

CHRONIC TOXICITY OF THE METHYLPOLYSILOXANE "DC ANTIFOAM® A" IN DOGS

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THE methylpolysiloxane "DC antifoam® A" is an effective agent for suppressing the production of foam. For this reason it has found use in the processing of certain foods, in the manufacture of drugs and cosmetics and in the prevention and treatment of bloat. The concentration ratios employed range from 1 part in 100,000 to 1 part in 1,000,000. During the preparation of this silicone and during the processes involving its use in drugs and food manufacture, this substance comes into contact with the industrial worker. The apparent innocuous nature of the material may lead to handling procedures, in particular industrial uses, which require an evaluation of the chronic oral toxicity of the silicone. This study was undertaken to provide such information.

THE MATERIAL INVESTIGATED

"DC antifoam® A" was developed by the Dow Corning Corporation for the prevention and suppression of foam in aqueous solutions and emulsions. It is chemically inert and nonvolatile. It has a greaselike consistency and looks very much like white petrolatum and retains this consistency at temperatures up to 200 C. It is insoluble in water and the lower alcohols, but it is somewhat soluble in dioxane, oleic acid, chlorinated hydrocarbons and other organic solvents. Though tasteless, it possesses a slight witch-hazel-like odor.

The silicone is nonirritating to the skin. When applied to the eye, however, a transient conjunctival irritation occurs several hours afterward. Oral toxicity studies in rats over a three month period showed that this material induced no toxic effects.¹ The animals readily accepted their food, although it contained up to 1 per cent of the silicone. There was no difference in growth rate or histopathological changes between the control and the experimental animals. A diet contaminated

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1. Rowe, V. K.; Spencer, H. C., and Bass, S. L.: Toxicological Studies on Certain Commercial Silicones and Hydrolyzable Silane Intermediates, *J. Indust. Hyg. & Toxicol.* **30**:332-352, 1948.