INCOMPATIBILITIES OF PRESCRIPTIONS CONTAINING EPINEPHRINE HYDROCHLORIDE.*

BY MARVIN J. ANDREWS.

To the practicing pharmacist there is nothing more interesting than incompatibilities in prescriptions that are compounded and dispensed daily. Out of the general types of incompatibilities, and the many different sub-divisions of each type, only the incompatibilities of prescriptions dealing with epinephrine hydrochloride intended for local use will be discussed in this paper.

Epinephrine hydrochloride is used locally in solutions varying in strength from 1–1000 to 1–10,000 for ordinary application, in ointments, or in oily or saline solutions as sprays. It is also used hypodermatically in local anesthetics to prolong anesthesia.

The Pharmacopœia describes solution of epinephrine hydrochloride as a nearly colorless, slightly acid liquid gradually turning dark on exposure to air and light. When the solution has become brown in color or contains a precipitate it must be rejected, since this indicates decomposition.

It is the purpose in this discussion to bring out prescriptions that occur and reoccur in which the solution of epinephrine hydrochloride is decomposed, and is practically valueless from a therapeutic standpoint if allowed to stand for a period of from twelve to forty-eight hours.

℞	
Liquor Epinephrinæ Hydrochloridi	ʒ i
Liquor Sodii Boratis Compositus q.s. ad.	ʒ iii
M. Sig. Use as a nasal spray every four hours.	

The solution of epinephrine hydrochloride being an acid solution is neutralized by the alkalinity of Dobell's Solution. This solution liberates the epinephrine base and since it is a very dilute solution is gradually decomposed, turning to a reddish brown color, indicating the loss of therapeutic value.

℞	
Solution of Epinephrine Hydrochloride	ʒ ii
Solution of Silver Nitrate 1%	ʒ vi
M. ft. sol.	
Sig. One drop in each eye night and morning.	

Solution of silver nitrate reacts with the solution of epinephrine hydrochloride precipitating the chloride as silver chloride. The epinephrine reduces a small portion of the silver nitrate to the metallic condition, and in turn the epinephrine is oxidized itself, thereby losing its therapeutic value.

℞	
Liquor Epinephrinæ Hydrochloridi	ʒ i
Sodii Boras	gr. x
Aqua Destillata	ʒ vii

This solution can be prepared and dispensed clear, but if it stands for a period of more than twenty-four hours, the color of the solution will change from a

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light yellow to a dark brown. This solution should be rejected if the full therapeutic effect is desired.

℞	
Adrenalin Inhalant	℥ ii
Menthol	gr. x
Petrolatum Liquidum q.s. ad.	℥ i
M. ft. Nebula.	
Sig. Spray nose and throat night and morning.	

Adrenalin Inhalant has as one of its chief ingredients adrenalin, which is not soluble in mineral oils. This prescription if compounded as it is written will precipitate if allowed to stand. However, this difficulty may be overcome by replacing the Liquid Petrolatum with a fixed oil such as olive oil.

In conclusion, if the physician persists in prescribing any of the above prescriptions he should be informed not to write for an alkaline solution containing epinephrine hydrochloride that would last longer than twenty-four hours.

In the first prescription containing epinephrine hydrochloride and Dobell's Solution—if several days' supply is desired—the physician should prescribe each in separate solution, or replace the alkaline Dobell's Solution with some acid solution.

The second prescription being a different type can be dispensed by replacing the solution of epinephrine hydrochloride with a solution of epinephrine nitrate, which will make a clear solution with the silver nitrate.

There are two alternatives in the third prescription, first to replace the sodium borate with boric acid, or, second, to dispense two separate solutions if an alkaline solution is desired.

The difficulty in the last prescription may be overcome by replacing the Liquid Petrolatum with either olive oil or expressed Oil of Almond.

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FLAVORING QUALITIES OF VANILLA TINCTURES.*

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There are many factors that enter into the preparation of a vanilla tincture of the highest flavoring qualities. The proper selection of the beans, the curing and drying of the beans and their treatment in process, together with subsequent aging and storage, all play an important part and should be given due attention. Believing that a summary of the literature on this subject is of sufficient interest to justify it we have made an exhaustive search and report it briefly in the following pages. For those who may be interested in going into the subject in more detail, an extensive bibliography is appended. For obvious reasons we have not adopted all of the recommendations made in the published literature in our experimental work as we were only interested in a comparison of the tinctures prepared from various beans and from different combinations of beans.

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