

GALENICALS ADDED TO U. S. P. IX.*

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Of special interest to the dispensing pharmacist are the new galenical preparations in the U. S. P. IX. He should become acquainted with them, the sooner the better, and it is to his benefit financially as well as professionally to manufacture these galenicals himself.

The object of this paper is not to copy the monographs from the U. S. P. IX, but to explain the processes. After all, the real pharmacist should become acquainted with the "Reasons Why" in the Pharmacopœia as well as in the National Formulary.

ADDITIONS.

The additions to U. S. P. IX comprise the following galenical preparations: 1 water, 3 plasters, 5 extracts, 2 fluidextracts, 2 magma, 1 oleoresin, 1 tablet, making a total of 15.

AQUA DESTILLATA STERILISATA.

Sterilized Distilled Water.

To many it will be a wonder and a surprise to see this preparation introduced. The impression that *distilled water* is *sterilized water* is now knocked in the head, and let us hope that it will die!

Explicit directions are given with reference to the chapter on Sterilization. Do not forget to pay special attention to the last two lines: "Sterilized Distilled Water should be used within forty-eight hours after its preparation."

PLASTERS.

There are three new plasters admitted in U. S. P. IX.

EMPLASTRUM CANTHARIDIS.

Cantharides Plaster.

This is a "spread plaster," made by spreading cantharides cerate on rosin plaster or on any other suitable material. Nothing else but the spread "Spanish fly blister," used for centuries. Should be freshly prepared.

EMPLASTRUM ELASTICUM.

Rubber Plaster.

This is the "Rubber Adhesive Plaster" found in the market and takes the place of "Emplastrum Adhesivum" of U. S. P. VIII, which was not a satisfactory plaster.

EMPLASTRUM RESINÆ.

Rosin Plaster.

This is the *body* for the ordinary "Adhesive Plaster" or "Rosin Adhesive Plaster," the old-fashioned variety frequently called "Diachylon Adhesive Plaster." It is prepared by melting together lead plaster, rosin and yellow wax. This

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mass, when melted, can be spread as a "sticking plaster," or other medicinal ingredients can be added and then spread.

Although not in the province of this paper, I might mention that Emplastrum Plumbi is now prepared in the good old fashioned way, namely, by boiling together olive oil, lard, lead oxide and water.

Emplastrum Sinapis is the new and more correct title for Charta Sinapis of U. S. P. VIII. Customers always call for Mustard Plaster and not Mustard Paper!

EXTRACTS.

The U. S. P. IX contains five new extracts. There are two entirely new features in these preparations:

1. The statement under each extract that it represents an approximate quantity of the drug, thereby establishing a definite ratio between drug and extract.

2. The introduction of *powdered* extracts, which are a great convenience for weighing small quantities.

EXTRACTUM ACONITI.

Extract of Aconite.

Powdered Extract of Aconite.

The drug is extracted with a menstruum of alcohol containing tartaric acid, to extract the alkaloids. Mineral acids cannot be used as they decompose the aconite alkaloids. The syrupy extract is then extracted with purified petroleum benzin, in order to remove the oil and fat, so as to be able to produce a powdered extract, which is accomplished by the addition of starch and the application of heat.

This is an assayed extract which should yield not less than 1.8 percent nor more than 2.2 percent of the ether-soluble alkaloids of aconite.

An *alternative* method, namely, a Bio-Assay, is also given.

1 Gm. Extract represents about 4 Gm. Aconite.

EXTRACTUM FELLIS BOVIS.

Extract of Oxgall.

Powdered Extract of Oxgall.

This powdered extract replaces the pilular Fel Bovis Purificatum U. S. P. VIII. Oxgall is extracted with alcohol, which dissolves the active constituents, sodium glycocholate and sodium taurocholate, leaving behind the albuminous and also the coloring matter. Starch is used as an absorbent and as a diluent to produce a powdered extract of oxgall.

1 Gm. Extract represents 8 Gm. Oxgall.

EXTRACTUM GELSEMI.

Extract of Gelsemium.

Powdered Extract of Gelsemium.

The gelsemium is exhausted with alcohol by percolation. The alcohol is recovered by distillation, and the soft extract is evaporated with a mixture of 1 part of magnesium oxide and 3 parts of starch as absorbent.

1 Gm. Extract represents 4 Gm. Gelsemium.

EXTRACTUM HYDRASTIS.

Extract of Hydrastis.

Powdered Extract of Hydrastis.

The drug is exhausted with alcohol acidified with tartaric acid. The vegetable acids are coming more into use, especially when active principles are injured by mineral acids. The remaining *modus operandi* is the same as in Extract of Gelsemium.

1 Gm. Extract represents about 4 Gm. Hydrastis.

This is an assayed extract which should yield not less than 9 percent nor more than 11 percent of the ether-soluble alkaloids of hydrastis.

EXTRACTUM VIBURNI PRUNIFOLII.

Extract of Viburnum Prunifolium.

Powdered Extract of Viburnum Prunifolium.

Process and diluent the same as in Extract of Gelsemium.

1 Gm. Extract represents 5 Gm. Viburnum Prunifolium.

FLUIDEXTRACTS.

Two additional fluidextracts have been admitted.

FLUIDEXTRACTUM ASPIDOSPERMATIS.

Fluidextract of Aspidosperma.

Fluidextract of Quebracho.

Prepared by Type Process B:

MENSTRUUM I.		MENSTRUUM II.	
Glycerin	110 mils	Alcohol	2 volumes
Alcohol	670 mils	Water	1 volume
Water	220 mils		

FLUIDEXTRACTUM SABAL.

Fluidextract of Sabal.

Fluidextract of Saw Palmetto.

Prepared by Type Process A:

Menstruum: Alcohol 4 volumes and water 1 volume.

LIQUOR SODII CHLORIDI PHYSIOLOGICUS.

Physiological Solution of Sodium Chloride.

Physiological or Normal Salt Solution.

This is a *sterilized* solution containing 0.85 percent NaCl.

The preparation of this solution should be well studied by pharmacists, as it is of the utmost importance. Two requirements are absolutely necessary in this and other "saline" solutions:

1. Perfect sterilization.
2. Prevention of contamination.

U. S. P. IX very correctly makes the provision, "This solution should not be used after it has been made forty-eight hours."

Other Physiological Solutions, Ringer's, Locke's, Adler's and Fischer's, have been published by the Com. on Recipe Book as Pharmaceutical Formulas in the J. A. P. H. A., July, 1916.

MAGMA BISMUTHI.

Bismuth Magma.

Milk of Bismuth.

Yields not less than 5.6 percent nor more than 6.2 percent of Bi_2O_3 .

A very simple gravimetric assay is given.

This is the Raubenheimer-Beringer formula. Original formula and particulars can be found in *Proc. A. Ph. A.*, vol. 57 (1909), p. 1024.

MAGMA MAGNESIÆ.

Magnesia Magma.

Milk of Magnesia.

Yields not less than 6.5 percent nor more than 7.5 percent of $\text{Mg}(\text{OH})_2$.

A volumetric assay is given, namely, addition of Normal H_2SO_4 and titrating excess with normal KOH, using methyl orange T.S. as indicator.

An entirely different formula as well as *modus operandi* from the one in N. F. III. It is the method of Wilson W. McNeery, which was first presented before the Philadelphia Branch of the A. Ph. A. It is based upon the mutual decomposition of a mixture of magnesium carbonate and a solution of sodium hydroxide, forming a magma of magnesium hydroxide and a solution of sodium carbonate, the latter being removed by thorough washing. The U. S. P. directs that Milk of Magnesia should be kept in tightly stoppered bottles, to prevent the absorption of CO_2 , and that the corks should previously be dipped in melted paraffin, as otherwise the preparation attacks the cork, soils the inner neck of the bottle and discolors the milk.

In a note the U. S. P. states that, in place of distilled water, ordinary water can be used which has been boiled with 5 Gm. of powdered magnesium carbonate per liter and then filtered. Water treated in this simple manner will answer as well as distilled water, which latter increases the cost of the preparation.

The writer cannot speak with authority on this formula or *modus operandi*, as he is still using the N. F. method, which produces a finely divided and freshly precipitated magnesium hydroxide.

I can see one danger in the U. S. P. IX formula, namely, that magnesium carbonate in barrels is very apt to accumulate dust and dirt, which will thus enter the milk of magnesia.

OLEORESINA PETROSELINI.

Oleoresin of Parsley Fruit.

Liquid Apiol.

Powdered Parsley Fruit is exhausted in a percolator with ether, the greater portion of which is recovered by distillation on a water bath. The rest of the ether is removed by spontaneous evaporation and the clear liquid portion is decanted from the solid residue, which is a wax.

The name *Apiol*, that is, oil of apium, was coined from *Apium Petroselinum*, the old name for parsley.

TOXITABELLÆ HYDRARGYRI CHLORIDI CORROSIVI.

Poison Tablets of Corrosive Mercuric Chloride.
Corrosive Sublimate Tablets. Bichloride Tablets.

These are tablets of an angular shape, that means *any shape excepting round*. Each tablet must have the word "Poison" and the "skull and cross bones" design distinctly stamped upon it, for which reason they are properly named "Toxita-bellæ." Each tablet weighs about 1 Gm. and contains not less than 0.45 Gm. nor more than 0.55 Gm. of HgCl_2 , the remainder being NaCl .

It has been customary to manufacture 1 Gm. tablets. A larger size tablet weighing 2 or 3 Gm. would be far safer and *could not be swallowed accidentally and only with difficulty intentionally*. The HgCl_2 content is 0.5 Gm. average, thus producing a one per mille solution when one tablet is dissolved in one pint of water. A gravimetric assay is given in which the mercury is precipitated as sulphidé. The Electrolytic Method may also be used alternatively.

Sodium Chloride is employed as the diluent and forms a double salt with mercuric chloride, which is more soluble in water than the latter itself.

Bichloride Tablets must now have a uniform color, namely *blue*. Experiments have proven that the most permanent blue is obtained with Sodium Indigo-tindisulphonate, commonly called Indigo Carmine.

The new Pharmacopœia also directs how these tablets are to be dispensed, namely in securely stoppered glass containers, on the exterior of which is placed a red label bearing the word "Poison" and also stating the required amount of HgCl_2 in each tablet.

This is an excellent example of how our U. S. P. acts as a guardian for public health and safety!

CONCLUSION.

From a pharmaceutical point of view the addition of these 15 galenicals is highly commendable. The preparations themselves seem to be satisfactory. Let us hope that physicians will make good use of them, frequently prescribing them, quite especially as the Sub-Committee on Scope, which is responsible for these additions, consists principally of members of the medical profession.

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