

Refrigerator temperature during storage is to be preferred in some cases, in others it seems to be of little value.

#### SUMMARY OF OBSERVATIONS.

*Oil of Anise* undergoes least deterioration if stored in bottles under nitrogen. Keeping the oil in tins at room temperature causes rapid deterioration of odor and darkening in color. At low temperature the development of a darker color and impairment of odor is somewhat retarded.

*Oil of Lemon* keeps best if stored in bottles under nitrogen. It also keeps fairly well in tin cans when under nitrogen.

*Oil of Lemon (Terpeneless)* retains its fragrance, although the color darkens to a deep yellow, if stored in amber glass bottles under nitrogen. Oxidation and exposure to diffused daylight cause a dark orange-yellow color and a very disagreeable odor. No complete data are available on the tin can storage conditions, since these were lost after six months' observation. Indications were to the effect that this oil does keep fairly well in tin cans.

*Oil of Orange* undergoes least deterioration if stored in bottles under nitrogen. This oil keeps better at room temperature than in the refrigerator. It also keeps fairly well in tin cans under nitrogen. Light hastens the darkening of color.

*Oil of Peppermint* keeps best if stored in amber bottles under nitrogen. This oil is more stable than the other oils, but is subject to a decided color change when in contact with tin. Protection from light retards the development of color and impairment of odor.

*Eugenol* keeps best if stored in bottles under nitrogen at low temperature. Oxidation rapidly affects the odor of Eugenol, also changes color, from colorless to dark reddish orange. Storage in tin cans causes rapid deterioration of odor and development of color. Reduced temperature retards the development of color.

LABORATORIES,  
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#### AROMATIC COD LIVER OIL.\*

BY CLYDE M. SNOW AND BERNARD FANTUS.

The disguising of cod liver oil having assumed new importance with the recent recognition of the richness of the oil in vitamins, it is a lamentable fact that the prescribing of the oil by no means insures that it will be taken by the patient. Indeed, with the very youngsters ill-nourished because of dietetic idiosyncrasies who are often in need of cod liver oil, and with the tubercular of delicate palate and stomach, the nasty taste of the cod liver oil often furnishes an insurmountable obstacle to its administration. It is therefore to be regretted that our formularies do not furnish the physician with the opportunity of prescribing an acceptably disguised oil excepting in the form of emulsions, which after all are only fifty per cent or less in strength.

The "Extra Pharmacopœia" of Martindale and Westcott contains the following formula which furnishes quite an acceptable product:

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\* Section on Practical Pharmacy and Dispensing, A. Ph. A., Des Moines meeting, 1925.

Coumarin.....	0.01
Saccharin.....	0.50
Vanillin.....	0.60
Absolute Alcohol.....	10.00
Oil of Lemon.....	20.00
Oil of Peppermint.....	3.00
Cod Liver Oil, to make.....	1000.00

This formula may, however, be criticized on the following scores:

It requires the use of absolute alcohol, which is not generally carried by pharmacists; it contains 2% of oil of lemon—so that the patient taking 50 cc. of it per day would consume 1 cc. of oil of lemon which might be sufficient to produce undesirable effects upon the stomach or kidneys—and, as Martindale and Westcott remark, “the taste is covered but the odor persists to some extent.”

Now we likewise have found that it is practically impossible to devise a disguise for the nasty, fishy odor of the cod liver oil as too commonly found on the druggists’ shelves. However, a cod liver oil can be obtained of such mildness of flavor as to make disguising of the odor comparatively easy.

A high grade of oil obtained in original completely filled containers when the bottle is first opened is of such nature. The oil marketed as a “Hydroxyl-free Cod Liver Oil” also furnishes a suitable product for disguising. Starting with such an oil, we find that the sweetening by saccharin is really the essential change that makes it more acceptable to the palate. To introduce the saccharin into the oil ordinary 95% alcohol may be used if the water separated on admixture is simply filtered out. It is best to filter it after the mixture has been chilled in the ice box, as otherwise a slight turbidity appears when the oil is kept in the ice box as it ought to be.

The Compound Spirit of Orange of the Pharmacopœia furnishes, it seems to us, a most delightful flavor for disguising the odor of the fairly odorless oil with which to make such a preparation, and it may be used in lieu of alcohol for the solution of the saccharin. We therefore propose the following formula for provisional inclusion in the “Unofficial Formulary” with the hope that it or a better formula may in time become official.

**OLEUM MORRHUÆ AROMATICUM**

Aromatic Cod Liver Oil

Saccharin.....	0.5
Compound Spirit of Orange.....	20.0
Cod Liver Oil, to make.....	1000.0

Dissolve the saccharin in the compound spirit of orange, mix with the cod liver oil. Chill in the ice box and filter through paper, returning first portions of the filtrate until it runs through clear. Preserve in completely filled, well-stoppered bottles in the ice box.

The lip of the bottle should be wiped clean each time a dose is poured out, otherwise rancidity at the mouth of the bottle might be sufficient to disgust the patient.

