Agent: Lead acetate

Lead acetate is a cumulative poison by ingestion or injection. It is also a suspected human carcinogen and may induce reproductive effects including birth defects. It can cause acute inflammation of the eyes following ocular exposure. Other than in the workplace, lead may be encountered in the environment where it is sometimes used as an insecticide, hair dye color additive, astringent, topical sedative and has been used in paint.

In research, animals may be administered lead in order to study the effects of bioaccumulation and create certain experimental models such as renal cancer in mice.

Symptoms of exposure to lead acetate include fatigue, disturbance of sleep, flatulence and constipation proceeding with severe exposure to abdominal pain, nausea, headache, loss of appetite, metallic taste, muscle and joint pain, dizziness, and hypertension. Prolonged overexposure may lead to severe damage of red blood cell formation, of the central nervous system, the peripheral nervous system, kidneys, and liver.

Potential Hazard: Animals given lead acetate may excrete the chemical in their urine and feces and contaminate the cage and its bedding. The amount of toxin used in research animals is generally low and not likely to represent an amount sufficient to intoxicate a human. However, to avoid exposure to any toxin, animal care and research personnel should wear protective outerwear and gloves and practice good hygienic practices such as washing hands after handling affected animals, their bedding, or any animal that dies unexpectedly.

Recommended Precautions: Cages of animals given lead acetate should be labeled indicating the toxic hazard and agent. Always wear gloves, lab coat/gown and surgical-type mask when handling inoculated animals, their cages or bedding. When heated to decomposition it emits toxic fumes of lead. Consequently, soiled bedding should not be autoclaved. Lead poisoning can be treated with a chemical called EDTA.

References:
