

Section on Pharmacopoeias and Formularies

Papers Presented at the Sixty-First Annual Convention

MINUTES OF THE SECTION ON PHARMACOPOEIAS AND FORMULARIES.*

FIRST SESSION—TUESDAY EVENING, AUGUST 19, 1913.

The first session of the Section on Pharmacopoeias and Formularies was called to order by Chairman L. D. Havenhill, of Kansas, at 8:30 o'clock p. m. in room "A" of the Grand Lodge.

E. Fullerton Cook, of Philadelphia, Secretary, and R. H. Needham, of Texas, Associate on the Committee, were also present.

Associate Needham was asked to take the Chair while Chairman Havenhill presented his address. (See September JOURNAL, p. 1123.)

The Acting Chairman called attention to the fact that the Address just read contained some recommendations, and said it would be proper to appoint a Committee to consider these, and, without going through the formality of a motion, he would appoint as such Committee the following: Messrs. Lyman F. Kebler, of Washington City; Frank X. Moerck, of Philadelphia, and Adolph Ziefle, of North Dakota. He asked that the Committee make its report before this session adjourned.

Mr. Havenhill resumed the Chair, and stated that the report of the Chairman of the United States Pharmacopoeial Revision Committee would now be made by Prof. Joseph Remington, of Philadelphia.

Prof. Remington said he was sure that what he had to tell this evening would be interesting to a great many who had waited years to hear it. This report consisted of nearly fifty closely typewritten pages, and he would not attempt to read it all, but only those parts he considered specially pertinent. He said he felt sure that Prof. Kebler, Prof. Vanderkleed and Dr. Lloyd, and the other chemists present who were interested in the subject, would not care to hear the whole report read in detail, and he would spare these gentlemen that trial. The changes here noted had already received a majority of the votes of the members of the Committee of Revision, he said, and they were "out of the woods," so far as these changes were concerned, otherwise, he would not have dared to come here and make a talk presenting the substance of this report. He explained that the work was not complete, but what had been done constituted the greater part of the revision of the text of the book, and of the tests of the chemical substances in the Pharmacopoeia. There yet remained the reports of the Committee on Botany and Pharmacognosy, and one or two others. He was sure what he had to say here would interest the manufacturers of the country,

*The papers and discussions referred to in the minutes will be printed in subsequent issues of the JOURNAL.

the chemists and others, and it was the purpose to print this with the understanding that it was a tentative report only.

Prof. Remington then went on to give an extended verbal abstract of his report, with copious explanatory remarks.

The Chairman said he was sure that the members had listened with a great deal of interest to this able report from Prof. Remington.

The report was discussed by Messrs. Clark, Gordon, Cook, Mansfield, Havenhill and Remington; and, on motion of Otto Raubenheimer, seconded by Dr. Fantus, was ordered received and referred for publication.

Associate Needham was asked to take the Chair while Prof. Havenhill read his report as Chairman of the A. Ph. A. Committee on U. S. Pharmacopoeia. Before reading his paper, Prof. Havenhill called attention to the fact that the Committee was composed of ten members, one of whom retired each year, and that the object of the Committee was to assist the Committee on Revision of the U. S. P. as far as they could in correcting errors in the official formulas, and in obtaining a list of the different remedies used in different parts of the country. The Committee was to make its report to the Association, and it would eventually find its way into the hands of the Revision Committee.

Referring to the test for the presence of cane sugar in milk sugar, described in the report, Dr. H. P. Hynson said he desired to make amends for an oversight to accord proper credit for a test he had made ten years ago or more. A physician, who was also a pharmaceutical chemist, came into his store about that time, and he asked him what would be the best test for cane sugar in sugar of milk, and he replied: "I think if you will try the resorcin test for hydrochloric acid, reversing it, you will get a good test." So he and Mr. Dunning tried it, and found it was a good test. This was in 1902, as he remembered, before Mr. Dunning became a member of the Association. Mr. Hynson said he had written a paper for the Association, which included this test among other notes, and this paper was published in the Proceedings for that year, as he remembered. The funny part of it was, he said, that this doctor came to the store afterwards and said: "You and Dunning are great fellows! You have made this test and taken all the credit to yourselves, and never said a word about Richardson." Doctor Richardson deserved the credit for this test, which he had failed to give him at the time, and he wanted to give him full credit now.

Prof. Remington said that the mention of resorcin reminded him that one of his friends was making up a barrel of hair preparation on one occasion, and it was not perfectly clear, and the suggestion was made to him to add resorcin, with the result that it turned purple, and people's hair all around the neighborhood came pretty near being purple as the result of this experiment.

Dr. Alpers asked Dr. Hynson if he meant to say that Dr. Richardson was the first one who had proposed that test, and went on to state that he had used this test for twenty years, but he deserved no credit for it, as he had gotten it from somebody else.

On motion of Prof. Remington, seconded by Mr. Raubenheimer, the report was read and referred to take the usual course.

Mr. Havenhill resumed the Chair, and stated that credit in this matter had been attributed to Dr. Dunning, and said he thought it was only proper that

Dr. Hynson's name and that of Dr. Richardson's should be mentioned in connection with it, too, so that all would have proper recognition.

The report of the Chairman of the N. F. Revision Committee was next called for, but Chairman Diehl stated that he was not aware that this report was expected to be made at this session. The Chair stated that this report would be passed for the time being.

The report of the Chairman of the Committee on Unofficial Standards was next called for, and in the absence of Chairman Beringer, of the Committee, the report was read by Secretary Cook.

On motion of Dr. Asher, seconded by Mr. Raubenheimer, the report was ordered received to take the usual course.

The Chair next called on Otto Raubenheimer for his report as Chairman of the Recipe Committee, which the author proceeded to present.

On motion of Prof. Schneider, duly seconded, the report was received and referred to take the usual course.

Report of the Committee on Chairman's Address was called for, and was presented by Dr. Kebler, as follows:

REPORT OF THE COMMITTEE ON CHAIRMAN'S ADDRESS.

The Committee, after carefully reading the address of the Chairman of the Section on Pharmacopœias and Formularies and considering the recommendations contained therein, beg to report as follows:

Recommendation I, providing for eight associates, three active and five honorary, in addition to the chairman and secretary of the section, is concurred in, but the Committee desire to call attention to the fact that there are very few practicing physicians who are members of the Association and eligible for an election.

Recommendation II, providing for a compilation of Pharmacopœias and Formularies of the world as rapidly and completely as possible is concurred in.

L. F. KEBLER.
FRANK X. MOERK.
ADOLPH ZIEFLE.

On motion of Mr. Needham, the report was received, and on motion of Dr. Alpers, duly seconded, both recommendations of the report were adopted.

At this point, Dr. Good called attention to the fact that the report of the Committee on Chairman's Address used this language: "It desires to call attention to the fact that there are very few physicians who are members of the Association and eligible for an election."

Dr. Alpers responded that when he made his motion he referred to that part of the report of the Committee making the recommendations, whereas the language here quoted was only a statement of fact by the Committee.

Dr. Good replied to this that he thought the language of the report made it obligatory to appoint a physician, whether one was available or not, and this language should be made broader than it was.

Mr. Needham explained that there was a misconception on the part of some as to what the Chairman intended on this point. Unfortunately, he said, he and the Chairman had tried to start something in different directions. It was very hard for practicing pharmacists to get physicians interested in a matter

like this, or to get a food and drug man interested. As an illustration, he had a man who promised him a paper right up to the date of leaving for this meeting, and he had sent for it just before his train started, and couldn't get it. He said he believed the Chairman had in mind the idea that if it was possible to get the interest of men in these callings, it would mean they could be gotten to do something. He believed the recommendation was a good one.

Dr. Good said there was no objection to this, but he wanted to make the matter practical. He thought it was proper to use every effort to get physicians interested, and get representation from the physicians on this committee; but he was opposed to the limitation to a physician, as, if it was impossible to get a physician, then somebody else should be selected. He moved that the wording be changed by inserting the words, "it is desirable there should be a physician."

Chairman Havenhill said he would be glad to accept this modification. He said it seemed unfortunate, however, that in an Association like this only one practicing physician could be found.

Thereupon Dr. Alpers moved to adopt the recommendation in this form and the motion prevailed.

The Chair stated that the appointment of a Nominating Committee was now in order, and called attention to the fact that a Chairman, Secretary and three Associates, composed the officers of the Section, and nominations would be reported accordingly. He named as a Nominating Committee Messrs. J. Leon Lascoff, of New York, A. H. Clark, of Chicago, and W. A. Puckner, of Chicago.

The Chair stated that the next meeting of this Section would be held at 8 o'clock on Friday evening, in the Assembly Hall of the Hotel Hermitage. Two interesting illustrated lectures were scheduled for that occasion, he said, one by Dr. Hitchens, on "Sterilization by the Retail Pharmacist," and a talk on "Foreign Formuleries as compared with the N. F.," by Mr. Raubenheimer.

The Chair thereupon called upon Dr. Barnard Fantus to present his paper on "Tabellae Dulces, Sweet Tablets for Childrens' Medication. A plea that they be made official." Dr. Fantus proceeded to present his paper, exhibiting numerous specimens of the tablets described therein.

This paper was discussed at great length by Messrs. Alpers, White, Lascoff, Stewart, Raubenheimer, Diehl, Nitardy, Chairman Havenhill and the writer; and, on motion of Mr. Gordon, seconded by Mr. Snow, the paper was ordered received and referred to the Publication Committee, with request that a copy of same be sent to the National Formulary Revision Committee, with the recommendation to consider the advisability of introducing this class of preparations into the forthcoming revision of the National Formulary.

Thereupon, upon motion of Mr. Good, the Section stood adjourned.

SECOND SESSION—FRIDAY EVENING, AUGUST 22, 1913.

Chairman Havenhill called the Section to order at 8:15 p. m. in the Assembly Hall of the Hotel Hermitage, on the ninth floor.

On motion, the reading of the minutes of the first session was dispensed with. The Chair announced that the presentation of papers would now be taken

up, and called on M. I. Wilbert, of Washington City, to present his paper on "Pharmacopoeial Titles for New Remedies."

Mr. Wilbert presented his paper in extended verbal abstract.

The paper just read was discussed by Messrs. Good, Raubenheimer, Alpers and the author, and was received and referred to take the usual course.

The Chair stated that the hour of 8:45 p. m. had now arrived, the time scheduled for the lecture of Dr. A. P. Hitchens, on the subject of "Sterilization by the Retail Pharmacist."

Before reading his paper, Dr. Hitchens said he wished to thank the members in the honor conferred upon him in the request to read this paper before this Section; that he appreciated the compliment very sincerely. He then proceeded with his subject, and during the reading of his paper stopped from time to time to explain his text by exhibiting the practical workings of a number of test-tubes, pipettes, flasks, burettes, etc.

Dr. Hitchens won the applause of his auditors by his presentation of his subject, and after discussion of the paper by Messrs. Wilbert, Becker, Cook, Nirtardy, Raubenheimer, Havenhill and the author, the paper was received, with a vote of thanks, on motion of Mr. Needham, seconded by Mr. Lascoff, and referred to take the usual course.

The next paper read was one by Otto Raubenheimer, entitled "Foreign Formularies as Compared with the N. F."

This paper was discussed by Messrs. Hynson, Caspari, Jr., Gordon, Alpers, Diehl, Wilbert and the author; and, on motion of Mr. Needham, seconded by Mr. Lascoff and Dr. Alpers, Mr. Raubenheimer was extended a rising vote of thanks for his very interesting treatment of his subject, and his exhibit of the Formularies of the world, and the paper was received and referred for publication.

The Chairman said he thought this was an appropriate place to have presented the Report of the Chairman of the Committee of Revision "of our own National Formulary—I might say *THE* Formulary," held over from the last meeting. The report was read by Chairman Diehl. (See September JOURNAL, p. 1063).

In connection with the reading of his report, Prof. Diehl said he had also a mimeograph copy of the formulas so far approved by the Committee, and the cautionary restriction was given: "This is confidentially circulated to the general officers, with the approval of the Chairman." He said he would pass this around, and it would be understood that it was confidential. This precaution was necessary, he said, in order to guard against accidents as to copyright, and it would not be published until that had been done. The report just read would be published, of course.

Dr. Good asked Prof. Diehl if he had included syrup of phosphate of iron, quinine and strychnine, and an affirmative answer was given. Dr. Good then asked as to Glycerite, if that was included, and Prof. Diehl answered in the negative. Dr. Good made the comment: "You are not introducing the formula of the Pharmacopoeia, then?" To this Prof. Diehl responded that he was showing the formulas just as they had been approved, and if the Committee had

made any mistakes they were subject to correction. Dr. Good disclaimed any purpose of intimating that the Committee had made any mistake, but said he thought they would have made a mistake if they had admitted and continued the formula for syrup of phosphates of iron, quinine and strychnine as given in the present Pharmacopoeia.

Prof. Cook, of the Committee, said that what Prof. Diehl had stated, to the effect that the U. S. P. formulas admitted to the N. F. would be exactly like those formulas official, was true, with one or two exceptions. One exception was the syrup of iron, quinine and strychnine phosphates, to which Dr. Good had referred. This would be prepared by a formula similar to that of the U. S. P. of 1890, while the glycerite of U. S. P. VIII would not be admitted.

Prof. Diehl said these formulas were bound to come before the members of the Association before the new edition of the National Formulary was issued, anyhow, and any member—and particularly any member of the Committee—would have the opportunity of calling attention to any errors that might exist in them. There probably were some errors, he said, although they had tried to avoid them.

W. R. White, of Nashville, here asked if the Formulary Committee would continue hereafter its practice of sending out copies of the proposed formulas to the different Branches. He said the Nashville Branch had heretofore been receiving copies of these formulas, and they had taken it on themselves to make up sample preparations according to these proposed formulas, and have them exhibited at the various meetings of their branch. This had been very interesting and profitable work to them, in the way of practice. But they had not received any of these formulas for some time, and he wished to know if the practice of sending these out would be continued in the future.

Mr. Wilbert replied that these formulas had been sent out for criticism and suggestions, and the criticisms that had been received had been considered by the Committee. That work was in the past now, however.

Prof. Diehl added that the Committee was no longer discussing formulas, and if that question were reopened, it would probably take another seven years to arrive at a conclusion.

There were calls of "Question!" and the Chair stated that, without objection, the report would be received and referred to the general session.

The Chair stated that there was still a number of papers on the program, and some business not yet transacted, while the hour was late. He would, however, call on Dr. Kebler to present his paper on "Result of the Examination of Drugs at U. S. Ports."

Doctor Kebler said he would only give a very brief abstract of his paper, as he did not care to inflict any undue amount of fatigue on the members at this time of night; that he would content himself with stating in a few words just what the paper was.

There was no discussion of the paper, and it was referred to take the usual course.

At request of the writer, a paper on "An Open Letter from the Physicians

Concerning the Pharmacopœia," by R. H. Needham, was read by title and referred. (See October JOURNAL, p. 1260).

Mr. Needham presented in abstract his paper on "The Pharmacopœia, the Druggist and the Physician."

After a brief discussion of this paper by Mr. Gordon, on motion of Mr. Lascoff, it was received and referred to take the usual course.

A paper on "The Need for Some Official Guide to New Remedies," by John Roemer, was read by the Secretary, on motion of Dr. Good.

Mr. Wilbert, commenting on the paper just read, said that some four years ago this Association had created what was known as a Committee on Unofficial Standards, covering the suggestions made here. It was somewhat late, he thought, to have a paper on this subject, as the Association already had a Committee on it, and had even gone further and created a Committee on Proprietary medicines. He moved that the paper be referred to the Committee on Publication, without recommendation. He thought it was questionable whether it was necessary to publish in the Journal a set of recommendations to do something that had already been done. This motion was seconded by Mr. Good and carried.

A paper on "Bichloride Tablets of the German Pharmacopœia," was read by Mr. Raubenheimer, the author, who exhibited in connection with the reading of his paper various specimens of the tablets described.

There was no discussion of the paper, and on motion of Mr. Wilbert it was referred to take the usual course.

The Chair stated that there were still six papers on the program unread, whose authors were not present, and asked what disposition should be made of them.

On motion of Dr. Good as seconded and amended by Mr. Wilbert, these papers were read by title, and referred to the Publication Committee, without recommendation. They were as follows:

"A Pharmacopœia for the Physician and the Dispensing Druggist," by H. L. Chambers, M. D.

"Suggestions for a better U. S. P. and N. F. and Difficulties Encountered in the Enforcement of the Drug Laws in regard thereto," by A. R. Todd.

"A Volumetric Method for the Estimation of Mercury and Some of Its Compounds and Preparations," by Chas. H. LaWall.

"The Proposed Fluid Glycerates of the National Formulary," by E. R. Smith.

"The Proposed Additions to the National Formulary," by W. S. Amos.

"The Cause of Adulterated Preparations," by Walter H. Varnum.

The report of the Nominating Committee was now called for, and Mr. Lascoff reported that the Committee recommended the following.

For Chairman, E. Fullerton Cook, of Philadelphia.

For Secretary, R. H. Needham, of Texas.

For Associates, Bernard Fantus, of Chicago; W. R. White of Nashville; B. Rosin, of Philadelphia.

On motion of Dr. Good, seconded by Mr. Raubenheimer, the Report of the Committee was accepted, and the Chairman directed to cast the affirmative ballot of the Section electing the gentlemen named officers of the Section for the ensuing year. The Chair announced that the ballot had been cast as directed, and declared these gentlemen duly elected.

The Chair asked if there was any unfinished business to come before the Section. If not, he said he would appoint Dr. Good and Mr. Lascoff to escort the newly elected officers to the rostrum and introduce them to the Section.

These gentlemen gladly performed this pleasant duty, and first brought forward Chairman-elect Cook, who acknowledged the honor bestowed upon him, and reminded the members that both the new edition of the Pharmacopoeia and that of the National Formulary would be on the market before the Section met again, and there would "be lots of things doing on both lines." He promised to do all in his power to make the work of the Section a credit to the Association.

Secretary-elect Needham was next introduced, and said that he had had experience in the past in a like capacity, and promised to put his shoulder to the wheel and do what he could to advance the work of the Section during the year.

None of the Associates elected were present to be installed.

Retiring-Chairman Havenhill expressed his thanks for the able assistance rendered him during the year by Secretary Cook, and Associates Lloyd, Needham and Good, and also to the members of the Association generally for their assistance, and said he could ask for the incoming officers nothing better than that they should receive the same consideration.

Mr. Wilbert said he thought the American Pharmaceutical Association owed the retiring Chairman of this Section a very hearty vote of thanks for launching this Section at the Denver meeting, and carrying it on to success. He believed the members present, as representatives of the Association, should extend to Mr. Havenhill a rising vote of thanks for the splendid work he had done.

This motion was seconded by Messrs. Raubenheimer and Good, and carried unanimously.

This ended the business of the Section, and on motion of Dr. Good, seconded by Mr. Nitardy, an adjournment *sine die* was had.

UNITED STATES PHARMACOPOEIA.

NINTH REVISION.

ABSTRACT OF PROPOSED CHANGES WITH NEW STANDARDS AND DESCRIPTIONS.

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PART I—FIRST PROOF.

In conformity with the recommendation of the United States Pharmacopœial Convention, the following abstract of proposed new descriptions and standards and of changes in descriptions and standards is submitted for general publication.

*Permission to reprint for purposes of comment can be had on application to the Chairman of the Board of Trustees, J. H. Beal, Scio, Ohio.

Where the changes are only in the form of expression without altering facts, these are not indicated. It is understood that if "no change" is reported, the material facts remain the same as in the *United States Pharmacopæia*, Eighth Revision.

Official methods with a description of the apparatus for taking melting points and boiling points will be inserted.

In the case of the hydrated crystalline salts, the rubric has been stated in the terms of the anhydrous compound with a lower limit corresponding to a salt of high purity and a higher limit corresponding to one in which a slight degree of efflorescence has taken place, the range being individually adjusted to meet existing conditions so far as possible.

In the case of hygroscopic salts, there has been established a limit of moisture, suitable to each particular case, which is a part of the rubric, and in the text the method for determining the moisture content is given.

Temperatures are stated only in the Centigrade scale.

A change has been made in many of the qualitative tests for purity by stating exact quantities of material and test solutions to be used. Some of the old tests were indefinite. The quantity of ash permitted on incinerating organic substances will be given in figures wherever possible.

Other abstracts will be submitted later. Comments should be sent to the Chairman of the Revision Committee, Joseph P. Remington, 1832 Pine street, Philadelphia, before December 1, 1913.

Acetanilidum.—Melting point changed from 113° C. to "from 111° C. to 113° C." Ash changed from non-weighable to "not exceeding 0.05 percent." Added test: A mixture of about 0.1 Gm. of Acetanilide and 1 Cc. of colorless nitric acid in a clean test-tube should not be colored yellow (acetphenetidin).

Acetphenetidinum.—A saturated aqueous solution should be neutral to litmus. Melting point changed from "134° to 135° C." to "from 133° to 135° C." Potassium dichromate replaces chromium trioxide in the color test. Ash changed from non-weighable to "not exceeding 0.05 percent." Added test: A mixture of about 0.005 Gm. of Acetphenetidinum and 1 Cc. of nitric acid should be colored yellow, the color becoming darker on standing. The solution of about 0.5 Gm. in 5 Cc. of colorless sulphuric acid should not be more than faintly yellowish (readily carbonizable impurities).

Acidum Aceticum.—Rubric changed from "not less than 36 percent." to "not less than 36 nor more than 37 percent. by weight. Tests for copper with ammonia omitted.

Acidum Aceticum Dilutum.—Rubric changed from "not less than 6 percent." to "not less than 6 nor more than 6.5 percent. by weight."

Acidum Aceticum Glaciale.—Boiling point changed from "117° to 118° C." to "about 118° C." Congealing point changed from "somewhat below 15° C." to "not below 14.5° C."

Acidum Benzoicum.—The synthetic acid is described as being white, odorless, or with a slight odor of benzaldehyde; the natural Acid as white or yellowish; acquiring a darker color on exposure to light, and having a slight odor of benzoin. Melting point of synthetic Acid: 120° to 122° C. The natural Acid may have a lower melting point; changed from 121.4° C. Test with slaked lime omitted. Ash changed from non-weighable to "not exceeding 0.05 percent." Added Tests: A solution of about 0.1 Gm. of the synthetic Acid in 2 Cc. of sulphuric acid should not become darker than light yellow when warmed to 50° C. The color produced by the natural Acid, tested in the same manner, should not be darker than light brown (readily carbonizable impurities). Mix 0.5 Gm. of the Acid and about 1 Gm. of calcium carbonate (free from chloride) with a little distilled water in a crucible, dry the mixture and incinerate it at a low red heat. Dissolve the residue in 25 Cc. of diluted nitric acid (free from chloride) and filter. The addition of 0.5 Cc. of silver nitrate T. S. to the filtrate should not produce a greater turbidity than is produced by the same quantity of the reagent in a mixture of 25 Cc. of distilled water and 0.1 Cc. of tenth-normal hydrochloric acid V. S. if synthetic Acid be tested; or of 0.05 Cc. of tenth-normal hydrochloric acid V. S. if natural Acid be tested (chlorine).

Acidum Boricum.—No change.

Acidum Gallicum.—Test with calcium hydroxide omitted. Test for presence of tannic acid: A cold saturated aqueous solution of Gallic Acid should not yield a precipitate with gelatin T. S. or starch T. S.

Acidum Hydrochloricum.—No change.

Acidum Hydrocyanicum Dilutum.—Rubric changed from "not less than 2 percent." to "not less than 1.9 nor more than 2.1 percent. by weight." Process deleted. Method of estimation now directs weighing sample in an alkaline solution to prevent loss.

Acidum Hypophosphorosum.—No change.

Acidum Lacticum.—Rubric changed from "not less than 75 percent. by weight of absolute Lactic Acid" to "liquid containing lactic acid and lactic anhydrides equivalent to a total of not less than 85 percent. of lactic acid." Added test: On the addition of 1 Cc. of Lactic Acid, in drops, to 5 Cc. of ether, shaking after each addition, the ether-solution should not become even transiently turbid (glycerin). Assay: Weigh accurately about 2.5 Cc. of Lactic Acid in a stoppered 250 Cc. flask, add to it 50 Cc. of normal potassium hydroxide V. S. and a few drops of phenolphthalein T. S. and boil the liquid for 20 minutes. The residual titration of the boiling solution with normal sulphuric acid V. S. should show not less than 85 percent. of lactic acid.

Acidum Nitricum.—No change.

Acidum Nitrohydrochloricum.—Formula to make 100 Cc. instead of 1000 Cc. Added test: It should not be dispensed unless it readily liberates iodine when one drop is added to 1 Cc. of an aqueous solution of potassium iodide (1 in 10).

Acidum Nitrohydrochloricum Dilutum.—Formula to make 250 Cc. instead of

1000 Cc. Added test: It should not be dispensed unless it readily liberates iodine when five drops are added to 1 Cc. of an aqueous solution of potassium iodide (1 in 10).

Acidum Oleicum.—Congealing point changed to: Oleic Acid should not become semi-solid above 9° C.; on further cooling it congeals to a whitish, solid mass at or above 4° C. Ash: not exceeding 0.1 percent. Added test: On shaking Oleic Acid with an equal volume of distilled water, the separated water, after filtration, should be neutral or only faintly acid to litmus and should be neutral to methyl-orange T. S. (mineral acids). Tests for palmitic and stearic acids with lead acetate omitted.

Acidum Phosphoricum.—Assay: Weigh accurately about 1 Cc. of Phosphoric Acid in a tared weighing-bottle, transfer it to a 100 Cc. graduated flask and make it up to the mark with distilled water. Transfer 10 Cc. of this dilution to a 100 Cc. graduated flask, add a drop of phenolphthalein T. S. and neutralize it with sodium hydroxide T. S. (free from chloride). Add 50 Cc. of tenth-normal silver nitrate V. S. and agitate it, gradually adding zinc oxide (free from chloride) in small portions until the liquid is neutral to litmus. Now add distilled water to make the liquid measure 100 Cc., agitate it thoroughly, filter through a dry filter, collect 50 Cc. of the filtrate and add 2 Cc. of nitric acid and 2 Cc. of ferric ammonium sulphate T. S. The titration with tenth-normal potassium sulphocyanate V. S. to the production of a permanent red color, when calculated to the amount of Phosphoric Acid originally taken, should show not less than 85 percent. of absolute orthophosphoric acid.

Acidum Picricum.—Picric Acid (trinitrophenol): Pale yellow, rhombic prisms or scales, odorless, and having an intensely bitter taste. It explodes when heated rapidly and when subjected to percussion. Keep in well-stoppered bottles, in a cool place, remote from fire. An aqueous solution is acid to litmus. Melting point: 121° to 123° C. An aqueous solution of the Acid (1 in 100) has a yellow color, which becomes darker on the addition of alkalies, and red on the addition of ammonium sulphide T. S. or a solution of an alkaline cyanide; it should not at once become opalescent on the addition of barium chloride T. S. The amount of residue remaining after solution in benzole should not exceed 0.1 percent. when dried at 100° C.

Acidum Salicylicum.—Added description: Synthetic Salicylic Acid should be white and odorless; the natural Acid may be slightly yellowish or pinkish and have a slight, gaultheria-like odor. Melting point: changed from "156° to 157° C." to "from 156° to 159° C." Ash: changed from 0.6 percent. to "not exceeding 0.1 percent." Methyl salicylate test omitted. Modified tests: On allowing a saturated, alcoholic solution of about 1 Gm. of Salicylic Acid to evaporate spontaneously in a glass or porcelain evaporating dish in a place protected from dust, the synthetic Acid should yield a perfectly white, crystalline residue, the natural Acid a white, or not more than slightly yellowish, or slightly pinkish residue (iron, phenol, or coloring matter). A solution of about 0.5 Gm. of the synthetic Salicylic Acid in 10 Cc. of sulphuric acid should not acquire more than a light yellow color within 15 minutes. The natural Salicylic Acid,

under similar conditions, may produce a slightly brownish color (organic impurities).

Acidum Stearicum.—Modified description: A mixture of fat acids consisting chiefly of Stearic Acid obtained from tallow or other fats. Melting point of official acid not below 56° C.; of pure Stearic Acid omitted. Added tests: Ash; not exceeding 0.1 percent. On shaking melted Stearic Acid with an equal volume of hot distilled water, the separated water, after filtration, should be neutral or only faintly acid to litmus paper and should be neutral to methyl-orange T. S. (mineral acids).

Acidum Sulphuricum.—No change.

Acidum Sulphuricum Aromaticum.—Rubric changed from "not less than 20 percent." to "not less than 18 nor more than 22 percent. by weight of H_2SO_4 ," contained as free sulphuric acid and ethyl-sulphuric acid. Identity test with barium chloride added. Assay changed to titration after boiling for six hours under a reflux condenser.

Acidum Tannicum.—Test with lime water omitted. Added test: Dried to constant weight at 100° C., Tannic Acid should not lose more than 12 percent. of its weight.

Acidum Trichloroaceticum.—Rubric added; it should contain, when dried to constant weight over sulphuric acid, not less than 99 percent. by weight. Reaction with ferric chloride omitted. Melting point: changed from " 52° C." to "about 55° C. after drying 24 hours over sulphuric acid." Added tests: When volatilized, not more than 0.05 percent. of residue should remain. For hydrochloric acid, using silver nitrate T. S. and for nitric acid, using ferrous sulphate and sulphuric acid in a contact test. Assay: titration with N/1 KOH V. S.

Aconitina.—Melting point omitted. Modified tests: On stirring about 0.001 Gm. of Aconitine with two or three drops of nitric or sulphuric acid on a white porcelain surface, it should dissolve without coloration; with a solution of ammonium vanadate in sulphuric acid (1 in 20) an orange color is produced under the same conditions. Ash: non-weighable.

Adeps.—Melting point: changed from " 38° to 40° C." to "from 36° to 42° C." Halphen's test for cotton seed oil omitted. Added tests: Saponification value: not less than 195 nor more than 203; iodine value: not less than 46 nor more than 70.

Adeps Lanae.—Melting point: changed from "about 40° C." to "from 38° to 42° C." Water limit fixed at 0.5 percent. and method of estimation added. Ash: changed from "0.3 percent." to "0.1 percent." Acidity reduced about one-half. Modified tests: On melting about 10 Gm. of Wool-Fat with 50 Cc. of distilled water on a water-bath with constant stirring, the fat should separate completely on cooling, leaving the aqueous layer nearly clear and neutral to litmus: separate portions of 10 Cc. each of the filtered aqueous layer should leave no sweet residue upon evaporation (glycerin), nor emit ammonia vapors when boiled with 1 Cc. of potassium hydroxide V. S. nor completely decolorize 0.05 Cc. of tenth-normal potassium permanganate V. S. within 10 minutes (soluble oxidizable impurities). Added tests: About 0.5 Gm. should be completely soluble in 40 Cc. of boiling absolute alcohol (petrolatum). Iodine value: 18 to 28.

Adeps Lanae Hydrosus.—Rubric changed from “not more than 30 percent. of water” to “purified fat of the wool of sheep mixed with from 28 to 30 percent. of water.” Estimation of water content modified to correspond.

Aethylis Carbamas.—Method of manufacture omitted. Added test: Its aqueous solution (1 in 20) should be neutral to litmus. Melting point: changed from “47.5° to 50° C.” to “from 48° to 50° C.” Ash changed from “non-weighable residue” to “not exceeding 0.05 percent.” Added tests: For chloride, using silver nitrate; and for nitrate, using ferrous sulphate and sulphuric acid in a contact test.

Aethylis Chloridum.—Method of manufacture omitted. Boiling point changed from “12.5° to 13° C.” to “from 12° to 13° C.” Maintain 0° C. in tests for hydrochloric acid and alcohol.

Aethylmorphinae Hydrochloridum.—The chloride of an alkaloid prepared from morphine by ethylation. A white or yellowish, microcrystalline powder, odorless, and having a bitter taste. Its aqueous solution should be neutral to litmus. Melting point: about 124° C. Identity tests: On adding a drop of ferric chloride T. S. to a solution of about 0.01 Gm. of the salt in 10 Cc. of sulphuric acid and warming on a water-bath, the color of the mixture will become at first green, then deep violet-blue, and on the further addition of a drop of nitric acid deep red; the chloride radical is identified by silver nitrate. Ash: non-weighable. When its aqueous solution is heated on a water-bath, the vapors should not be alkaline at once (ammonium compounds). Test for absence of morphine: On dissolving about 0.05 Gm. of potassium ferricyanide in 10 Cc. of distilled water, adding a drop of ferric chloride T. S. and then 1 Cc. of an aqueous solution of the salt (1 in 100) no blue color should be produced at once.

Alcohol.—Residue on evaporation changed from non-weighable to “not exceeding 0.005 percent.” Modified test: Dilute 1 Cc. of Alcohol (or an equivalent quantity of weaker Alcohol) to 10 Cc. with distilled water in a test-tube of about 40 Cc. capacity. Add 0.5 Cc. of sulphuric acid, cool the mixture and then add 5 Cc. of a cold aqueous solution of potassium permanganate (1 in 15). Allow the mixture to stand during two minutes, then dissolve the precipitate which has formed, by the addition of just enough sulphurous acid, and boil the liquid until the odor of acetaldehyde is no longer noticeable. Cool the liquid, add 1 drop of an aqueous solution of resorcinol (1 in 200) and pour 5 Cc. of this liquid upon 5 Cc. of sulphuric acid, contained in another test-tube, in such manner that the two liquids do not mix. Not more than a faint pink color and no rose-red colored zone nor whitish flakes should be produced near the point of contact after standing three minutes (methyl alcohol). Added test: A mixture of 5 Cc. of Alcohol, 2 Cc. of sodium hydroxide T. S., and 5 drops of a freshly prepared aqueous solution of sodium nitroprusside (1 in 50) rendered slightly acid with acetic acid, should not show a violet tint within one minute (acetone).

Alcohol Absolutum.—Added test: On shaking 10 Cc. of Absolute Alcohol in a stoppered tube with about 0.5 Gm. of powdered anhydrous copper sulphate, the latter should not become blue (water). Note: Official Absolute Alcohol, containing not more than 1 percent. of water, should not be confused with the term

"Absolute Alcohol" used in the tables in the Appendix or in definitions stating alcohol percent. when 100 percent. strength is indicated.

Alcohol Dilutum.—Rubric changed from "about 41.5 percent. by weight, or about 48.9 percent. by volume" to "from 41 to 42 percent. by weight or from 48.5 to 49.5 percent. by volume.

Aloinum.—A pentoside or mixture of pentosides obtained from Aloes, varying in chemical composition and physical and chemical properties according to its source. It becomes darker on exposure to light and air. Keep in well-stoppered bottles, protected from light. Aloin varies in solubility with its composition. A saturated aqueous solution of Aloin should be neutral or not more than faintly acid to litmus. Ash changed from "no residue" to "not exceeding 0.5 percent." Modified test: Dissolve 1 Gm. of Aloin in 120 Cc. of distilled water, collect the insoluble residue, if any, on a filter which has been dried at 100° C. and weighed, and wash it with 25 Cc. of distilled water. This residue when dried at 100° C. should not exceed 1.5 percent. Tests with sulphuric acid and potassium dichromate, with gold chloride, and with bromine water omitted.

Alumen.—Rubric changed from "not less than 99.5 percent. of pure Aluminum and Potassium Sulphate" to "not less than 54.21 nor more than 56.92 percent. anhydrous salt." Assay added: Precipitated as aluminum oxide by a slight excess of ammonia water in boiling solution containing ammonium chloride; precipitate washed, dried, ignited, and weighed.

Alumen Exsiccatum.—Must not contain more than 10 percent. of moisture. Assay added for moisture content and for salt as Al_2O_3 (see Alumen).

Alumini Hydroxidum.—No change.

Ammonii Benzoas.—Rubric changed from "not less than 98 percent." to "not less than 99 percent. by weight." Assay added: Benzoic acid liberated by sulphuric acid, shaken out with chloroform and weighed.

Ammonii Bromidum.—Rubric changed from "not less than 97 percent." to "not less than 98.5 percent." Assay changed to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S.

Ammonii Carbonas.—Rubric changed from "not less than 97 percent. of a mixture of Acid Ammonium Carbonate and Ammonium Carbamate and should yield not less than 31.58 percent. of ammonia gas" to "not less than 29 percent. nor more than 32 percent. of NH_3 ." Assay requires a weighing-bottle for immediate solution in N/1 H_2SO_4 V. S., followed by residual titration with N/1 KOH V. S.

Ammonii Chloridum.—Limit of 0.5 percent. of non-weighable matter permitted. Assay changed to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S.

Ammonii Iodidum.—Rubric changed from "not less than 97 percent." to "not less than 99 percent., when dried to constant weight." Limit of 2 percent. of moisture permitted; method for determination given. Assay changed to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S.

Ammonii Salicylas.—Rubric changed from "not less than 98 percent." to "not less than 99 percent." Assay added: Salicylic acid liberated by sulphuric acid, shaken out with chloroform and weighed.

Ammonii Valeras.—No change.

Amylis Nitris.—Added tests: On adding 2 Cc. of sulphuric acid to a mixture of 2 drops of Amyl Nitrite and 2 drops of water, amyl valerate is produced, recognizable by its odor on dilution with water. On adding a few drops of Amyl Nitrite to a mixture of 1 Cc. of ferrous sulphate T. S. and 5 Cc. of diluted hydrochloric acid, a greenish-brown color will be produced.

Antimonii et Potassii Tartras.—Rubric changed from "not less than 99.5 percent." to "not less than 98.5 percent." Assay requires immediate titration.

Antipyrina.—Method of manufacture omitted. Melting point changed from "113° C." to "from 109° to 111° C." Ash changed from non-weighable residue to "not exceeding 0.1 percent." Added tests: Antipyrine should be completely soluble in 1 part of cold distilled water, and the solution should be colorless or at most slightly yellowish when viewed crosswise in a test-tube of about 20 mm. diameter. An aqueous solution of Antipyrine (1 in 20), slightly acidulated with hydrochloric acid, should not respond to the Time-Limit Test for heavy metals. Tests to distinguish from acetanilide and acetphenetidin by nitric acid and for absence of acetanilide by phenyl-isocyanide reaction omitted.

Apomorphinae Hydrochloridum.—Added test: The addition of a solution of sodium bicarbonate to an aqueous solution of the salt (1 in 100) produces a white or pale greenish-white precipitate, which rapidly becomes green on exposure to air and then dissolves in ether with a violet color and in chloroform with a violet-blue color. The salt dissolves in nitric acid with a dark purple color. Ash: non-weighable. Tests with potassium nitrate and gold chloride omitted. Added test: On shaking about 0.1 Gm. of the salt with 10 Cc. of ether, the latter should acquire not more than a pale reddish color (decomposition products).

Argenti Nitras.—Assay changed from direct titration with N/10 NaCl V. S. to titration with N/10 KCNS V. S.

Argenti Nitras Fusus.—Assay changed so that a weighed quantity is dissolved as completely as possible in distilled water, the mixture filtered, nitric acid and ferric ammonium sulphate added and the liquid titrated with N/10 KCNS V. S. instead of with N/10 NaCl V. S.

Argenti Oxidum.—Rubric changed from "99.8 percent." to "not less than 99.6 percent. by weight of Ag_2O ." Limit of moisture not more than 5 percent. with method of estimation. Assay changed from ignition and weighing as silver to solution in nitric acid and titration with N/10 KCNS V. S.

Arseni Iodidum.—Rubric changed from "not less than 82 percent. of iodine" to "not less than 99 percent. by weight of AsI_3 ." Assay changed from titration with N/10 iodine V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S.

Arseni Trioxidum.—Assay changed: First dissolve the compound in sodium hydroxide T. S., carefully neutralize this solution, add sodium bicarbonate, and immediately titrate with N/10 iodine V. S.

Atropina.—Statement about presence of hyoscyamine omitted. Characteristics of the chloraurates omitted. Melting point changed from "113.8° C." to "from 114° to 115° C." Ash; non-weighable. Added tests: About 0.1 Gm. of Atropine, dissolved in 2 Cc. of sulphuric acid, should not produce more than a pale yellowish solution (readily carbonizable impurities), and only a light yellow

color should be produced upon the further addition of 0.1 Cc. of nitric acid (foreign alkaloids). An aqueous solution of Atropine (1 in 60) made with the aid of a slight excess of diluted sulphuric acid, is rendered turbid by the addition of a slight excess of sodium hydroxide T. S., but no turbidity should be produced immediately upon the addition of 2 Cc. of ammonia water to 5 Cc. of the solution (apoptropine, belladonnine). Tests with platinic chloride and with cresol omitted.

Atropinæ Sulphas.—Statement about presence of hyoscyamine omitted. Added tests: An aqueous solution should be neutral to litmus. Melting point changed from "189.9° C." to "about 188° C." Ash: non-weighable. Water of crystallization slowly lost over sulphuric acid. An aqueous solution (1 in 60) is rendered turbid by the addition of sodium hydroxide T. S., but no turbidity should be produced at once by the addition of 2 Cc. of ammonia water to 5 Cc. of the solution (apoptropine, belladonnine, etc.)

Auri et Sodii Chloridum.—Hygroscopic moisture limited to 3 percent. with method of estimation. Assay modified to ensure complete reduction.

Balsamum Tolutanum.—Acid value: not less than 112 nor more than 168. Saponification value: not less than 154 nor more than 191.

Benzaldehydum.—Boiling point changed from "179° to 180° C." to "from 178° to 182° C." Added test: Dissolve 1 Cc. of Benzaldehyde in 20 Cc. of alcohol, add distilled water until a slight turbidity is produced, and maintain a brisk evolution of hydrogen for one hour by the addition of zinc and diluted sulphuric acid. Filter and evaporate the liquid to about 20 Cc. On boiling 10 Cc. of the liquid with 1 drop of potassium dichromate T. S., no violet color should be produced (nitrobenzole). Tests with silver nitrate omitted. Assay omitted.

Benzinum Purificatum.—Purification process omitted. Boiling point changed from "45° to 60° C." to "should distil completely between 40° and 80° C."

Benzosulphinidum.—Added test: An aqueous solution is acid to litmus. When Benzosulphinide is fused at a low temperature with about five times its weight of sodium hydroxide, ammonia vapors are evolved; if the heating be continued until evolution of ammonia has ceased, the residue dissolved in 10 Cc. of distilled water, the solution neutralized with diluted hydrochloric acid, and filtered, then the filtrate will become colored violet on the addition of a drop of ferric chloride T. S. Ash: changed from non-weighable to "not exceeding 0.5 percent." Added tests: An aqueous solution (1 in 10,000) should have a distinctly sweet taste, comparable with that of an aqueous solution of sugar (1 in 12). No odor of ammonia should be noticeable on warming about 0.5 Gm. of Benzosulphinide with about 1 Gm. of magnesia and 10 Cc. of distilled water (ammonium compounds).

Betanaphthol.—Melting point changed from "122° C." to "from 120° to 122° C." Ash statement changed from "no residue on ignition" to "not exceeding 0.05 percent." Test with chlorinated lime omitted.

Bismuthi Betanaphtholas.—Compound of bismuth and betanaphthol of somewhat variable composition, yielding not less than 70 nor more than 78 percent. by weight of bismuth oxide. A buff-colored to grayish-brown, amorphous powder; odorless or having a faint odor of betanaphthol; tasteless; permanent in the air. On incineration, the residue is blackened by ammonium sulphide T. S. When a weighed quantity is decomposed by hydrochloric acid, shaken out with chloro-

form and the chloroform extractions evaporated, the weight of the residue should correspond to not less than 15 percent. of the weight of the salt taken. This residue, when crystallized from boiling water, should correspond to the tests for identity and purity given under Betanaphthol. The chloroform extract of the salt should yield not more than 1 percent. of residue (free betanaphthol). When shaken with distilled water and the mixture filtered, the filtrate should be colorless and neutral to litmus. Tests are applied for "limit of nitrates" and for lead, copper, silver and sulphate, as under Bismuth Subcarbonate. It should not respond to the Bettendorf's test for arsenic. Assayed by ignition to bismuth oxide and weighing.

Bismuthi et Ammonii Citras.—Rubric changed from "not less than 46 percent. nor more than 50 percent." to "not less than 46 nor more than 62 percent. by weight of bismuth oxide."

Bismuthi Subcarbonas.—No change.

Bismuthi Subgallas.—No change.

Bismuthi Subnitrates.—Moisture limit of 3 percent. with method for estimation.

Bismuthi Subsalyicylas.—Rubric changed from "not less than 62 nor more than 64 percent." to "not less than 62 nor more than 66 percent. by weight of bismuth oxide."

Bromoformum.—Rubric changed from 99 percent. to "about 96 percent. by weight of bromoform, the remainder absolute alcohol." Specific gravity: changed from 2.808 to "from 2.595 to 2.620." Modified test: On evaporating 10 Cc. of Bromoform from a porcelain dish on a water-bath, not more than 0.02 percent. of residue should remain after drying at 100° C.

Bromum.—Assayed by titration with N/10 $\text{Na}_2\text{S}_2\text{O}_3$ V. S. in the presence of potassium iodide.

Caffeina.—Melting point changed from 236.8° C. to "from 233° to 237° C." Water of crystallization lost at about 100° C. Ash statement changed from no residue when sublimed to "not exceeding 0.1 percent." Sulphuric acid-bichromate test omitted. Added test: An aqueous solution of Caffeine yields with tannic acid a precipitate soluble in excess of the reagent.

Caffeina Citrata.—Added tests: Dissolve about 0.02 Gm. of Citrated Caffeine in 1 Cc. of hydrochloric acid in a porcelain dish, add 0.1 Gm. of potassium chlorate and evaporate the mixture on a water-bath. On now inverting the dish over a vessel containing a few drops of ammonia water, the residue will acquire a purple color, which is destroyed by alkalis. About 2 Cc. of an aqueous solution of Citrated Caffeine (1 in 10) mixed with 50 Cc. of lime water remains clear in the cold, but becomes turbid when heated to boiling. On cooling it again becomes clear. Dried to constant weight at 80° C., the loss should not exceed 5 percent. of the amount of Citrated Caffeine taken. Ash: not exceeding 0.1 percent. Time-Limit Test for heavy metals given. Test for sulphuric acid with barium chloride included. Assay: Dissolve 0.5 Gm. of Citrated Caffeine, previously dried to constant weight at 80° C., in 10 Cc. of hot distilled water, add an excess of sodium hydroxide T. S., cool the solution, and shake it in a separator with 3 successive portions of 20 Cc., 10 Cc., and 10 Cc., respectively, of chloroform, or more if necessary to complete the extraction. Evaporate the combined

chloroform extracts to dryness on a water-bath and dry the residue to a constant weight at 80° C. The weight of the anhydrous caffeine so obtained should correspond to not less than 48 percent. of the weight taken. The caffeine obtained should have the melting point given under Caffeina.

Caffeina Sodio-Benzoes.—A mixture of Caffeine and Sodium Benzoate. Rubric: containing, when dry, not less than 44 percent. and not more than 50 percent. of anhydrous caffeine, the remainder being sodium benzoate as determined by the method given under Sodii Benzoas. A white powder, odorless, and of a bitter, aromatic taste. On heating, it is decomposed with the evolution of white vapors, leaving a carbonaceous residue that effervesces with acids and colors a non-luminous flame intensely yellow. An aqueous solution is neutral, slightly acid, or slightly alkaline to litmus, but should not be reddened by phenolphthalein T. S. Ferric chloride T. S. produces in an aqueous solution of the mixture a salmon-colored precipitate. The addition of diluted hydrochloric acid produces a white precipitate of benzoic acid, which, when thoroughly washed with cold water and dried, should have the melting point given under Acidum Benzoicum. About 0.1 Gm. of Caffeine with Sodium Benzoate should dissolve in 2 Cc. of sulphuric acid without producing more than a slight yellowish color (readily carbonizable organic matter). Time-Limit Test for heavy metals given. Dried to constant weight at 80° C., loss should not exceed 5 percent. Assay: Dissolve about 1 Gm. of dried Caffeine with Sodium Benzoate, accurately weighed, in 5 Cc. of distilled water in a separator, add 5 Cc. of sodium hydroxide T. S. and shake the mixture with four successive portions of 20 Cc., 10 Cc., 10 Cc., and 5 Cc. of chloroform. The combined chloroform extracts, on evaporating and drying to constant weight at 80 C., should yield a residue corresponding to not less than 44 percent. nor more than 50 percent. of anhydrous caffeine. The caffeine obtained in the above assay should respond to the tests of identity and should have the melting point given under Caffeina.

Calcii Bromidum.—Rubric changed from “not less than 97 percent.” to “not less than 98.5 percent. by weight.” Moisture limit 5 percent. with method for estimation. Assay based upon residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO₃ V. S.

Calcii Carbonas Præcipitatus.—Assay based on residual titration with N/1 KOH V. S. after dissolving the sale in N/1 HCl V. S. using methyl-orange T. S. as indicator.

Calcii Chloridum.—Moisture limit 3 percent. with method for estimation. Assay: residual titration with N/10 KCNS V. S. after addition of N/10 AgNO₃ V. S.

Calcii Hypophosphis.—Assay based on oxidation to phosphate and estimation by process similar to that under Acidum Phosphoricum.

Calcii Lactas.—Rubric requires “not less than 98 percent. of anhydrous calcium lactate when dried to constant weight at 120° C.” Assay based on ignition and titration of residue with N/1 HCl V. S.

Calcii Phosphas Præcipitatus.—Rubric changed from “not less than 99 percent.” to “not less than 96 percent. by weight of calcium phosphate” in dried product. Assay based on process outlined under *Acidum Phosphoricum*.

Calcii Sulphas Exsiccatus.—Rubric omitted.

Calx.—Water of hydration limit 10 percent. Added test: Add 5 Gm. of ammonium chloride to 20 Cc. of a solution prepared by slaking 5 Gm. of Calcium Oxide, mixing it with 100 Cc. of distilled water, and following with hydrochloric acid, drop by drop, with agitation until solution takes place. Then add ammonia water to give a distinct odor of ammonia after heating the solution to boiling, and an excess of ammonium oxalate T. S. and allow the mixture to stand three hours before filtering; the filtrate, brought to a volume of 100 Cc., should show no precipitate within one minute after the addition of 5 Cc. of sodium phosphate T. S. (magnesium). Assay based on residual titration with N/1 KOH V. S. after forming a solution in N/1 HCl V. S.

Calx Chlorinata.—No change.

Calx Sulphurata.—No change.

Camphora.—“Sublimes without leaving a residue” changed to “not exceeding 0.05 percent. of residue.” Added test: A solution of Camphor in petroleum benzin (1 in 10) should be clear (moisture). Test for chlorinated products changed to: Hold the looped end of a piece of clean copper wire in a non-luminous flame until it glows, then cool the wire, dip the loop into melted Camphor, ignite the latter, and hold it so that the liquid burns outside of a non-luminous flame. On slowly bringing the flame from the burning Camphor on the loop in contact with the lower outer edge of the non-luminous flame, no green tinge should be discernible.

Camphora Monobromata.—Melting point changed from 76° C. to “from 74° to 76° C.” Modified bromine identification test: On heating a mixture of about 0.1 Gm. each of Monobromated Camphor and silver nitrate and 2 Cc. each of nitric acid and sulphuric acid until nitrous vapors are no longer evolved, a yellowish precipitate of silver bromide will be obtained. Residue when volatilized changed from “no residue” to “not more than 0.05 percent.” Added test: Shake about 0.5 Gm. of powdered Monobromated Camphor with 10 Cc. of distilled water and filter. The filtrate should be neutral to litmus and should not be rendered more than slightly opalescent by the addition of silver nitrate T. S.

Carbo Animalis Purificatus.—Added tests: Loss on drying at 100° C. for two hours, not exceeding 5 percent. On boiling 0.5 Gm. with 20 Cc. of distilled water, the filtrate should be neutral. On boiling 1 Gm. with 20 Cc. of distilled water and 1 Cc. of diluted hydrochloric acid, the filtrate should not respond to the Time-Limit Test for heavy metals.

Carbo Ligni.—Added test: It should burn without a luminous flame. Ash: Not exceeding 12 percent.

Cera Alba.—Melting point changed from “64° to 65° C.” to “from 62° to 65° C.” Added test: Acid value: not less than 18 nor more than 25. Ester value: not less than 72 nor more than 79. The ratio of acid value to ester value as 1:3.6 to 3.8.

Cera Flava.—Added test: Melt the Wax at a low temperature and allow it to fall in separate drops from just above the surface into alcohol that has been warmed to from 45° to 50° C. Allow the globules to remain in the alcohol until it has cooled spontaneously to room temperature (20° to 25° C.), then remove the Wax and keep it at room temperature for 24 hours. Prepare a mixture of 4 volumes of alcohol and enough distilled water to make 10 volumes and allow it to stand until free from air bubbles. Moisten the globules of Wax with distilled water, by means of a brush, and place them by means of forceps in the alcohol solution just prepared contained in a beaker. Then add alcohol or air-free distilled water as required to the mixture, kept at 25° C., until the globules of Wax float indiscriminately at all levels of the liquid and finally determine the specific gravity of the liquid. The figure thus obtained is the specific gravity of the sample of Wax examined. Melting point changed from "62° to 64° C." to "from 62° to 65° C." Test for paraffin or ceresin omitted. Weigh accurately about 3 Gm. of Yellow Wax, warm it in a 200 Cc. flask with 25 Cc. of absolute alcohol until melted, then add 1 Cc. of phenolphthalein T. S. and titrate the mixture while warm with half-normal alcoholic potassium hydroxide V. S. to a faint pink color. Acid value so obtained should not be less than 18 nor more than 24. Now add 25 Cc. of half-normal alcoholic potassium hydroxide V. S. and 50 Cc. of alcohol, boil the mixture for two hours under a reflux condenser and titrate the excess of the alkali with half-normal hydrochloric acid V. S. Ester value so obtained should not be less than 72 nor more than 77. Ratio of acid value to ester value as 1:3.6 to 3.8.

Cerii Oxalas.—No change.

Cetaceum.—Specific gravity: changed from "0.935 to 0.944" to "from 0.938 to 0.944 at 25° C." Specific gravity at 100° C. omitted. Added test: It should dissolve completely in 50 parts of boiling alcohol (paraffin), the solution being neutral or not more than slightly acid to moistened litmus paper. Ammonia water replaces sodium carbonate and alcohol in test for stearic acid.

Chloralformamidum.—Melting point changed from "114° to 115° C." to "from 114° to 117° C." Ash: changed from non-weighable to "not exceeding 0.05 percent."

Chloralum Hydratum.—Rubric added requiring 99.5 percent. by weight. Melting point changed from 58° C. to "from 52° to 56° C." Specific gravity when liquefied and solidification statements omitted. Residue, on heating, not more than 0.05 percent. Modified test for hydrochloric acid and chlorides: An alcoholic solution should not at once redden moistened blue litmus paper, nor at once become opalescent on the addition of silver nitrate T. S. Added tests: Shake about 0.5 Gm. of Hydrated Chloral at intervals of five minutes during one hour with 5 Cc. of sulphuric acid in a glass-stoppered tube, which has previously been rinsed with sulphuric acid. The acid should appear colorless, or very nearly colorless, when viewed transversely in a tube of not less than 15 mm. diameter (organic impurities). Assay: Weigh accurately about 4 Gm. of Hydrated Chloral, dissolve it in 10 Cc. of distilled water, add 30 Cc. of normal potassium hydroxide V. S. and allow the mixture to stand 2 minutes; then add phenol-

phthalein T. S. and determine the residual alkali at once by titration with normal sulphuric acid V. S. It should show not less than 99.5 percent. of hydrated chloral.

Chloroformum.—Specific gravity: changed from “not below 1.476” to “from 1.474 to 1.478.”

Chromii Trioxidum.—Rubric changed from “not less than 90 percent.” to “not less than 95 percent. by weight. Assay requires a weighing bottle.

Chrysarobinum.—Specific gravity and melting point omitted. Ash: changed from “when ignited entirely consumed” to “not exceeding 0.25 percent.” Tests with lime water and with potassium dichromate omitted. Added test: Boil about 0.1 Gm. of Chrysarobin with 20 Cc. of distilled water and filter. The filtrate should be neutral to litmus and should not be colored by ferric chloride T. S. (chrysophanic acid).

Cinchonidinae Sulphas.—Melting point and potassium dichromate test omitted. Ash changed from “consumed without residue” to “not exceeding 0.1 percent.”

Cinchoninae Sulphas.—Melting point omitted. Ash: changed from “no residue on incineration” to “not exceeding 0.1 percent.” Modified test for quinine or cinchonidine sulphate: One-tenth Gm. of the powdered salt should dissolve completely or nearly so when shaken with 10 Cc. of chloroform, at ordinary temperatures.

Cocaina.—Melting point: changed from 98° C. to “from 96° to 98° C.” Ash: changed from “no residue on ignition” to “not exceeding 0.1 percent.”

Cocainae Hydrochloridum.—Melting point changed from 189.9° C. to “from 188° to 191° C.” Tests with potassium chromate, mercuric chloride, and palladous chloride omitted. Added test: On dissolving about 0.1 Gm. of the salt in 1 Cc. of sulphuric acid, it will produce no color other than slight yellowish; if the solution be kept at 100° C. for five minutes, then cautiously mixed with 2 Cc. of distilled water, the aromatic odor of methyl benzoate will be noticeable and on cooling crystals of benzoic acid will form. Ash: changed from “no residue on incineration” to “not exceeding 0.05 percent.” Isatropyl-cocaine test requires precipitate to form within five minutes after five minutes' vigorous stirring.

Codeina.—Melting point changed from 154.9° C. to “about 155° C.” Ash changed from “no residue on incineration” to “not exceeding 0.1 percent.” Test for morphine by nitric acid omitted.

Codeinae Phosphas.—Water of crystallization changed from 2 molecules to 1½ molecules. Melting point omitted. Added tests: An aqueous solution of Codeine Phosphate (1 in 100) acidulated with nitric acid should not at once become turbid on the addition of barium chloride T. S. (sulphates) or silver nitrate T. S. (chlorides). Percent. of codeine raised to 67.

Codeinae Sulphas.—No change.

Colchicina.—Melting point changed from 142.5° C. to “about 145° C.” Potassium dichromate and ferric chloride and chloroform tests omitted. Ash: changed from “no residue on incineration” to “non-weighable.” Added test: On heating a mixture of about 0.01 Gm. of Colchicine, 2 Cc. of potassium hydroxide T. S., and 1 drop of aniline, no odor of phenyl-isocyanide should be developed (chloroform).

Copaiba.—Specific gravity: changed from “0.950 to 0.995” to “from 0.940 to 0.995”. Resinous mass after volatile oil is driven off changed from “not less than 50 percent.” to “not less than 36 percent.” Acid value; not less than 28 nor more than 95. Modified test for gurjun balsam: Dissolve 3 or 4 drops of the volatile oil separated from Copaiba by distillation with steam, in 3 Cc. of glacial acetic acid, mix the solution with 1 drop of a freshly prepared aqueous solution of sodium nitrite (1 in 10), and carefully underlay this with 2 Cc. of sulphuric acid. The acetic layer should not be colored pink. Added tests: Dissolve 0.1 Gm. of rosin with the aid of heat in 0.9 Gm. of Copaiba, shake the solution violently with 10 Cc. of ammonia water, and allow the mixture to stand 24 hours. No gelatinization should take place (rosin). The volatile oil separated from Copaiba by distillation with steam should not boil below 250° C. and should show an angle of rotation in a 100 mm. tube of not less than -7° at 25° C. (African “Copaiba”).

Creosotum.—Solubility, color of the tribrom-compound and alcoholic potassium hydroxide tests omitted. Modified distillation test: It should begin to distil between 195° and 200° C. and not less than 80 percent. by volume should come over between 200° and 220° C.

Creosoti Carbonas.—A mixture of the carbonates of various constituents of creosote, chiefly guaiacol and creosol. Specific gravity: 1.145 to 1.170 at 25° C. On heating about 0.5 Cc. of Creosote Carbonate a few minutes with 10 Cc. of alcoholic potassium hydroxide T. S., and cooling the mixture, a crystalline precipitate is formed, which effervesces with acids. Ash: not exceeding 0.1 percent. A saturated alcoholic solution should be neutral to moistened litmus paper, and should acquire only a yellow color on the addition of ferric chloride T. S. (creosote). Heat 25 Cc. of Creosote Carbonate on a water-bath for half an hour with a solution of 15 Gm. of potassium hydroxide in 100 Cc. of alcohol, then evaporate the alcohol and mix the residue with an excess of hydrochloric acid. A liquid composed of two layers will be obtained. On now separating the dark layer of creosote and shaking it with successive portions of 10 Cc. each of distilled water until the washings are only slightly acid to litmus, it should have the boiling point given under Creosotum; the distillate, after separation of adhering water, should respond to the remaining tests of identity and purity given under Creosotum.

Creta Praeparata.—Rubric added requiring “not less than 97 percent. by weight of CaCO_3 . Added test: Residue insoluble in hydrochloric acid not exceeding 2 percent. Assay: as given under Calcii Carbonas Præcipitatus.

Cupri Sulphas.—Rubric changed from “not less than 99.5 percent. of pure Copper Sulphate” to “not less than 63.61 percent. nor more than 66.79 percent. by weight of anhydrous CuSO_4 . Assay based on titration with N/10 $\text{Na}_2\text{S}_2\text{O}_3$ V. S. after the addition of potassium iodide.

Diacetylmorphina.—Melting point: about 172° C. On dissolving about 0.01 Gm. in a few drops of nitric acid, a yellow color is produced, gradually changing to greenish-blue. On heating about 0.1 Gm. with 1 Cc. of alcohol and 1 Cc. of sulphuric acid, ethyl acetate is produced, recognizable by its odor. Ash: not exceeding 0.1 percent. On dissolving 0.2 Gm. of Diacetylmorphine in 5 Cc. of

distilled water with the aid of a few drops of hydrochloric acid, and then pouring this solution slowly into 5 Cc. of a 5 percent. potassium hydroxide solution, shaking the test-tube occasionally, a white precipitate will be formed, which is quickly redissolved, yielding a clear solution (other alkaloids). On heating this solution, no odor of ammonia should be noticeable (ammonium salts). A solution of about 0.02 Gm. in 2 Cc. of sulphuric acid should not be colored (organic impurities). Dissolve about 0.05 Gm. of potassium ferricyanide in 10 Cc. of distilled water, add 1 drop of ferric chloride T. S. and then 1 Cc. of an alcoholic solution of Diacetylmorphine (1 in 100); no blue color should be produced at once (morphine). Dissolve 1 Gm. of Diacetylmorphine in 10 Cc. of distilled water and 5 Cc. of diluted hydrochloric acid in a porcelain dish, and evaporate the solution on a water-bath to a syrupy consistence (to about 2 Cc.) Transfer this residue to a separatory funnel with the aid of 25 Cc. of distilled water, render it alkaline with sodium hydroxide solution (10 percent.) and then shake it out with 3 successive portions of 15, 10 and 5 Cc. of chloroform, passing the chloroform through a small filter previously moistened with chloroform. Evaporate the combined chloroform solution to dryness, dissolve the residue in 10 Cc. of fiftieth-normal sulphuric acid V. S., add a few drops of cochineal T. S. and titrate the excess of the acid with fiftieth-normal potassium hydroxide V. S. Not less than 7.5 Cc. of the latter should be required (limit of foreign alkaloids).

Diacetylmorphinae Hydrochloridum.—An aqueous solution should be neutral or not more than faintly acid to litmus. Melting point: about 230° C. with partial decomposition. An aqueous solution yields with silver nitrate T. S. a white precipitate insoluble in nitric acid. In other respects the salt should respond to the tests of identity and purity given under Diacetylmorphina.

Diastasum.—A mixture containing amylolytic enzymes obtained from an infusion of malt. It should be capable of converting not less than 50 times its weight of starch into sugar. Mix a quantity of potato starch, which has been purified as described under Pancreatinum, equivalent to 5 Gm. of dry starch, in a beaker with 10 Cc. of cold distilled water. Add 140 Cc. of boiling distilled water, and heat the mixture on a water-bath with constant stirring for 2 minutes, or until a translucent, uniform paste is obtained. Cool the paste to 40° C. in a water-bath previously adjusted to this temperature, and add a solution of 0.1 Gm. of Diastase in 10 Cc. of distilled water at 40° C., just previously made. Mix well and maintain the same temperature for exactly 30 minutes, stirring frequently, when a thin, nearly clear liquid should be produced. At once add 0.1 Cc. of this liquid to a previously made mixture of 0.2 Cc. of tenth-normal iodine V. S. and 60 Cc. of distilled water. No blue nor reddish color should be produced.

Elaterinum.—Melting point omitted. Added tests: On stirring about 0.01 Gm. of Elaterin with 1 Cc. of sulphuric acid, only a yellow color should be produced (readily carbonizable impurities). A solution of about 0.01 Gm. of Elaterin in 5 Cc. of melted phenol becomes crimson on the addition of a few drops of sulphuric acid and rapidly changes to scarlet. Ash statement changed from "no residue on ignition" to "non-weighable." On shaking about 0.1 Gm. of Elaterin with a mixture of 9 Cc. of distilled water and 1 Cc. of diluted hydrochloric acid,

separate portions of the filtered liquid should not yield turbidity or precipitate with potassium mercuric iodide T. S. or iodine T. S. (alkaloids). Identity tests with sulphuric acid, ammonium vanadate and potassium dichromate omitted.

Eucalyptol.—Boiling point changed from "176° to 177° C." to "about 177° C." Congealing point changed from "somewhat below 0° C." to "not below 0° C."

Eugenol.—Specific gravity changed from "1.066 to 1.068" to "from 1.064 to 1.070" and boiling point changed from "251° to 253° C." to "from 250° to 255° C." It is strongly refractive.

Ferri Carbonas Saccharatus.—Assay changed from titration with N/10 KMnO_4 V. S. to titration with N/10 $\text{K}_2\text{Cr}_2\text{O}_7$ V. S.

Ferri Chloridum.—Rubric changed from "not less than 22 percent. of metallic iron in the form of chloride" to "ferric chloride in hydrated form corresponding to not less than 21 percent. by weight of iron." During evaporation retain a small excess of hydrochloric acid. Assay: weighing-bottle directed.

Ferri et Ammonii Citras.—No change.

Ferri et Quininae Citras.—No change.

Ferri et Quininae Citras Solubilis.—No change.

Ferri Hydroxidum cum Magnesii Oxido.—Reverse the order of mixing the Iron and Magnesia.

Ferri Phosphas Solubilis.—No change.

Ferri Pyrophosphas Solubilis.—No change.

Ferri Sulphas.—Rubric changed from "not less than 99.5 percent. of pure Ferrous Sulphate" to "not less than 54.36 nor more than 57.07 percent. of anhydrous FeSO_4 ."

Ferri Sulphas Exsiccatus.—Rubric added requiring not less than 80 percent. by weight of anhydrous FeSO_4 .

Ferri Sulphas Granulatus.—Assay as under *Ferri Sulphas*.

Ferrum.—No change.

Ferrum Reductum.—Assay: Weigh accurately about 1 Gm. of Reduced Iron, previously well triturated, introduce it into a 100 Cc. measuring flask and add 10 Gm. of finely powdered mercuric chloride and 50 Cc. of boiling distilled water. Keep the mixture boiling on wire gauze over a small flame for five minutes, shaking it frequently; then fill the flask to the 100 Cc. mark with distilled water, recently boiled and cooled, and cool to room temperature. Again fill the flask to the mark, agitate the contents well, stopper, and allow it to stand for a few minutes. Now filter the contents of the flask and immediately titrate 10 Cc. of the filtrate, to which has been added 10 Cc. of diluted sulphuric acid, with tenth-normal potassium permanganate V. S. It should show not less than 90 percent. of Reduced Iron when calculated to the original weight of iron taken.

Glycerinum.—Odor: changed from "odorless" to "not more than a slight, characteristic odor, which is neither harsh nor disagreeable." Specific gravity: changed from "not less than 1.246" to "not below 1.249." Added test: On heating a few drops of Glycerin with about 0.5 Gm. of potassium bisulphate, pungent odors of acrolein will be evolved. Glycerin should appear colorless when viewed transversely in a tube of colorless glass not more than 30 mm. in diameter. Modified residue test: Heat 50 Gm. of Glycerin in an open, shallow 100 Cc. porcelain

or platinum dish until it ignites, then allow it to burn without further application of heat in a place free from draught. Not more than 0.015 percent. of carbonaceous and mineral residue should remain. This residue, when subjected to a low red heat, until combustion is complete, should leave not more than 0.007 percent. of mineral residue, and this residue, when dissolved in 10 Cc. of distilled water and titrated with hundredth-normal silver nitrate V. S., using potassium chromate T. S. as indicator, should indicate the absence of chlorides exceeding 0.001 percent. calculated as sodium chloride. Added tests: Mix 100 Gm. of Glycerin with 200 Cc. of freshly boiled distilled water and 5 Cc. of normal potassium hydroxide V. S. and boil the mixture for five minutes. It should require not less than 4 Cc. of normal hydrochloric acid V. S. for neutralization, using phenolphthalein T. S. as indicator (limit of fat acids and esters). A mixture of 5 Cc. of Glycerin and 5 Cc. of an aqueous solution of potassium hydroxide (1 in 10) should not become yellow when kept for 5 minutes at 60° C. (acrolein, glucose) nor emit an ammoniacal odor (ammonium compounds).

Glycyrrhizinum Ammoniatum.—Ash changed from “not more than a trace” to “not exceeding 0.2 percent.”

Gossypium Purificatum.—Ash changed from “not exceeding 0.3 percent.” to “not exceeding 0.2 percent.” Added tests: Thoroughly saturate about 10 Gm. of Purified Cotton with 100 Cc. of distilled water in a glass jar, then press out into white, porcelain dishes with the aid of a glass rod two portions of the water, 25 Cc. each. Add to one portion 3 drops of phenolphthalein T. S. and to the other portion 1 drop of methyl-orange T. S. No pink color should develop in either portion (alkali or acid). Extract 5 Gm. of Purified Cotton in a narrow percolator with ether until 20 Cc. of percolate is secured and evaporate the percolate to dryness. The residue should not exceed 0.6 percent. (fatty matter). Extract 10 Gm. of Purified Cotton in a narrow percolator with alcohol until 100 Cc. of percolate is obtained. When observed downward through a column 20 cm. in depth, the percolate may show a yellowish color, but should not display a blue or green tint (dyes); and, on evaporation to dryness, the residue should not weigh more than 0.5 percent. (resins and soap).

Guaiacol.—Specific gravity changed from “1.110 to 1.114” to “from 1.120 to 1.140.” Melting point changed from 28.5° C. to “about 28° C.” Boiling point changed from 205° C. to “from 200° to 205° C.” Added test: Residue when volatilized not more than 0.1 percent. Benzin mixture should separate into two clear layers.

Guaiacolis Carbonas.—Melting point: changed from “84° to 87° C.” to “from 83° to 87° C.” Added test: Ash not exceeding 0.1 percent. Modified tests: A saturated alcoholic solution should not respond to the ferric chloride test nor be acid to moisten litmus paper. Added test: One-tenth Gm. of Guaiacol Carbonate should dissolve in 2 Cc. of sulphuric acid without producing other than a faint yellowish color. Heat about 0.5 Gm. of Guaiacol Carbonate for a few minutes with 10 Cc. of alcoholic potassium hydroxide T. S. and cool the mixture. A crystalline precipitate is formed, which effervesces with acids; if the alcohol be evaporated from the filtrated liquid, the residue supersaturated with diluted

sulphuric acid and extracted with ether, the separated ether layer, upon spontaneous evaporation of the ether, leaves a residue which should respond to the tests of identity given under Guaiacol.

Hexamethylenamina.—Tannic acid and mercuric chloride tests omitted. Added tests: Ash not exceeding 0.05 percent. An aqueous solution of Hexamethylenaminé (1 in 50) should not become colored or turbid when mixed with an equal volume of hydrogen sulphide T. S. (heavy metals); on acidulating an aqueous solution (1 in 50) with nitric acid, separate portions of it should not be rendered turbid by barium chloride T. S. (sulphate), nor more than slightly opalescent by silver nitrate T. S. (chloride). On adding 1 Cc. of alkaline mercuric potassium iodide T. S. to 10 Cc. of an aqueous solution of Hexamethylenamine (1 in 20), no color should be produced (ammonium salts).

Homatropinae Hydrobromidum.—Melting point changed from 213.8° C. to "about 212° C. with partial decomposition." Ash: changed from "no residue upon incineration" to "non-weighable." Sulphuric acid and potassium dichromate tests and the separation of the base omitted.

Hydrargyri Chloridum Corrosivum.—Assays: as HgS; an alternative electrolytic method also given.

Hydrargyri Chloridum Mite.—Rubric changed from "not less than 99.5 percent." to "not less than 99.8 percent. by weight." Assays: Solution in N/10 iodine V. S. and residual titration with N/10 Na₂S₂O₃ V. S.; an alternative electrolytic method also given.

Hydrargyri Iodidum Flavum.—Rubric changed from "not less than 99.5 percent." to "not less than 99 percent. by weight." Assays: as under Hydrargyrum Chloridum Mite.

Hydrargyri Iodidum Rubrum.—Rubric changed from "not less than 98.5 percent." to "not less than 99 percent. by weight." Assay: electrolytic.

Hydrargyri Oxidum Flavum.—Moisture limit 1 percent. with method for estimation. Assays: solution in HNO₃ and titration* with N/10 KCNS V. S.; alternative electrolytic method also given.

Hydrargyri Oxidum Rubrum.—Moisture limit 1 percent. with method for estimation. Assays: solution in HNO₃ and titration with N/10 KCNS V. S.; an alternative electrolytic method also given.

Hydrargyri Salicylas.—Rubric given requiring from 54 to 59.5 percent. of mercury. Identity tests consist of the formation of mercuric iodide when heated with iodine and the separation and identification of salicylic acid. Ash not exceeding 0.2 percent. The salt should not have an acid reaction (free salicylic acid) nor develop a dark color at once when shaken with hydrogen sulphide T. S. (foreign mercury compounds); 0.2 Gm. should dissolve completely in 4 Cc. of N/1 NaOH V. S. Assay: Weigh accurately about 0.5 Gm. of Mercuric Salicylate and digest it in 15 Cc. of sulphuric acid and 10 Cc. of nitric acid on a water-bath until dissolved. Cool the solution, then dilute it with 150 Cc. of distilled water, add 30 Cc. of solution of hydrogen dioxide and mix well. Now add gradually with constant stirring 5 Cc. of diluted hypophosphorous acid, then 5 Gm. of sodium chloride dissolved in 20 Cc. of distilled water; stir thoroughly and allow it to stand until the precipitate has subsided. Filter and wash the

precipitate and filter well with distilled water. Transfer the precipitate and filter to a flask, add 50 Cc. of tenth-normal iodine V. S. and 2 Gm. of potassium iodide and agitate the mixture until all of the precipitate has been dissolved. Titrate the excess of tenth-normal iodine V. S. with tenth-normal sodium thiosulphate V. S. It should not show less than 54 nor more than 59.5 percent. of mercury.

Hydrargyrum.—Rubric changed from “not less than 99.9 percent.” to “not less than 99.5 percent. by weight.” Assays: solution in HNO_3 and titration with $\text{N}/10$ KCNS V. S.; an alternative electrolytic method also given.

Hydrargyrum Ammoniatum.—Assay: electrolytic.

Hydrargyrum cum Creta.—Rubric added requiring not less than 37 nor more than 39 percent. by weight of Hg. Assay: solution in HNO_3 and titration with $\text{N}/10$ KCNS V. S.

Hydrastina.—Melting point: changed from 131°C . to “about 131°C .” Ash: non-weighable. Added tests: A solution of about 0.1 Gm. of Hydrastine in 10 Cc. of diluted sulphuric acid develops a blue colored fluorescence on the addition of potassium permanganate T. S., but no fluorescence should be visible before the addition of the reagent (hydrastinine). An aqueous solution of Hydrastine (1 in 20) made with the aid of a slight excess of diluted hydrochloric acid, should not be reddened by chlorine water (berberine). Sulphuric acid and potassium dichromate test omitted.

Hydrastinae Hydrochloridum.—An aqueous solution should be neutral or only slightly acid to litmus. An aqueous solution yields with silver nitrate T. S. a white precipitate insoluble in nitric acid. In other respects the salt should respond to the tests of identity and purity given under Hydrastina.

Hydrastininae Hydrochloridum.—Melting point changed from 212°C . to “about 210°C .” Ash: changed from “completely consumed” to non-weighable. Sulphuric and nitric acid test omitted.

Hyoscyaminae Hydrobromidum.—Melting point: changed from 151.8°C . to “about 152°C .” Melting points of chloraurates and picrates omitted. Ash: changed from “no residue on incineration” to non-weighable. Modified morphine test: About 0.05 Gm. of the salt should dissolve in 1 Cc. of sulphuric acid with not more than a faint yellow color (carbonizable impurities). On adding a drop of nitric acid to this acid solution, an orange color due to the liberation of bromine will be produced, but no deep red color fading to orange should be noticeable.

Iodoformum.—Modified tests: On shaking about 2 Gm. of Iodoform for 1 minute with 10 Cc. of distilled water, the filtrate should be colorless and free from bitter taste (soluble yellow coloring matters, picric acid, etc.); it should not affect the color of litmus (acids or alkalies). Silver nitrate test for iodides omitted.

Iodum.—Rubric changed from “not less than 99 percent.” to “not less than 99.5 percent. by weight.”

Limonis Succus.—Rubric added requiring from 7 to 9 percent. of citric acid. It should be free from added preservatives; preserved by sterilization. Specific gravity changed from “1.030 to 1.040” to “from 1.030 to 1.045.” Added tests: Silver nitrate test for hydrochloric acid. On boiling Lemon Juice with metallic copper, no reddish vapors should be evolved (nitric acid): Modified tartaric

acid test: On the addition of sufficient lime water to 1 Cc. of boiled and filtered Lemon Juice to render the mixture alkaline, the liquid should remain clear; on boiling, it becomes opaque through the precipitation of calcium citrate. Assay: The titration of about 10 Cc. of Lemon Juice, accurately weighed, with normal potassium hydroxide V. S., using phenolphthalein T. S. as indicator, should show from 7 to 9 percent. of citric acid.

Lithii Bromidum.—Rubric changed from “not less than 97 percent.” to “not less than 98.5 percent. by weight in the dried salt.” Water limit 15 percent. with method for estimation. Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Lithii Carbonas.—No change.

Lithii Citras.—Moisture limit 3 percent. with method for estimation. Assay changed from conversion to sulphate and weighing of residue, to ignition and residual titration with N/2 H_2SO_4 V. S. and N/1 KOH V. S.

Lithii Salicylas.—Assay as under *Lithii Citras*, using N/1 HCl V. S. instead of N/2 H_2SO_4 V. S.

Magnesii Carbonas.—No change.

Magnesii Oxidum.—Rubric changed from “not less than 96 percent.” to “not less than 95 percent. by weight after ignition.” Water limit, 15 percent. with method for estimation.

Magnesii Oxidum Ponderosum.—Rubric added requiring “not less than 95 percent. by weight of MgO after ignition.”

Magnesii Sulphas.—Rubric changed from “not less than 99.7 percent. of pure magnesium sulphate” to “not less than 48.59 nor more than 51.02 percent. by weight of anhydrous MgSO_4 .” Assay added directing precipitation, ignition, and weighing as magnesium pyrophosphate.

Maltum.—Rubric added requiring that it should be capable of converting not less than 5 times its weight of starch into sugars. For determining soluble constants, acidity and starch converting power prepare an infusion as follows: Mix 10 Gm. of Malt in No. 12 powder with 100 Cc. of distilled water and maintain the mixture at a temperature of from 50° to 55° C. for one hour with occasional stirring. Place it upon a filter and when it has drained, wash the contents of the filter with distilled water in small portions, until the combined infusion and washings measure 200 Cc. To determine the starch converting power of Malt, proceed as directed under *Diastasum*, using 20 Cc. of the freshly prepared infusion in place of the solution of diastase there directed.

Mangani Dioxidum Præcipitatum.—No change.

Mangani Hypophosphis.—Assay added as under *Calcii Hypophosphis*.

Mel.—Ash changed from 0.3 percent. to “not less than 0.1 nor more than 0.8 percent.” Added tests: The color of an aqueous solution of Honey (1 in 2) should not be changed at once when mixed with an equal volume of ammonia water (foreign coloring matter); 5 Cc. of the aqueous solution should not at once acquire a red or rose color on the addition of a few drops of hydrochloric acid (azo dyes). A solution of 10 Gm. of Honey in 50 Cc. of distilled water should not require more than 0.5 Cc. of normal potassium hydroxide V. S. for

neutralization, phenolphthalein T. S. being used as indicator. On shaking 1 Cc. of aniline with 1 Cc. of distilled water and enough glacial acetic acid to produce a clear liquid and permitting this to flow down the wall of a test-tube upon 5 Cc. of a solution of Honey in an equal weight of distilled water, so as to form a separate layer, no red or pink zone should be produced within 15 minutes (invert sugar).

Mel Depuratum.—No change.

Menthol.—Melting point changed from 43° C. to “from 42° to 44° C.” Boiling point omitted. Residue: when volatilized, changed from “no residue” to “not exceeding 0.05 percent.”

Methylthioninae Hydrochloridum.—Ash: changed from 0.4 percent. to “not exceeding 1 percent.” Modified arsenic test: Intimately mix 0.5 Gm. of Methylthionine Hydrochloride with about 1 Gm. each of potassium nitrate and anhydrous sodium carbonate and heat the powdered mixture in a crucible until organic matter is completely oxidized. Then dissolve the cooled residue in 15 Cc. of diluted sulphuric acid and evaporate the solution over a flame until vapors of sulphuric acid begin to evolve. The residue so obtained should not respond to the test for arsenic. Added tests: Heat about 0.5 Gm. of Methylthionine Hydrochloride at a temperature below a red heat until it is completely carbonized, then boil the powdered residue with 10 Cc. of diluted hydrochloric acid for 5 minutes, filter the liquid and wash the residue with 10 Cc. of distilled water. The combined liquids, when boiled with 1 Cc. of nitric acid and supersaturated with ammonia water and filtered, if necessary, should remain clear and colorless upon the addition of an equal volume of hydrogen sulphide T. S. (zinc, etc.) A solution of about 1 Gm. in 50 Cc. of boiling alcohol should leave not more than 1 percent. of residue, after washing on a filter with 50 Cc. of boiling alcohol and drying at 100° C. (dextrin, etc.)

Morphina.—Ash: changed from “no residue on ignition” to “not exceeding 0.1 percent.” Added test: Dissolve 1 Gm. of Morphine in 10 Cc. of sodium hydroxide T. S., shake out the solution with three successive portions of 15, 10 and 10 Cc. of chloroform, and pass the chloroform extract through a small filter previously moistened with chloroform. Evaporate the combined chloroform extracts to dryness, dissolve the residue in 10 Cc. of fiftieth-normal sulphuric acid V. S., then add a few drops of cochineal T. S. and titrate the excess of acid with fiftieth-normal potassium hydroxide V. S. Not less than 7.5 Cc. of the latter should be required (limit of foreign alkaloids). Tests with potassium iodate, mercuric potassium iodide and potassium dichromate omitted.

Morphinae Hydrochloridum.—Modified apomorphine test: On adding potassium carbonate T. S. to a solution of the salt (1 in 30), a white precipitate is produced which should not become greenish on exposure to air nor yield a color to chloroform when shaken with it. Test for foreign alkaloids added.

Morphinae Sulphas.—Test for foreign alkaloids added.

Oleum Amygdalae Expressum.—Iodine value; changed from “95 to 100” to “from 93 to 100.”

Oleum Gossypii Seminis.—Nitric acid and Becchi's silver nitrate tests omitted.

Saponification value changed from "191 to 196" to "from 190 to 198." Iodine value changed from "102 to 108" to "from 104 to 111."

Oleum Lini.—Test for mineral and rosin oils by saponification and solution of the soap omitted.

Oleum Morrhuæ.—Test with a glass rod moistened with sulphuric acid omitted. Saponification value changed from "175 to 185" to "from 180 to 190." Iodine value changed from "140 to 150" to "from 140 to 180."

Oleum Olivæ.—Omit from cotton seed oil test "after standing for 6 hours should change into a yellowish solid mass and an almost colorless liquid." Becchi's silver nitrate test for cotton seed oil omitted. Saponification value changed from "191 to 195" to "from 190 to 195." Iodine value changed from "80 to 88" to "from 79 to 90."

Oleum Ricini.—Iodine value changed from "84 to 88" to "from 83 to 88."

Oleum Theobromatis.—No change.

Oleum Tiglii.—Saponification value changed from "203 to 215" to "from 206 to 215." Iodine value changed from "103 to 109" to "from 104 to 110."

Oxygenium Compressum.—Rubric requires 95 percent. by volume of O. Passing 2000 Cc. of the gas through 100 Cc. of $\text{Ba}(\text{OH})_2$ T. S. at a given rate and under normal atmospheric pressure should produce not more than an opalescent turbidity (carbon dioxide). No opalescence should be produced by 1 Cc. of AgNO_3 T. S. in 100 Cc. of distilled water through which 2000 Cc. of the gas has been passed (halogens). On coloring 100 Cc. of distilled water with litmus the color should not be changed by passing through it 2000 Cc. of the gas (acids or bases). Assay: by absorption in alkaline pyrogallate T. S.

Pancreatinum.—Assay: Shake 10 Gm. or more of powdered potato starch with about 10 times its weight of cold distilled water and after draining on a filter, wash it with the same quantity of distilled water. Place the washed starch at once in an air-bath and maintain a temperature of about 50°C ., until the starch is sensibly dry. Reduce it to a fine powder and place it in a well-stoppered bottle. Determine the percentage of water still remaining in the starch by drying about 0.5 Gm. of it in an air-bath gradually raising the temperature to 120°C . and maintaining it at that temperature for 4 hours. Of the washed and partially dried starch mix a quantity equivalent to 7.5 Gm. of dry starch in a 400 Cc. beaker with 10 Cc. of cold distilled water, add 190 Cc. of boiling distilled water and heat the mixture on a water-bath, with constant stirring, for two minutes or until a translucent, uniform paste is obtained. Cool the paste to 40°C . in a water-bath previously adjusted to this temperature and add a solution of 0.3 Gm. of Pancreatin in 10 Cc. of distilled water, just previously made at 40°C . Mix well and maintain the same temperature for exactly 5 minutes, when a thin, nearly clear liquid should be produced. At once add 0.1 Cc. of this liquid to a previously made mixture of 0.2 Cc. of tenth-normal iodine V. S. and 60 Cc. of distilled water. No blue or reddish color should be produced.

Paraffinum.—Specific gravity changed from "0.890 to 0.905" to "about 0.900." Melting point changed from " 51.6° to 57.2°C ." to "from 50° to 57°C ." Added test: After shaking melted paraffin with an equal volume of hot alcohol, the alcohol should not show an acid reaction with moistened litmus paper (acids).

Paraldehydum.—Boiling point changed from " 121° to 125°C ." to "from 120°

to 125° C." Congealing point changed from "near 0° C." to "not below 6° C." Residue on evaporation not exceeding 0.05 percent.

Pelletierinae Tannas.—Statement that soluble lead, mercury and zinc salts are precipitated by Pelletierine Tannate and that it reduces silver and gold salts omitted. Ash changed from "no residue on ignition" to non-weighable. Added test: Weigh accurately about 0.5 Gm. of Pelletierine Tannate, dissolve it in 5 Cc. of potassium hydroxide T. S., and shake the solution in a separator with 10 Cc. of chloroform, then with two or more successive portions of 5 Cc. each of chloroform. Acidulate the chloroformic extract with 0.1 Cc. of hydrochloric acid, evaporate it to apparent dryness, then dissolve the residue in 5 Cc. of alcohol; again evaporate and dry for 1 hour at 60° C. The weight of residue so obtained should correspond to not less than 20 percent. of the weight taken. The residue obtained in the preceding test should respond to the following tests of identity and purity: On stirring about 0.001 Gm. of the residue on a white porcelain surface with 2 drops of sulphuric acid containing a trace of selenous acid and warming the mixture, a light bluish-green color will be produced which gradually changes to dark green and develops a pink border. On stirring about 0.001 Gm. of the residue on a white porcelain surface with 2 drops of sulphuric acid or nitric acid, no color other than a light yellow should be produced.

Pepsinum.—Assay: Mix 25 Cc. of normal hydrochloric acid V. S. with 275 Cc. of distilled water and dissolve in this liquid 0.2 Gm. of Pepsin. Immerse a hen's egg, which should be not less than five nor more than twelve days old, in boiling water during 15 minutes. As soon as the egg has sufficiently cooled to handle it, remove the pellicle and all of the yolk; at once rub the albumin through a No. 40 silk or hair sieve, rejecting the first portion that passes through the sieve, and place 10 Gm. of the succeeding portion in a wide-mouthed bottle of 100 Cc. capacity. Immediately add 2 Cc. of the acid liquid and with the aid of a rubber-tipped glass rod moisten the albumin uniformly. Again add 2 Cc. of the acid liquid, repeating the manipulation with the glass rod, and with gradually increasing portions of the acid liquid, until 20 Cc. has been added in all. Thoroughly separate the particles of albumin from each other, then rinse the rod with 15 Cc. more of the acid liquid, and after warming the mixture to 52° C., add exactly 5 Cc. of the solution of Pepsin. At once cork the bottle securely, invert it three times, and place it in a water-bath that has previously been regulated to maintain a temperature of 52° C. Keep it at this temperature for two and one-half hours, agitating the contents every 10 minutes by inverting the bottle once. Then remove it from the water-bath, pour the contents into a conical glass graduated measure having a diameter not exceeding 1 cm. at the bottom, and transfer the undigested egg albumin which adheres to the sides of the bottle to the measure with the aid of small portions (about 15 Cc. at a time) of distilled water, until 50 Cc. has been used. Stir the mixture well and let it stand for half an hour. The deposit of undissolved albumin should not then measure more than 2 Cc.

Petrolatum.—Specific gravity: changed from "0.820 to 0.850" to "about 0.820 to 0.865 at 60° C." Melting point changed from "45° to 48° C." to "from 38° to 54° C." Ash not exceeding 0.05 percent.

Petrolatum Album.—Petrolatum decolorized or nearly so by filtration through bone-black. White or faintly yellowish colored.

Petrolatum Liquidum.—A transparent liquid, free from fluorescence, without odor or taste, and giving off when heated not more than a faint odor of petroleum. Specific gravity changed from "0.870 to 0.940" to "from 0.845 to 0.940."

Phenol.—Rubric changed from not less than 96 percent. to 97 percent. by weight. Added test: An aqueous solution of Phenol (1 in 15) should be clear and neutral or not more than faintly acid to litmus. Boiling point changed from "178° to 182° C." to "about 182° C." Congealing point changed from "not lower than 39° C." to "not below 38.5° C." Test for creosote and cresol omitted. Residue: when volatilized changed from "no residue" to "not exceeding 0.02 percent."

Phenol Liquefactum.—Modified boiling point statement: "boiling point should not rise above 182° C." In other respects Liquefied Phenol (without the separation of the water, as formerly required) should respond to the tests for identity and purity given under Phenol, omitting the congealing point.

Phenolphthaleinum.—Melting point: about 153° to 158° C. It dissolves in solutions of the alkali hydroxides and carbonates with a red color, varying in shade and intensity with the concentration. The solutions are decolorized by the addition of acids in excess or by heating with zinc dust. Ash: not exceeding 0.05 percent. A solution of 0.5 Gm. of Phenolphthalein in 30 Cc. of alcohol should be colorless (resinous substances). One-half Gm. should dissolve completely in a mixture of 4 Cc. of sodium hydroxide T. S. and 50 Cc. of distilled water (fluorane). A mixture of 250 Cc. of cold recently boiled distilled water and 0.5 Cc. of a solution of Phenolphthalein (1 in 100) in diluted alcohol should not require more than 0.05 Cc. of tenth-normal sodium hydroxide V. S. to produce a pink coloration (various organic impurities). Heat about 1 Gm. of Phenolphthalein on a water-bath for 5 minutes with 20 Cc. of diluted hydrochloric acid, filter the liquid and evaporate the filtrate to dryness. The residue when dissolved in 20 Cc. of distilled water, slightly acidulated with hydrochloric acid, should not respond to time-limit test for heavy metals, the addition of ammonia water being omitted. Heat a crucible to redness and introduce in small portions a mixture of 0.5 Gm. of Phenolphthalein, about 1 Gm. of potassium nitrate; and about 0.5 Gm. of anhydrous sodium carbonate. Maintain a red heat until the reaction ceases, then boil the cooled residue for 5 minutes with 15 Cc. of diluted sulphuric acid, filter, and wash the undissolved residue with 10 Cc. of distilled water. Evaporate the filtrate and washings until sulphuric acid vapors begin to be evolved, then the residue dissolved in 5 Cc. of distilled water should not respond to the test for arsenic.

Phenylis Salicylas.—Melting point changed from 42° C. to "from 41° to 43° C."

Phosphorus.—No change.

Physostigminae Salicylas.—Reaction statement changed from "acid" to "neutral or not more than faintly acid." Identification tests with potassium hydroxide, platinic chloride, formaldehyde, and sugar omitted. Ash changed from "no

residue on incineration" to non-weighable. Added tests: Precipitate the salicylic acid from a cold saturated aqueous solution of the salt with a slight excess of hydrochloric acid, and filter the mixture. The filtrate should not be rendered turbid at once by the addition of barium chloride T. S. (sulphate). A solution of about 0.1 Gm. of Physostigmine Salicylate in 2 Cc. of sulphuric acid should not become darker than yellow within 5 minutes (readily carbonized impurities).

Pilocarpinae Hydrochloridum.—Melting point: after drying to constant weight at 100° C. changed from 195.9° C to "about 195° to 198° C." Sulphuric acid, potassium dichromate and calomel tests omitted. Ash: changed from "entirely consumed on ignition" to non-weighable. Solution in sulphuric acid changed from "colorless" to "should be colorless or not more than faintly yellowish." Added test: The addition of ammonia water or of potassium dichromate T. S. to an aqueous solution of the salt (1 in 100) should produce no turbidity (various foreign alkaloids).

Pilocarpinae Nitras.—Melting point changed from 170.9° C. to "from 170° to 173° C." Test with calomel replaced by the following: The addition of silver nitrate T. S. to an aqueous solution of the salt (1 in 20) acidulated with nitric acid should produce not more than an opalescence (chloride).

Pix Liquida.—No change.

Plumbi Acetas.—Rubric changed from "not less than 99.5 percent. of pure Lead Acetate" to "not less than 85.31 nor more than 89.57 percent. by weight of anhydrous $Pb(C_2H_3O_2)_2$." Assay: Weigh accurately about 5 Gm. of Lead Acetate and dissolve it in sufficient recently boiled distilled water to make exactly 100 Cc. of solution. Mix 10 Cc. of this solution with 50 Cc. of tenth-normal oxalic acid V. S. in a 200 Cc. measuring flask, agitate the mixture thoroughly for five minutes, then fill the flask to the mark with distilled water and filter. The subsequent titration of 100 Cc. of the filtrate (representing 1/20 of the amount of Lead Acetate originally taken) with tenth-normal potassium permanganate V. S., the filtrate being previously acidulated with 10 Cc. of sulphuric acid and warmed to 80° C., should indicate not less than 85.31 percent. of anhydrous Lead Acetate.

Plumbi Oxidum.—Rubric changed from "not less than 96 percent." to "not less than 93 percent. by weight." Assay as under *Plumbi Acetas*.

Potassa Sulphurata.—Rubric given requiring polysulphides, etc., corresponding to not less than 12.85 percent. by weight of sulphur. Description and identity tests given. Assay as under *Calx Sulphurata*.

Potassii Acetas.—Rubric changed from "not less than 98 percent" to "not less than 99 percent. by weight when thoroughly dried." Moisture limit 5 percent. with method for estimation. Assay requires solution of carbonized residue in N/2 H_2SO_4 V. S. and estimated by residual titration with N/2 KOH V. S.

Potassii Bicarbonas.—No change.

Potassii Bitartras.—Rubric changed from "not less than 99 percent." to "not less than 99.5 percent. by weight. Method of assay changed from ignition and titration to direct titration of dissolved salt with N/1 KOH V. S.

Potassii Bromidum.—Rubric changed from "not less than 97 percent." to "not less than 98.5 percent. by weight. Moisture limit 2 percent. with method for esti-

mation. Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Potassii Carbonas.—Rubric changed from “not less than 98 percent.” to “not less than 99 percent. by weight.” Moisture limit 5 percent. with method for estimation.

Potassii Citras.—Assay changed as under *Potassii Acetas*.

Potassii Dichromas.—Rubric changed from “not less than 99 percent.” to “not less than 99.5 percent. by weight.” Assay: Weigh accurately about 1 Gm. of Potassium Dichromate, dissolve it in distilled water to make a volume of 100 Cc., mix 20 Cc. of this solution with 3 Cc. of hydrochloric acid and about 2 Gm. of potassium iodide in a 250 Cc. glass-stoppered flask, and agitate the mixture; when it has stood five minutes dilute it with 100 Cc. of distilled water and titrate with tenth-normal sodium thiosulphate V. S., starch T. S. being used as indicator. It should show not less than 99 percent. of potassium dichromate when calculated to the amount originally taken.

Potassii et Sodii Tartras.—Rubric changed from “not less than 99 percent. of pure Potassium and Sodium Tartrate” to “not less than 73.71 nor more than 77.39 percent. by weight of anhydrous $\text{KNaC}_4\text{H}_4\text{O}_6$.” Assay as under *Potassii Acetas*.

Potassii Ferrocyanidum.—Rubric changed from “not less than 99 percent.” to not less than 86.33 percent. nor more than 90.64 percent. by weight of anhydrous $\text{K}_4\text{Fe}(\text{CN})_6$. Assay: Weigh accurately about 2 Gm. of Potassium Ferrocyanide, dissolve it in 250 Cc. of distilled water, acidulate the solution with 25 Cc. of sulphuric acid and titrate with tenth-normal potassium permanganate V. S. It should show not less than 86.33 percent. of anhydrous Potassium Ferrocyanide.

Potassii Hydroxidum.—Assay: Weigh accurately about 10 Gm. of Potassium Hydroxide, in a glass-stoppered weighing-bottle, dissolve it in 250 Cc. of distilled water, which has been previously boiled and cooled, in a 500 Cc. graduated flask, and add 30 Cc. of barium chloride T. S. Now fill the flask to the mark with distilled water, which has been previously boiled and cooled, and thoroughly agitate the liquid. Then pass the liquid in the flask through a dry filter (rejecting the first 20 Cc.), then titrate 100 Cc. of the clear filtrate with normal hydrochloric acid V. S., using phenolphthalein T. S. as indicator. It should show not less than 85 percent. of Potassium Hydroxide when calculated to the amount originally taken.

Potassii Hypophosphis.—Assay as under *Calcii Hypophosphis*.

Potassii Iodidum.—Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Potassii Nitras.—Assay: Weigh accurately about 0.4 Gm. of Potassium Nitrate, dissolve it in 10 Cc. of hydrochloric acid in a small glass dish, and evaporate the solution to dryness on a water-bath. Dissolve the residue in 10 Cc. of hydrochloric acid and again evaporate it to dryness on a water-bath. Transfer the residue with the aid of distilled water to a flask, add 50 Cc. of tenth-normal silver nitrate V. S., agitate well, add 2 Cc. of nitric acid and 2 Cc. of ferric ammonium sulphate T. S., and titrate the excess of silver nitrate V. S. with tenth-normal

potassium sulphocyanate V. S. It should indicate not less than 99 percent. of potassium nitrate.

Potassii Permanganas.—No change.

Pyrogallol.—Melting point changed from 132° C. to "from 128° to 132° C." Ash: changed from "no residue on ignition" to "not exceeding 0.1 percent." Requirements for a freshly prepared aqueous solution changed from "colorless" to "colorless or not more than slightly yellowish," and from "neutral" to "neutral or not more than slightly acid."

Pyroxylinum.—Ash: changed from non-weighable to "not exceeding 0.3 percent." Added test: On stirring 1 Gm. of Pyroxylin with 20 Cc. of distilled water, the latter should not acquire an acid reaction, and on evaporating 10 Cc. of the filtered liquid to dryness on a water-bath, not more than 0.0015 Gm. of residue should be left (soluble impurities).

Quinina.—Melting point omitted. Added test: Solutions of Quinine in diluted sulphuric acid show a vivid blue fluorescence. Modified thalleioquin test: On adding 2 or 3 drops of bromine T. S. to 1 Cc. of an aqueous solution of Quinine (1 in 100) made with the aid of just sufficient diluted sulphuric acid to effect solution, and then introducing 1 Cc. of ammonia water, the liquid will acquire an emerald-green color. The iodo-sulphate and the copper sulphate-hydrogen dioxide tests omitted. Loss on drying at 125° C. changed from "not exceeding 14.3 percent." to "not exceeding 15 percent." Added test: Ash not exceeding 0.1 percent. Modified test for other cinchona alkaloids: Dissolve 1.74 Gm. of Quinine in 20 Cc. of alcohol, dilute the solution with 50 Cc. of hot distilled water and neutralize it with normal sulphuric acid V. S., using litmus T. S. as indicator. Evaporate the liquid to dryness on a water-bath, powder the residue, mix it in a test-tube with 20 Cc. of distilled water and complete the test as under Quininae Sulphas. (8th Rev.).

Quininae Bisulphas.—Melting point omitted. Loss on drying at 100° C. not exceeding 25 percent. Ash changed from "no residue on ignition" to "not exceeding 0.05 percent." Modified test for other cinchona alkaloids: Dissolve 2.52 Gm. of Quinine Bisulphate in 50 Cc. of hot distilled water and neutralize the solution with normal sodium hydroxide V. S., using litmus T. S. as indicator. Evaporate the solution to dryness on a water-bath, powder the residue, mix it in a test-tube with 20 Cc. of distilled water and complete the test as under Quininae Sulphas. (8th Rev.).

Quininae et Ureae Hydrochloridum.—Rubric requires not less than 58 percent. of anhydrous quinine. An aqueous solution is strongly acid. Silver nitrate T. S. produces in an aqueous solution a white precipitate insoluble in nitric acid. Add 2 Cc. of colorless nitric acid to a cold solution of about 1 Gm. of the salt in 2 Cc. of distilled water and cool the mixture at once in iced water. Crystalline leaflets of urea nitrate will be formed on standing. Collect the crystals in a funnel upon glass-wool, wash them with about 5 Cc. of a cold mixture of equal volumes of nitric acid and distilled water, and, after draining them, dissolve the crystals in a few Cc. of distilled water. The addition of a few drops of solution of mercuric nitrate to the urea nitrate solution, then the addition of sodium hydroxide T. S. to only a slightly acid reaction, will produce a white precipi-

tate. The quinine obtained by precipitating an aqueous solution of the salt (1 in 20) with sodium hydroxide T. S., washing it on a filter with cold water until the washings give only a faint opalescence with silver nitrate T. S., and then drying it at a moderate temperature, should respond to the tests for identity and purity given under *Quinina*. Ash: not exceeding 0.05 percent. A solution of about 0.1 Gm. of the salt in 2 Cc. of sulphuric acid should not be darker in color than light yellow (readily carbonizable matter). On warming 10 Cc. of an aqueous solution of the salt (1 in 20) with 5 Cc. of sodium hydroxide T. S. to 50° C., no alkaline vapors should be evolved at once (ammonium compounds). Assay: Weigh accurately about 0.5 Gm. of *Quinine* and *Urea Hydrochloride*, dissolve it in 5 Cc. of distilled water in a separator, then add 5 Cc. of potassium hydroxide T. S., and shake the mixture with 10 Cc. of ether, then with two or more successive portions of 5 Cc. of ether to completely extract the quinine. Upon evaporation of the combined ether extracts and drying to a constant weight at 100° C., the residue of anhydrous quinine should correspond to not less than 58 percent. of the weight of the salt taken.

Quininae Hydrobromidum.—Melting point omitted. Test with ammonia water omitted. Loss on drying at 100° C. changed from “not exceeding 4.25 percent.” to “not exceeding 5 percent.” Ash: changed from “no residue on ignition” to “not exceeding 0.05 percent.” Added test: The addition of a few drops of diluted sulphuric acid to 10 Cc. of a hot aqueous solution of the salt (1 in 20) should produce no turbidity (barium). Potassium ferricyanide test omitted. Modified test for other cinchona alkaloids: Dissolve 2.93 Gm. of *Quinine Hydrobromide* in 20 Cc. of distilled water at 65° C. in a test-tube of about 80 Cc. capacity, add a solution of 1.5 Gm. of crystallized sodium sulphate in 10 Cc. of distilled water warmed to 65° C. and maintain the mixture at this temperature for half an hour, shaking it frequently and thoroughly in the stoppered tube. Then cool it to 15° C. and keep it at this temperature for two hours, shaking it occasionally. Now filter the liquid through filter paper of 8 to 10 cm. diameter and complete the test with 5 Cc. of the filtrate as under *Quininae Sulphas*. (8th Rev.).

Quininae Hydrochloridum.—Melting point omitted. Loss on drying changed from not less than 9.1 percent.” to “not exceeding 10 percent.” Ash changed from “no residue on ignition” to “not exceeding 0.05 percent.” Requirement for solution in sulphuric acid changed from “colorless” to “not darker than light yellow (organic impurities).” Added test: This solution should not be colored red by the addition of a few drops of nitric acid (difference from morphine). Potassium ferricyanide test omitted. Added tests: The addition of a few drops of diluted sulphuric acid to 10 Cc. of an aqueous solution of the salt (1 in 20) should produce no turbidity (barium). Modified test for other cinchona alkaloids: Dissolve 2.75 Gm. of *Quinine Hydrochloride* in 20 Cc. of distilled water at 65° C. in a test-tube of about 80 Cc. capacity, add a solution of 1.5 Gm. of crystallized sodium sulphate in 10 Cc. of distilled water warmed to 65° C. and maintain the mixture at this temperature for half an hour, shaking it frequently and thoroughly in the stoppered tube. Then cool it to 15° C. and keep it at this

temperature for 2 hours, shaking it occasionally. Now filter the liquid through filter paper of from 8 to 10 cm. diameter and complete the test with 5 Cc. of the filtrate as directed under *Quininae Sulphas*. (8th Rev.).

Quininae Salicylas.—Melting point omitted. Formaldehyde test omitted. Modified thalleioquin test: On adding 1 or 2 drops of bromine T. S. to 10 Cc. of a dilute aqueous solution of Quinine Salicylate and then introducing an excess of ammonia water, an emerald-green color will be produced. Formula changed from one to two molecules of water of crystallization, hence loss on drying changed from "not more than 2 percent." to "not exceeding 5 percent." Ash: changed from "no residue on ignition" to "not exceeding 0.05 percent." Added test: On shaking about 0.4 Gm. of the salt with 20 Cc. of distilled water and 1 Cc. of nitric acid, separate portions of the filtered solution should not be rendered more than slightly opalescent by the addition of barium chloride T. S. (sulphate) or silver nitrate T. S. (chloride). Modified test for other cinchona alkaloids: Mix 2.21 Gm. of Quinine Salicylate in a separator with 10 Cc. of distilled water, add 5 Cc. of ammonia water, and shake the liquid with three successive portions of 25 Cc., 20 Cc. and 10 Cc. of ether. Evaporate the combined ether solutions to dryness on a water-bath, dissolve the residue in 20 Cc. of alcohol, dilute with 50 Cc. of hot distilled water, and neutralize the liquid with normal sulphuric acid V. S., using litmus T. S. as indicator. Evaporate it to dryness on a water-bath, powder the residue, mix it with 20 Cc. of distilled water in a test-tube, and complete the test as under *Quininae Sulphas*. (8th Rev.).

Quininae Sulphas.—Melting point omitted. Temperature for driving off water of crystallization changed from 115° C. to 110° C. Ash: changed from "no residue on ignition" to "not exceeding 0.05 percent."

Quininae Tannas.—Heated in a glass tube the salt melts, forming a purplish colored, tarry mass. Aqueous and alcoholic solutions of the salt are colored blue-black by ferric chloride T. S. Loss on drying not exceeding 10 percent. Ash not exceeding 0.3 percent. Shake about 0.5 Gm. of the salt with a mixture of 50 Cc. of distilled water and 1 Cc. of nitric acid and filter the mixture. Ten Cc. of this filtrate should not become colored on the addition of 1 Cc. of hydrogen sulphide T. S.; other 10 Cc. portions of the filtrate should not become more than slightly turbid on the addition of 1 Cc. of silver nitrate T. S. (chlorides) or barium chloride T. S. (sulphates). Weigh accurately about 2 Gm. of Quinine Tannate, shake it with three successive portions of 25 Cc. each of anhydrous ether, filter, and wash the filter with 10 Cc. of anhydrous ether. Upon the evaporation of the combined filtrates and washing and drying at 100° C., the yield of residue should not exceed 0.25 percent. (uncombined quinine). Weigh accurately about 0.5 Gm. of Quinine Tannate, mix it in a separator with 10 Cc. of distilled water and 10 Cc. of ammonia water, and shake the mixture with 20 Cc. of ether, then with successive 10 Cc. portions of ether until the quinine is completely extracted. Upon the evaporation of the combined ethereal liquids and drying the residue to a constant weight at 100° C., the weight of the anhydrous quinine should correspond to not less than 30 percent. nor more than 35 percent. of the weight of the salt taken. The alkaloid separated from a larger

quantity of the salt, in the manner directed above, should respond to the identity tests, and 1.49 Gm. of the anhydrous alkaloid should conform to the requirements regarding other cinchona alkaloids given under Quina.

Resorcinol.—Rubric added requiring "not less than 99.5 percent. by weight." Boiling point and tartaric acid test omitted. Ash: changed from "completely volatilized at higher temperature than 111° C." to "not exceeding 0.05 percent." Assay: Dissolve about 1.5 Gm. of Resorcinol, accurately weighed, in a sufficient quantity of distilled water to make 500 Cc. Transfer 25 Cc. of the solution to a 500 Cc. glass-stoppered flask having a long and narrow neck, add 50 Cc. of tenth-normal bromine V. S., and dilute with 50 Cc. of distilled water. Then add 5 Cc. of hydrochloric acid and at once stopper the flask. Shake the liquid and allow it to stand for one minute, then dilute it with 20 Cc. of distilled water, add 5 Cc. of potassium iodide T. S. and allow it to stand for five minutes. The titration of the liberated iodine with tenth-normal sodium thiosulphate V. S., starch T. S. being used as indicator, should show not less than 99.5 percent. of pure resorcinol.

Saccharum.—Added test: Ash not exceeding 0.05 percent. An aqueous solution of Sugar (2 in 1) should be colorless when viewed horizontally through a vertical cylinder of colorless glass having an inside diameter of about 25 mm. An aqueous solution of Sugar (1 in 10) should give no precipitate with hydrogen sulphide T. S., and not more than a faint opalescence with ammonium oxalate T. S., barium nitrate T. S. and silver nitrate T. S. (soluble metallic salts). Dissolve 20 Gm. of Sugar in enough distilled water to make 100 Cc. and filter the solution. To 50 Cc. of the filtered liquid, contained in a 250 Cc. beaker, add 50 Cc. of alkaline cupric tartrate V. S., heat the mixture at such a rate that approximately 4 minutes are required to bring it to the boiling point and then boil it for exactly two minutes. Add 100 Cc. of cold recently boiled distilled water and collect and weigh the precipitated cuprous oxide in the following manner: Prepare a Gooch crucible with an asbestos layer. Thoroughly wash the asbestos with distilled water, followed successively by 10 Cc. of alcohol and 10 Cc. of ether; dry it at 100° C., continuing the heat for 30 minutes, and then weigh the prepared crucible. Collect the precipitated cuprous oxide on the asbestos, thoroughly wash it with hot distilled water, then with 10 Cc. of alcohol, and finally with 10 Cc. of ether and dry it at 100° C., continuing the heat for 30 minutes. The weight of the cuprous oxide should not exceed 0.138 Gm., corresponding to not more than 0.5 percent. of invert sugar.

Saccharum Lactis.—Added test: A hot aqueous solution of Sugar of Milk (1 in 2) should be clear, colorless or at most faintly yellowish in color and odorless. Add 20 Cc. of alcohol (70 percent. by volume) to 2 Gm. of Sugar of Milk, in fine powder, shake the mixture frequently during half an hour at 15° C. and then filter it. Ten Cc. of the filtrate should remain clear after admixture with an equal volume of absolute alcohol (dextrin) and this liquid upon evaporation on a water-bath should leave not more than 0.03 Gm. of residue (cane sugar, glucose).

Safrolum.—An alcoholic solution should be neutral. Specific gravity changed from "1.098 to 1.100" to "from 1.097 to 1.100." Boiling point changed from

"about 233° C." to "about 232° to 236° C." Added test: Safrol produces an intensely red color with sulphuric acid.

Salicinum.—Melting point changed from 201.4° C. to "from 198° to 202° C." Molybdc acid, potassium iodate, formaldehyde, and nitric acid-potassium cyanide tests omitted. Ash: changed from "no residue on ignition" to "not exceeding 0.05 percent." Added test: An aqueous solution of Salicin (1 in 50) should not be colored by ferric chloride T. S. (salicylic acid). A saturated aqueous solution of Salicin slightly acidulated with hydrochloric acid should not respond to the time-limit test for heavy metals.

Santoninum.—Melting point changed from 170.3° C. to "from 170° to 172° C." Ash: changed from "no residue on ignition" to "not exceeding 0.1 percent."

Sapo.—Modified tests: A solution of a quantity of Soap corresponding to 0.64 Gm. of dried Soap in 25 Cc. of hot alcohol should not gelatinize on cooling to 20° C. (soap from animal fats). Dissolve about 10 Gm. of Soap, accurately weighed, in 100 Cc. of alcohol, with the aid of heat, transfer the undissolved residue, if any, to a tared filter which has been dried at 100° C. and wash it thoroughly with boiling alcohol. Its weight after drying at 100° C. should not exceed 1 percent. of the weight of dry Soap in the original weight taken (sodium chloride, carbonate, etc) The weight of this residue thoroughly washed with distilled water and dried at 100° C. should not exceed 0.15 percent. of the weight of dry Soap in the original weight taken (silica and other accidental impurities). The alcoholic filtrate from the preceding test should not show an alkaline reaction with phenolphthalein T. S. (sodium hydroxide).

Sodii Acetas.—Rubric changed from "in an uneffloresced condition, not less than 99.5 percent. of pure Sodium-Acetate" to "not less than 59.97 nor more than 62.96 percent. by weight of anhydrous $\text{NaC}_2\text{H}_3\text{O}_2$." Assay as under Potassii Acetas.

Sodii Arsenas.—Rubric changed from "in an uneffloresced condition not less than 98 percent. of pure Di-sodium-ortho-arsenate" to "not less than 58.98 nor more than 61.92 percent. by weight of anhydrous Na_2HAsO_4 ." Assay: Weigh accurately about 0.5 Gm. of Sodium Arsenate, dissolve it in 25 Cc. of distilled water, heat the solution to 80° C. and add 10 Cc. of hydrochloric acid, and 3 Gm. of potassium iodide. Allow the mixture to stand for 15 minutes at 80° C., then cool it and titrate with tenth-normal sodium thiosulphate V. S., starch T. S. being used as indicator. It should show not less than 59.98 percent. of anhydrous sodium arsenate.

Sodii Arsenas Exsiccatas.—Moisture limit 3 percent. with method for estimation. Assay as under Sodii Arsenas.

Sodii Benzoas.—Assay changed as under Potassii Acetas.

Sodii Benzosulphinidum.—An aqueous solution should be neutral or only slightly alkaline to litmus, but should not produce a color with phenolphthalein T. S. On incineration the salt leaves a residue of sodium sulphate. On mixing 10 Cc. of an aqueous solution of the salt (1 in 10) with 1 Cc. of hydrochloric acid, a crystalline precipitate will be produced which after washing with cold distilled water until the washings are free from chloride and then drying, has the characteristics given under Benzosulphinidum. The addition of ferric chlor-

ide T. S. to 10 Cc. of an aqueous solution of the salt (1 in 20) previously acidulated with 3 to 5 drops of acetic acid should not produce a flesh-colored or violet-colored precipitate (benzoate or salicylate). In other respects it should respond to the tests of identity and purity given under Benzosulphinidum.

Sodii Bicarbonas.—No change.

Sodii Boras.—Rubric changed from “in the uneffloresced condition not less than 99 percent.” to “not less than 52.32 nor more than 54.92 percent. by weight of anhydrous $\text{Na}_2\text{B}_4\text{O}_7$.” Assay: Weigh accurately about 5 Gm. of Sodium Borate, dissolve it in 100 Cc. of distilled water and titrate the solution with normal hydrochloric acid V. S., methyl-orange T. S. being used as indicator. It should show not less than 52.32 percent. of anhydrous sodium borate.

Sodii Bromidum.—Rubric changed from “not less than 97 percent.” to “not less than 98.5 percent. by weight when dried.” Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Sodii Cacodylas.—Rubric given requiring from 70 to 75 percent. by weight of anhydrous sodium cacodylate. The salt imparts an intensely yellow color to a non-luminous flame. A mixture of a few drops of an aqueous solution of the salt (1 in 100) with 2 Cc. of hypophosphorous acid allowed to stand in a stoppered tube will develop the odor of cacodyl within 1 hour. An aqueous solution of the salt shows a slightly acid or a slightly alkaline reaction with litmus. A solution of 2 Gm. of Sodium Cacodylate in 50 Cc. of distilled water should not require more than 0.5 Cc. of tenth-normal acid or alkali V. S. to render it neutral to phenolphthalein T. S. No turbidity should be produced in 10 Cc. of an aqueous solution of the salt (1 in 20) by 1 Cc. of calcium chloride T. S., either in the cold or on heating (monomethylarsenate). No turbidity should be produced in 5 Cc. of the solution by 2 Cc. of magnesia mixture T. S. within 1 hour (arsenate or phosphate). Another portion of the solution should not respond to the Time-Limit Test for heavy metals, including arsenites. An aqueous solution acidulated with nitric acid should not be rendered turbid at once by silver nitrate T. S. (chloride) or barium chloride T. S. (sulphate). Assay: Weigh accurately from 2 to 3 Gm. of Sodium Cacodylate, dissolve it in distilled water, render the solution neutral to phenolphthalein T. S., if necessary, and then titrate with normal hydrochloric acid V. S., using methyl-orange T. S. as indicator. It should show not less than 70 nor more than 75 percent. of anhydrous sodium cacodylate.

Sodii Carbonas Monohydratus.—No change.

Sodii Chloras.—Rubric changed from “not less than 99 percent.” to “99.5 percent. by weight.” Assay: Weigh accurately about 0.1 Gm. of Sodium Chlorate, transfer it to a 250 Cc. flask and dissolve it in 10 Cc. of distilled water. Then add 25 Cc. of acidulated ferrous sulphate T. S. to the solution, insert a valve stopper and boil the mixture for 10 minutes. Now cool the mixture, add 10 Cc. of a 10 percent. manganous sulphate solution and titrate the excess of ferrous sulphate with tenth-normal potassium permanganate V. S. At the same time conduct a parallel experiment with another portion of 25 Cc. of the acidulated

ferrous sulphate T. S. to ascertain the total amount of ferrous sulphate in the solution used. It should show not less than 99.5 percent. of sodium chlorate.

Sodii Chloridum.—Water limit 3 percent. with method for estimation. Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Sodii Citras.—Rubric changed from “not less than 97 percent. of pure sodium citrate” to “not less than 35.76 nor more than 37.54 percent. of anhydrous sodium citrate.” Assay changed as under Potassii Acetas.

Sodii Cyanidum.—Rubric given requiring not less than 95 percent. by weight of sodium cyanide. At a low red heat the salt fuses. An aqueous solution is strongly alkaline to litmus, and emits the odor of hydrocyanic acid. To a non-luminous flame the salt imparts an intensely yellow color. A few drops of a solution of the salt (1 in 20) yield with silver nitrate T. S. a white precipitate, which is soluble in an excess of the solution of Sodium Cyanide and in ammonia water. Shake 5 Cc. of a solution of the salt (1 in 20) with a few drops of ferrous sulphate T. S. and of ferric chloride T. S., and then add a slight excess of hydrochloric acid; a blue precipitate (Prussian blue) will be produced. In an aqueous solution of the salt (1 in 10) a drop of ferric chloride T. S. followed by 1 Cc. of diluted hydrochloric acid should produce neither a dark blue color (ferrocyanide) nor a red color (sulphocyanate). Assay: Weigh accurately about 0.45 Gm. of Sodium Cyanide, dissolve it in 25 Cc. of distilled water, add 4 Cc. of ammonia water and 3 drops of potassium iodide T. S. The titration with tenth-normal silver nitrate V. S. to the production of a permanent precipitate should show not less than 95 percent. of sodium cyanide.

Sodii Hydroxidum.—Assay changed as under Potassii Hydroxidum.

Sodii Hypophosphis.—Assay as under Calcii Hypophosphis.

Sodii Iodidum.—Rubric changed from “not less than 98 percent.” to “not less than 99 percent. by weight.” Moisture limit 3 percent. with method for estimation. Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after addition of N/10 AgNO_3 V. S. in excess.

Sodii Nitras.—Assay as under Potassii Nitras.

Sodii Nitris.—Rubric changed from “not less than 90 percent.” to “not less than 95 percent. by weight.” Assay: Weigh accurately about 1 Gm. of Sodium Nitrite, dissolve it in distilled water to make a volume of 100 Cc., then add to 10 Cc. of this solution, from a pipette, having its point dipping beneath the surface, a mixture of 50 Cc. of tenth-normal potassium permanganate V. S., 100 Cc. of distilled water and 5 Cc. of sulphuric acid. Warm the liquid to 40° C., allow it to stand for 5 minutes and then titrate with tenth-normal oxalic acid V. S. It should show not less than 95 percent. of sodium nitrite when calculated to the amount originally taken.

Sodii Perboras.—Rubric given requiring “not less than 9 percent. by weight of available oxygen.” An aqueous solution of the salt shows an alkaline reaction with litmus and phenolphthalein T. S. In aqueous solution the salt is decomposed into metaborate and hydrogen peroxide; the solution gradually evolves oxygen, more rapidly on warming. The salt imparts an intensely yellow color to a non-luminous flame. Turmeric paper if moistened with an aqueous solution of the

salt which has been acidulated with hydrochloric acid becomes brown in color, particularly on drying; on moistening the dried test paper with ammonia water, the color is changed to greenish-black. Upon agitating a mixture of 1 Cc. of an aqueous solution of the salt (1 in 50), 1 Cc. of diluted sulphuric acid, a few drops of potassium dichromate T. S., and 2 Cc. of ether, the ether will become of a blue color. On strongly heating about 0.5 Gm. of the salt in a platinum crucible, it leaves about 44 percent. of residue. This residue, dissolved in 10 Cc. of distilled water and acidulated with hydrochloric acid, should not respond to the Time-Limit Test for heavy metals. A solution of 1 Gm. of the salt in 100 Cc. of distilled water should require from 6.4 to 6.5 Cc. of normal hydrochloric acid V. S. for neutralization, methyl-orange T. S. being used as indicator. Assay: Weigh accurately about 0.25 Gm. of the salt, dissolve it in a mixture of 50 Cc. of distilled water and 10 Cc. of diluted sulphuric acid and titrate the solution with tenth-normal potassium permanganate V. S. It should show not less than 9 percent. of available oxygen.

Sodii Phenolsulphonas.—Rubric changed from “not less than 99 percent. of pure Sodium Paraphenolsulphonate” to “not less than 83.64 nor more than 87.82 percent. by weight of anhydrous sodium phenolsulphonate.” Assay: Dissolve about 0.25 Gm. of Sodium Phenolsulphonate, accurately weighed, in 50 Cc. of distilled water, add 50 Cc. of tenth-normal bromine V. S., and 5 Cc. of hydrochloric acid. Allow the mixture to stand for 15 minutes, then add 2 Gm. of potassium iodide dissolved in 5 Cc. of distilled water, and subject the solution to residual titration with tenth-normal sodium thiosulphate V. S., using starch T. S. as indicator. It should show not less than 83.64 percent. of anhydrous sodium paraphenolsulphonate.

Sodii Phosphas.—Rubric changed from “in an uneffloresced condition not less than 99 percent. of pure Di-sodium-ortho-phosphate” to “not less than 39.25 nor more than 41.21 percent. by weight of anhydrous Na_2HPO_4 .” Assay: Introduce about 0.4 Gm. of Sodium Phosphate, accurately weighed, into a 100 Cc. graduated flask, dissolve it in 10 Cc. of distilled water, add 50 Cc. of tenth-normal silver nitrate V. S. and agitate the mixture well. Then gradually add zinc oxide (free from chloride) in small portions until the liquid is neutral to litmus. Then add distilled water to make 100 Cc., agitate the mixture thoroughly, filter through a dry filter, collect 50 Cc. of the filtrate, add 2 Cc. of nitric acid and 2 Cc. of ferric ammonium sulphate T. S., and titrate with tenth-normal potassium sulphocyanate V. S. to the production of a permanent red color. When calculated to the amount of hydrated Sodium Phosphate originally taken, it should show not less than 39.25 percent. of anhydrous sodium phosphate.

Sodii Phosphas Exsiccatus.—Rubric changed from “not less than 99 percent. of pure anhydrous Sodium Phosphate” to “not less than 97.5 percent. by weight of anhydrous Na_2HPO_4 in dried product.” Moisture limit 5 percent. with method for estimation. Assay as under Sodii Phosphas.

Sodii Salicylas.—Assay as under Potassii Acetas.

Sodii Sulphas.—Rubric changed from “in the uneffloresced condition not less than 99 percent. of pure Sodium Sulphate” to “not less than 43.64 nor more than 45.82 percent. by weight of anhydrous Na_2SO_4 .” Assay: Dissolve about 1 Gm.

of Sodium Sulphate, accurately weighed, in 100 Cc. of distilled water, acidulate the solution with hydrochloric acid and heat it to boiling. Gradually add an excess of barium chloride T. S., allow the mixture to stand for 30 minutes, collect the precipitate of barium sulphate on a filter, wash, dry, ignite, and weigh. It should correspond to not less than 43.64 percent. of anhydrous sodium sulphate.

Sodii Thiosulphas.—Rubric changed from “not less than 98 percent. of pure Sodium Thiosulphate” to “not less than 63.07 nor more than 66.22 percent. by weight of anhydrous $\text{Na}_2\text{S}_2\text{O}_3$.”

Sparteinae Sulphas.—Reaction: aqueous solution changed from “acid” to “neutral or acid.” Melting point, anhydrous salt: changed from 136° C. to “about 140° C.” Potassium ferrocyanide test omitted. Added tests: a mixture of about 0.1 Gm. of Sparteine Sulphate, 0.5 Cc. of chloroform, and 0.5 Cc. of alcoholic half-normal potassium hydroxide V. S. should not emit an odor of phenyl isocyanide on heating (aniline). Ash: not exceeding 0.1 percent.

Strontii Bromidum.—Rubric changed from “not less than 97 percent.” to “not less than 98.5 percent. by weight.” Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Strontii Iodidum.—Rubric changed from “not less than 98 percent.” to “not less than 99 percent. by weight.” Assay changed from direct titration with N/10 AgNO_3 V. S. to residual titration with N/10 KCNS V. S. after the addition of N/10 AgNO_3 V. S. in excess.

Strontii Salicylas.—Rubric changed from “not less than 98.5 percent.” to “not less than 99 percent. by weight.” Assay: Weigh accurately about 2 Gm. of Strontium Salicylate and thoroughly carbonize it in a platinum crucible at a temperature not exceeding red heat. Dissolve the residue in 50 Cc. of half-normal hydrochloric acid V. S., and submit it to residual titration with normal potassium hydroxide V. S. It should show not less than 99 percent. of strontium salicylate.

Strophanthinum.—Added test: Ash: incinerating 0.1 Gm., non-weighable.

Strychnina.—Solution in sulphuric acid: changed from “no color” to “only a yellow color (sugar and other readily carbonizable organic impurities).” Ash: changed from “no residue on ignition” to “not exceeding 0.1 percent.” Melting point omitted. Tests with potassium iodate and with nitric acid omitted.

Strychninae Nitras.—Reaction of aqueous solution changed from “neutral” to “neutral or not more than faintly acid.”

Strychninae Sulphas.—Added test: Reaction of aqueous solution neutral or only slightly acid. Melting point omitted.

Styrax.—Added tests: A saturated alcoholic solution becomes turbid when diluted with alcohol. Almost completely soluble in ether, acetone, benzole, or carbon disulphide. When heated on a water-bath, Storax becomes more fluid, and if it be then agitated with warm petroleum benzin, the supernatant liquid, on being decanted and allowed to cool, should not be darker than pale yellow and should deposit white crystals of cinnamic acid and cinnamic esters. The separated crystals evolve the odor of benzaldehyde when heated with diluted sulphuric acid and potassium permanganate. Ash not exceeding 1 percent. On dissolving

about 10 Gm. of Storax, accurately weighed, in 20 Cc. of hot alcohol, the undissolved residue, after washing it on a filter with hot alcohol, and drying the residue at 100° C., should not exceed 2.5 percent. The combined filtrate and washings should, after the evaporation of the alcohol at a temperature not exceeding 60° C., and drying the residue for 1 hour at 100° C., leave a brown, transparent, semi-liquid product representing not less than 60 percent. of the weight of Storax taken; this product should be soluble in ether, with the exception of a few flakes, but should be only partially soluble in petroleum benzin. Weigh accurately about 1 Gm. of Storax, purified as described in the preceding test, dissolve it in 50 Cc. of alcohol, add 0.5 Cc. of phenolphthalein T. S., and titrate with half-normal alcoholic potassium hydroxide V. S. The acid value so obtained should not be less than 56 nor more than 85. Weigh accurately about 1 Gm. of Storax, purified as described above, mix it in a 250 Cc. flask with 50 Cc. of purified petroleum benzin, add 25 Cc. of half-normal alcoholic potassium hydroxide V. S., and allow the mixture to stand 24 hours, with frequent shaking. Then add 0.5 Cc. of phenolphthalein T. S. and titrate with half-normal hydrochloric acid V. S. It should show a saponification value of not less than 170 nor more than 230.

Sulphonethylmethanum.—Melting point changed from 76° C. to “from 74° to 76° C.; at higher temperatures it is decomposed with the evolution of sulphur dioxide.” Ash: changed from “non-weighable” to “not exceeding 0.05 percent.” Twenty Cc. of a cold solution prepared by dissolving 1 Gm. of Sulphonethylmethane in 50 Cc. of boiling distilled water and filtering, should not at once decolorize 0.05 Cc. of tenth-normal potassium permanganate V. S. (readily oxidizable impurities).

Sulphonmethanum.—Melting point changed from 125.5° to “from 124° to 126° C.” In other respects it should respond to the tests of identity and purity given under Sulphonethylmethanum.

Sulphur Lotum.—Assay as under Sulphur Sublimatum.

Sulphur Præcipitatum.—Assay as under Sulphur Sublimatum.

Sulphur Sublimatum.—Assay: Weigh accurately about 1 Gm. of Sublimed Sulphur, which has previously been dried to constant weight at 100° C., and transfer it to a flask containing 2.5 Cc. of a 10 percent. solution of potassium hydroxide (free from sulphates). Boil the mixture until the liquid is of a transparent, golden-yellow color and then dilute it with distilled water to make a volume of exactly 250 Cc. Oxidize 25 Cc. of this diluted solution by the addition of solution of hydrogen dioxide in excess, afterwards acidulate it with hydrochloric acid, and dilute with 100 Cc. of distilled water. Heat on a water-bath for 30 minutes, then bring it to the boiling point and add barium chloride to the resulting liquid until no further precipitation takes place, allow it to stand for 30 minutes, collect the resulting precipitate on a filter, wash, dry, ignite and weigh it as barium sulphate. It should show not less than 99 percent. of sulphur (S) when calculated to the amount of Sublimed Sulphur originally taken.

Talcum Purificatum.—No change.

Terebenum.—Boiling point changed from “160° to 170° C.” to “from 160° to 172° C.” Modified rosin test: On transferring the residue remaining in the distilling flask, after determining the boiling point, to a dish by means of ether

and evaporating the liquid on a water-bath, any residue remaining should not exceed 1 percent. of the original weight of Terebene taken.

Terpini Hydras.—Added test: Melting point of anhydrous Terpin Hydrate 102° to 105° C. Boiling point omitted. Ash: changed from “no residue when strongly heated” to “not exceeding 0.05 percent.”

Theobrominae Sodio-Salicylas.—An aqueous solution is strongly alkaline to litmus and phenolphthalein T. S. An aqueous solution of Theobromine Sodio-Salicylate (1 in 100), slightly acidulated with acetic acid, becomes colored violet on the addition of ferric chloride T. S. When strongly heated, Theobromine Sodio-Salicylate yields a residue which colors a non-luminous flame intensely yellow and effervesces with acids. An aqueous solution of Theobromine Sodio-Salicylate (1 in 20) should be colorless and clear or at most opalescent. Acidulate this solution with hydrochloric acid, then add sufficient sodium hydroxide T. S. to obtain a clear liquid, and shake the mixture with 10 Cc. of chloroform at a temperature of 25° C. The residue obtained from the evaporation of the separated chloroform layer when dried at 80° C., should not exceed 0.005 Gm. (caffeine). About 0.1 Gm. should dissolve in 2 Cc. of sulphuric acid without effervescing (sodium carbonate) and without producing other than a slight yellowish color (organic impurities). Weigh accurately about 2 Gm. of Theobromine Sodio-Salicylate previously dried to constant weight over sulphuric acid, dissolve it in 10 Cc. of warm distilled water and titrate the solution with normal hydrochloric acid V. S., phenolphthalein T. S. being used as indicator. Not more than 5.5 Cc. of normal hydrochloric acid V. S. should be required to neutralize 2 Gm. of Theobromine Sodio-Salicylate. The solution should now be slightly alkaline to litmus or be made so by the addition of 1 or 2 drops of very dilute ammonia water. Allow it to stand at from 20° to 25° C. for 3 hours, stirring occasionally, then transfer the precipitate of Theobromine obtained to a dried and weighed filter of 9 cm. diameter and wash the precipitate and filter with four successive portions of 5 Cc. each of cold distilled water, afterwards drying them at 100° C. and weighing. To the weight of the precipitate thus obtained add for each 2 Gm. of salt 0.13 Gm., which is the approximate quantity of Theobromine remaining in the liquid and washings. The sum should correspond to not less than 46.5 percent. of the weight of Theobromine Sodio-Salicylate taken. About 0.05 Gm. of the precipitate obtained in the preceding assay, when evaporated to dryness on a water-bath with 1 Cc. of hydrochloric acid and about 0.1 Gm. of potassium chlorate, leaves a reddish-yellow residue, which becomes purple on moistening with a drop of ammonia water. Another portion of about 0.2 Gm. of the precipitate, when slowly heated, should volatilize without melting and without leaving a weighable residue. On adding hydrochloric acid to the filtrate from the precipitated Theobromine, a precipitate will be obtained, which, after thorough washing with cold distilled water, and drying at 100° C., should have the melting point given under Acidum Salicylicum.

Thymol.—Added test: Reaction of alcoholic solution: neutral to litmus. Specific gravity of solid omitted. Melting point changed from 50° to 51° C.” to “from 48° to 51° C., remaining liquid at a considerably lower temperature.”

Residue on volatilizing changed from "no residue" to "not exceeding 0.05 percent."

Thymolis Iodidum.—Rubric changed from "45 percent. of iodine" to "not less than 43 percent. of iodine." Added test: Moisture limit 5 percent. (dried to constant weight over sulphuric acid). Ash: changed from "not more than 3 percent." to "not exceeding 1.5 percent." Assay: Mix thoroughly in a mortar about 0.25 Gm. of Thymol Iodide, dried over sulphuric acid and accurately weighed, with about 3 Gm. of anhydrous sodium carbonate and transfer the mixture to a crucible. Remove any traces of the mixture adhering to the mortar with about 1 Gm. more of anhydrous sodium carbonate and cover the contents of the crucible with it. Heat the mixture moderately, gradually increasing, but not exceeding a dull redness, until the mass in the covered crucible is completely carbonized. When sufficiently cooled, extract the residue with boiling distilled water and wash it on a filter with boiling distilled water until the washings cease to produce an opalescence with silver nitrate T. S. Heat the combined washings, which should measure about 150 Cc., on a water-bath and add an aqueous solution of potassium permanganate (1 in 20) in small portions, until the hot liquid remains permanently pink. Then add just enough alcohol to remove the pink tint, cool the liquid to room temperature, and dilute it to 200 Cc. Mix it well and then filter through a dry filter, rejecting the first 50 Cc. of filtrate. To 100 Cc. of the subsequent clear filtrate add about 1 Gm. of potassium iodide and an excess of diluted sulphuric acid, and titrate the liberated iodine with tenth-normal sodium thiosulphate V. S., adding starch T. S. near the end of the titration.

Uranii Nitras.—Rubric requires not less than 98 percent. by weight of uranyl nitrate. An aqueous solution of the salt (1 in 20) yields with fixed alkali or ammonium hydroxide a yellow precipitate, insoluble in an excess of the reagent, but soluble in ammonium carbonate T. S. Ammonium sulphide produces in another portion of the aqueous solution a dark brown colored precipitate; sodium phosphate a yellow colored precipitate. On mixing 2 Cc. of the aqueous solution with an equal volume of sulphuric acid, cooling the mixture, and adding a crystal of ferrous sulphate, a dark brown color will appear around the crystal. The salt should not respond to the Time-Limit Test for arsenic, lead, copper and bismuth. An aqueous solution of the salt (1 in 20) should remain clear after the addition of an equal volume of ammonium carbonate T. S. (alkaline earths). Dilute 3 Cc. of this mixture to 10 Cc. with distilled water and add 10 Cc. of hydrogen sulphide T. S. No color or precipitate should be produced (iron, manganese, or zinc). A solution of 1 Gm. of Uranium Nitrate in 20 Cc. of distilled water, acidulated with 1 Cc. of diluted sulphuric acid, should not completely decolorize 0.1 Cc. of tenth-normal potassium permanganate V. S. (uranous compounds). An aqueous solution of the salt (1 in 100) should not at once produce a turbidity with barium chloride T. S. (sulphate). Assay: Weigh accurately about 0.4 Gm. of the salt, dissolve it in 100 Cc. of distilled water, heat the solution to boiling, add ammonia water until no further precipitate is produced, and allow the precipitate to settle. Then wash the precipitate well on a filter with an aqueous solution of ammonium nitrate (1 in 100),

and afterwards moderately heat it in a platinum crucible, with free access of air, until the weight is constant. The urano-uranic oxide so obtained should correspond to not less than 54.8 percent. of the weight of the salt taken, which is equivalent to not less than 98 percent. of uranyl nitrate.

Vanillinum.—Added test: Its aqueous solution shows an acid reaction with litmus and is optically inactive. Melting point: changed from "80° to 81° C." to "from 80° to 82° C." "Crystallizing, on cooling, in scales" omitted from test with lead acetate. Ash not exceeding 0.05 percent.

Veratrina.—Melting point omitted. Ash: changed from "no residue on ignition" to non-weighable. Added test: An alcoholic solution of Veratrine (1 in 20) should remain clear after the addition of platinic chloride T. S. (various foreign alkaloids).

Zinci Acetas.—Rubric changed from "in the uneffloresced condition not less than 99.5 percent. of pure Zinc Acetate" to "not less than 83.16 nor more than 87.34 percent. by weight of anhydrous zinc acetate." Assay: Weigh accurately about 1 Gm. of Zinc Acetate, dissolve it in 100 Cc. of distilled water, render the solution slightly alkaline with ammonia water and warm it to 80° C. Now completely precipitate the zinc as zinc sulphide by the addition of ammonium sulphide T. S. and warm the liquid containing the precipitate on a water-bath until the precipitate settles. Then collect the latter on a filter, wash it with distilled water, afterward dissolve it in hot dilute nitric acid (1 in 3), evaporate the solution to dryness in a tared, platinum dish, ignite the residue and weigh it as zinc oxide. The amount of zinc oxide obtained should correspond to not less than 83.16 percent. of anhydrous zinc acetate.

Zinci Carbonas Præcipitatus.—Rubric changed from "not less than 72 percent. of zinc oxide on ignition" to "not less than 68 percent. by weight of zinc oxide on ignition." Assay: Weigh accurately about 1 Gm. of Precipitated Zinc Carbonate, transfer it to a flask and digest it with 50 Cc. of normal sulphuric acid V. S. until solution is complete. The residual titration with normal potassium hydroxide V. S., using methyl-orange T. S. as indicator, should show an amount of Zinc Carbonate corresponding to not less than 68 percent. of zinc oxide.

Zinci Chloridum.—Rubric changed from "when anhydrous not less than 99.5 percent. of pure zinc chloride" to "not less than 95 percent. by weight of $ZnCl_2$." Assay: Weigh accurately about 0.3 Gm. of Zinc Chloride in a stoppered weighing bottle, then dissolve it in 20 Cc. of distilled water and add 50 Cc. of tenth-normal silver nitrate V. S. Shake the mixture well and add 2 Cc. of nitric acid and 2 Cc. of ferric ammonium sulphate T. S. The residual titration with tenth-normal potassium sulphocyanate V. S. should indicate not less than 95 percent. of zinc chloride.

Zinci Oxidum.—no change.

Zinci Phenolsulphonas.—Rubric changed from "in uneffloresced crystals not less than 99.5 percent. of pure zinc parafenolsulphonate" to "not less than 73.71 nor more than 77.39 percent. by weight of anhydrous zinc phenolsulphonate." Assay as under *Zinci Acetas*.

Zinci Stearas.—Rubric given requiring not less than 13 percent. nor more than 15.5 percent. by weight of ZnO. Assay: Weigh accurately about 1 Gm. of Zinc Stearate, transfer it to a flask, boil it with 50 Cc. of tenth-normal sulphuric acid V. S. for 10 minutes and cool. The residual titration with tenth-normal potassium hydroxide V. S., using methyl-orange T. S. as indicator, should show an amount of Zinc Stearate equivalent to not less than 13.0 and not more than 15.5 percent. of zinc oxide.

Zinci Sulphas.—Rubric changed from "in uneffloresced crystals not less than 99.5 percent. of pure Zinc Sulphate" to "not less than 55.86 nor more than 58.65 percent. by weight of anhydrous ZnSO₄". Assay as under Zinci Acetas.

Zinci Valeras.—Assay as under Zinci Acetas; with alternative electrolytic method.

Zincum.—Assay as under Zinci Acetas; with alternative electrolytic method.

ON HOLDING OPINIONS.

There are two extremes between which lies a broad, middle way. At the one we find the man absolutely settled in his mind as to everything that confronts him. Long ago he settled the question of his diet and political party. Immutable as the legal decrees of the Medes and Persians are his beliefs in regard to sports, the weather, dress, divorce, and religion. Having achieved consistency, his mind has undergone a process of ossification. At the other extreme, we behold the novelist who writes of himself:

"For myself, I now accept no creeds. I do not know what truth is, what beauty is, what love is, what hope is. I do not believe any one absolutely, and I do not doubt any one absolutely."

Far from ossification indeed is the state of his brain. Beneath his skull we find a condition not unlike that within the hard and rugged shell of the oyster—absolute softness and pliability. If he believes what he writes he has no opinions on anything whatsoever. Which state of mind do we prefer? It is hard to say. Is it better to be all bone or all jelly?

We know, however, that the middle way is the path for us. We want some settled, definite opinions as a guide to conduct and a foundation for character. We have others held in more tentative fashion, ready to discard them if we find better conviction in other ways of thought. We desire the open mind, but at the same time we must have something to believe in always. We trust in an ultimate, higher destiny for all mankind. We think that, in spite of many setbacks, each generation may build in higher and nobler fashion on the work of those gone before. Out of Chaos comes Order, and out of Order, Beauty.—*Popular Magazine.*