

from drugs the official menstrua of which contained only alcohol, or alcohol and water. In the case of hydroalcoholic menstrua the water element has never been present in a greater ratio than one to three. There seems no apparent reason, however, why, for example, a glycerin, alcohol and water menstruum might not be used provided the first portion containing the non-volatile glycerin were added *to the drug* as in Type Process B.

A few fluidextracts like that of aconite are debarred from this process, since even the low heat of 35° C. would injure the active principles, but their number is very small. It should be borne in mind that in this process fluidextracts are made, as a result of reduced pressure, at a temperature no higher than normal blood heat.

Sufficient time has not elapsed to determine the keeping qualities of the fluidextracts made by Continuous Percolation under Reduced Pressure. The oldest preparation so made is from *nux vomica*—eight months old; however, in each case a fluidextract of the same drug was made by the U. S. P. method and reserved as a check. Both kinds of fluidextracts show the same degree of slight precipitation after standing several months.

The advantages which it is believed this process offers are threefold: (1) A saving of menstruum, the only loss being that amount retained by the drug after pressing. (2) Economy of time—after the process is started, the operator's time can be given to other work. (3) If the method be proved as practicable as incomplete experimentation leads one to believe, fluidextracts can be made at less cost than they can be purchased.

The fluidextracts which have been satisfactorily made by the above process are those of *nux vomica*, *hyoscyamus*, *cannabis*, *guarana*, *pilocarpus*, *podophyllum*, *buchu*, *gentian*, *spigelia*, *staphisagria*.

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CARBON TETRACHLORIDE AS A SOLVENT FOR FATS.*

BY J. P. SNYDER.

The ninth edition of the pharmacopoeia has in the case of certain drugs which contain considerable quantities of fats and oils directed that these be removed by treating them with purified petroleum benzene. There is a decided improvement in the finished preparations over those of the U. S. P. VIII, which is particularly noticeable in Tincture of *Strophanthus* and Fluidextract of *Colchicum Seed*. Formerly, these preparations, when made according to the previous official formula presented a rather unsightly appearance and precipitated badly. The use of a solvent for the fats is evidently the logical method for the removal of these inert substances as our experience has been that it is preferable to attempting to freeze out the fats in the finished preparation.

Petroleum benzene, however, is open to serious objections: Firstly, as it is extremely difficult to drive off completely its peculiar odor which may be easily detected in the finished preparation.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Chicago, meeting, 1918.

Secondly, the danger connected with its use: We are all familiar with this liquid and know how highly inflammable it is and while the danger may not be great in treating 100 or 1000 grammes of the drug with this liquid, it often becomes necessary to manufacture 10, 50 or 100 gallons, or more, in which case large quantities of the drug impregnated with this highly inflammable substance must be spread out to dry. While this operation is taking place one cannot rest easily when he realizes that it only requires a spark to start a serious conflagration.

Thirdly, its use is not economical: Owing to its properties previously described, no one would care to take the chance of recovering it by distilling it over a naked flame and while it may be distilled in a steam jacketed pan, the disagreeable odor remains in the pan for a considerable length of time and may contaminate other batches and consequently, if thrown away, it represents a clear loss.

The above shortcomings of petroleum benzene led us to endeavor to find a liquid that would not be open to these objections and which would remove the oily ingredients from the drugs. After considering the list of available substances, we finally decided to try carbon tetrachloride. This liquid readily exhausts completely the fats from such drugs as strophanthus and colchicum seed, while the active therapeutic ingredients are not disturbed, as is shown by subsequent physiological and chemical tests. Upon exposing the drug to the air and sunlight, the carbon tetrachloride may be readily and completely dispelled and there is no odor of this liquid in the finished product. It is absolutely impossible to ignite it, in fact, it is the principal ingredient of several patented fire extinguishers. No danger is connected with distilling it, as we have oftentimes distilled small amounts over a naked flame in our laboratory, as well as treating large quantities in our steam stills without contaminating other batches.

In fact, carbon tetrachloride possesses all the properties of petroleum benzene as far as its use as a solvent is concerned, and it is free from the objections and dangers of the latter.

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PHARMACEUTICAL WAR BABIES.*

BY CURT P. WIMMER.

The term "War Baby" has been jocularly applied to the various creations, both abstract and concrete, of the world war. Popularly created nomenclature is invariably significant if not correct, and I use the term here to mean the newer pharmaceutical preparations created by the war. Truly, they are war babies, for only time can tell whether they will live and become useful members of our formularies or whether they will disappear.

It is the object of this paper to present a brief review of a number of the more important pharmaceutical preparations which have come into use during the last few years. All of these preparations, evolved through the exigencies of war, are used to combat sepsis, and to heal wounds or burns.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Chicago meeting, 1918.