Aflatoxin	Chemical	Plant protein	High			PC necessary
		Corn	High			
		Mill streams	High			
		Dairy				
Fumonisin	Chemical	Corn	High			
		Horse				
		Rabbits				
Deoxynivalenol	Chemical	Small grains	Moderate			
Nutrient toxicity	Copper	Premix	High - sheep			
	Copper	Sheep				
	Cu:Mo ratio	Ruminants				
	Sulfur	DDGS	Moderate in cattle feed			
	Sulfur	Cattle				
Animal drug	Chemical	Monensin - horse	High			
	Chemical	Na pentobarbital	High			

Animal Supplements - Biological and Chemical Hazards

Hazard	Hazard type	Source	Severity	Probability	n	Control
Salmonella	Biological	Animal Protein	High	36.6%	528	
	Biological	Fish Meal	High	33.1%	164	
	Biological	Plant Protein	High			
Nutrient deficiency	Chemical					

Premix Feed - Biological and Chemical Hazards

Product: premixes						
Hazard	Hazard type	Source	Severity	Probability	n	Control
Nutrient deficiency	Chemical	copper	High	7.4% low 22.2% high	27 27	PC necessary
	Chemical		High			
Nutrient toxicity	Chemical		High			
Dioxin	Chemical					
Heavy Metals	Chemical	Arsenic		8.8%	421	
		Cadmium		34.0%	421	
		Copper		18.0%	277	

Distillers Products - Biological and Chemical Hazards

	Product: distillers products					
Hazard	Hazard type	Source	Severity	Probability	n	Control
Salmonella	Biological	DDGS	High	2.4%	204	PC necessary
	Biological	Prohibited Animal Protein	High	1.6%	61	
Aflatoxins	Chemical	Aflatoxin	High	1.1%	534	
Fumonisin		DDGS		4.9%	265	
		Sulfur				