

the final extraction, great care must be taken to exclude sulphuric acid from the residue since very small amounts will, after concentration by the evaporation, destroy the residue.

It is evident that an improved method of assay or standardization for rhubarb root would be a means of eliminating unfit material and of securing a drug of uniform therapeutic activity.

PHARMACOGNOSY LABORATORY,
COLUMBIA UNIVERSITY, SCHOOL OF PHARMACY.

TOXIC PROPERTIES OF DIETHYLPHTHALATE.

BY OTTO M. SMITH.

In an excellent paper on diethylphthalate,* Handy and Hoyt mention one experiment to show its toxic properties. The following tests show that this ester has little or no toxic properties.

A number of white rats were given *per ora* doses up to 0.5% of their body weight. The larger doses caused considerable pain, weakness and great distress for a period of ten or twelve hours; after about twenty-four hours the behavior of the animals was normal. A female rat was given 0.5% of her body weight twice while pregnant, the last time a week before delivery, yet she gave birth to a normal litter of young and all were healthy animals.

To one-year old leghorn pullets doses up to 1.5% of the body weight were administered *per ora*. The birds were not as badly affected as the rats. About six hours after feeding they showed the effect of the ester in being unable to walk but after twelve hours they were normal again. Nothing was gained by increasing the dose as the oil was excreted unchanged.

Apparently the oil is but slightly absorbed by the skin and the portion that goes into the body has little action. Laborers manufacturing diethylphthalate have their hands in the oil and their clothes saturated, in places, for days at a time and notice no effect whatsoever. One case in particular was that of a worker repairing a still who had spilled on his back hot oil sufficient to saturate his under and outer-shirt. He worked the whole day in this condition without any irritation, nor was he affected in any way as far as he could ascertain.

But when brought into contact with the mucous membranes as of the eyes and mouth especially in the presence of alcohol a very severe burning, fiery sensation is produced for some time or until the oil is removed. Only the slightest inflammation or redness is produced, and this disappears immediately on the removal of the oil.

These experiments indicate that diethylphthalate present in denatured alcohol has no deleterious action on the skin and is probably non-toxic to humans.

IOWA STATE COLLEGE,
AMES, IA.

* JOUR. A. PH. A., pp. 600-609 and 702-710.