

Examples of Veterinary Concerns with Hazardous Materials

Many hazmat spills that affect animals are also of direct or indirect concern to humans. The following are hazmat incidents that threaten both human and animal health:

- A cat is rescued from floodwaters. The cat is covered in chemicals, becomes depressed, and is hospitalized for 2 weeks. The success of finding and rescuing the cat is shared by six volunteers, who hold and comfort the cat. Unfortunately, none of them take precautions to protect themselves and 3 days later four of the volunteers have pustular skin rashes in areas on their bodies that came in contact with the cat.
- The potential for exposure of livestock to contaminated floodwaters is great. This risk is also high any time that animals raised for food gain access to environments that lie outside of their usual confinement area. They may become exposed to unknown hazardous materials, which could present a source of exposure to humans via the food chain.



Disasters invariably create hazardous environments. This is how the landscape looked after Hurricane Andrew with debris and hazardous chemicals all over the place.

Table 11-1 Average annual hazmat spills in transportation accidents (1983-1990)

Mode of transportation	Number of incidents	Number of deaths	Number of injuries
Highway	6000	14	225
Railway	1100	1	60
Air	175	0	22
Water	12	1	5
Other	4	0	0

Data from Federal Emergency Management Agency: *Emergency management USA*, Washington, DC, 1993, FEMA.

- Several days after a tornado cows on a dairy farm act depressed and have reduced milk

production, and several have breathing difficulties. A veterinarian diagnoses nitrate poisoning, and it is found that the cows' feed became contaminated with fertilizer during the storm. Additional exposures are suspected, and the feed also is found to have been contaminated with herbicide. The cows' milk already has been delivered to a co-op and mixed with milk from several other farms. All of this milk has to be destroyed.

- Health problems for animals can also be sentinels of human disease caused by hazardous materials, as in the following cases:
- In the 1950s Japanese veterinarians described a new condition of cats in the Minamata Bay area known as "dancing cat disease." Affected cats had pathologic lesions in the cerebellum. Several years later a similar condition started to be noticed in people and was soon diagnosed as mercury poisoning. The mercury had been released from a chemical plant into the sea and had accumulated in fish fed to cats and people.
- In 1973 polybrominated biphenyl hydrocarbon (PBB), a fire retardant, was inadvertently mixed into commercial livestock rations instead of magnesium oxide. Approximately 30,000 cattle, 6000 pigs, 1500 sheep, and 1.5 million chickens died or had to be killed humanely. Also, large amounts of food and feed were destroyed. Over 95% of milk samples taken a year later from women breastfeeding babies had traces of PBB.
- After the Sarin gas attack on the Tokyo underground system, hazmat experts used protective suits and high-tech monitors to assess the safety of the area. However, they also used a live canary in a cage as their most reliable and proven method for detection of residual gas.