TOXICOLOGIC STUDIES OF COMPOUNDS INVESTIGATED FOR USE AS INHIBITORS OF BIOLOGIC PROCESSES

III. Toxicity of Propylene Glycol Dipropionate

ANTHONY M. AMBROSE, Ph.D.
ALBANY, CALIF.

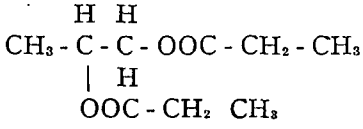
THIS REPORT on the toxicity of propylene glycol dipropionate (PGDP) is the third of a series which deals with studies on the toxicity of chemical agents investigated for the treatment of seeds to inhibit biologic changes during storage.

Toxicologic studies on propylene glycol dipropionate were undertaken because of the varied interest in its use. It has been investigated as an inhibitor of biologic processes in seeds,[1] as a fungicide in the treatment of superficial fungous infections of the skin and its appendages [2] and as a mold inhibitor for cereal products, leather, textile and fungous disease.[3]

In view of these possible uses of propylene glycol dipropionate in the processing of foods and its use in the treatment of fungous disease in man, the necessity for assurance of its safety becomes significantly greater. Therefore, studies were undertaken on albino rats in order to determine the possible health hazards involved in the prolonged ingestion of food containing measured amounts of the agent. Studies were also undertaken to determine the hazards, if any, from inhaled vapors and from the chemical as applied locally, to abraded and unabraded skin and to mucous membranes.

MATERIAL AND METHODS

Propylene glycol dipropionate has the following chemical formula:



It is insoluble in water and readily soluble in fat solvents. It has an ethereal odor, resembling oil of rose geranium. Its specific gravity is 1.012, and it boils at about 157 C. No information is available concerning its vapor pressure.

The experimental procedures used in these studies were essentially the same as those described in detail in the first paper of this series.[4]

From the Pharmacology Laboratory, Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, United States Department of Agriculture.

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4. Ambrose, A. M.: Toxicological Studies of Compounds Proposed for Use as Inhibitors of Biological Processes: I. Toxicity of Vinyl Propionate, Arch. Indust. Hyg. & Occup. Med. **2**: 582, 1950.