E P

2.4.14. SULPHATED ASH

Ignite a suitable crucible (silica, platinum, porcelain or quartz) at 600 ± 50 °C for 30 min, allow to cool in a desiccator over silica gel and weigh. Place the prescribed amount of the substance to be examined in the crucible and weigh. Moisten the substance to be examined with a small amount of *sulphuric acid R* (usually 1 ml) and heat gently at as low a temperature as practicable until the sample is thoroughly charred. After cooling, moisten the residue with a small amount of *sulphuric acid R*, heat gently until white fumes are no longer evolved and ignite at 600 ± 50 °C until the residue is completely incinerated. Ensure that flames are not produced at any time during the procedure. Allow the crucible to cool in a desiccator over silica gel, weigh it again and calculate the mass of the residue.

If the mass of the residue so obtained exceeds the prescribed limit, repeat the moistening with *sulphuric acid R* and ignition, as previously, to constant mass, unless otherwise prescribed.

B P

A. Determination of Sulphated Ash

Use Method I unless otherwise directed.

METHOD I

(No Ph. Eur. method)

Heat a platinum dish to redness for 10 minutes, allow to cool in a desiccator and weigh. Unless otherwise specified in the monograph, place 1 g of the substance being examined in the dish, moisten with *sulphuric acid*, ignite gently, again moisten with *sulphuric acid* and ignite at about 800°. Cool, weigh again, ignite for 15 minutes and repeat this procedure until two successive weighings do not differ by more than 0.5 mg.

METHOD II

(Ph. Eur. method 2.4.14)

Ignite a suitable crucible (silica, platinum, porcelain or quartz) at 600 ± 50° for 30 minutes, allow to cool in a desiccator over silica gel and weigh. Place the prescribed amount of the substance being examined in the crucible and weigh. Moisten the substance to be examined with a small amount of *sulphuric acid* (usually 1 ml) and heat gently at as low a temperature as practicable until the sample is thoroughly charred. After cooling, moisten the residue with a small amount of *sulphuric acid*, heat gently until white fumes are no longer evolved and ignite at 600° ± 50° until the residue is completely incinerated. Ensure that flames are not produced at any time during the procedure. Allow the crucible to cool in a desiccator over silica gel, weigh it again and calculate the weight of the residue. If the weight of residue so obtained exceeds the prescribed limit, repeat the moistening with *sulphuric acid* and ignition, as previously, to constant mass, unless otherwise prescribed.

RESIDUE ON IGNITION (Sulfated Ash)

Method I (for Solids) Transfer the quantity of the sample directed in the individual monograph to a tared 50- to 100-mL platinum dish or other suitable container, and add sufficient 2 *N* sulfuric acid to moisten the entire sample. Heat gently, using a hot plate, an Argand burner, or an infrared heat lamp, until the sample is dry and thoroughly charred, then continue heating until all of the sample has been volatilized or nearly all of the carbon has been oxidized, and cool. Moisten the residue with 0.1 mL of sulfuric acid, and heat in the same manner until the remainder of the sample and any excess sulfuric acid have been volatilized. Finally, ignite to constant weight in a muffle furnace at 800° ± 25° for 15 min, or longer if necessary to complete ignition, cool in a desiccator, and weigh.

Method II (for Liquids) Unless otherwise directed, transfer the required weight of the sample to a tared 75- to 100-mL platinum dish. Heat gently, using an Argand or Meker burner, until the sample ignites, then allow the sample to burn until it self-extinguishes. Cool, then wet the residue with 2 mL of concentrated sulfuric acid, and heat the sample over a low flame until dry. Ignite to constant weight in a muffle furnace at 800° ± 25° for 30 min, or longer if necessary for complete ignition, cool in a desiccator, and weigh.

II. METHODS FOR DETERMINING INORGANIC COMPONENTS

ACID-INSOLUBLE MATTER

Transfer 2 g of the sample, accurately weighed, into a 250-ml beaker containing 150 ml of water and 1.5 ml of concentrated sulfuric acid. Cover the beaker with a watch glass and heat the mixture on a steam bath for 6 h rubbing down the wall of the beaker frequently with a rubber-tipped stirring rod and replacing any water lost by evaporation. Weigh 500 mg of a suitable filter aid, pre-dried at 105° for 1 h, to the nearest 0.1 mg, add this to the sample solution and filter through a tared Gooch crucible provided with an asbestos pad. Wash the residue several times with hot water, dry the crucible and its contents at 105° for 3 h, cool in a desiccator and weigh. The difference between the total weight and the weight of the filter aid plus crucible and pad is the weight of the Acid-insoluble matter. Calculate as percentage.

ASH

ASH (Total)

Unless otherwise directed, weigh accurately about 3 g of the sample in a tared crucible, ignite at a low temperature (about 550°), not to exceed a very dull redness, until free from carbon, cool in a desiccator, and weigh. If a carbon-free ash is not obtained, wet the charred mass with hot water, collect the insoluble residue on an ashless filter paper, and ignite the residue and filter paper until the ash is white or nearly so. Finally, add the filtrate, evaporate it to dryness, and heat the whole to a dull redness. If a carbon-free ash is still not obtained, cool the crucible, add 15 ml of ethanol, break up the ash with a glass rod, then burn off the ethanol, again heat the whole to dull redness, cool in a desiccator, and weigh.

(Note: If difficulty with oxidizing organic material is found, the use of an ash aid such as ammonium nitrate may prove to be more satisfactory than dissolving the residue and filtering prior to further ashing.)

ASH (Acid-insoluble)

Boil the ash obtained as directed under Ash (Total) above, with 25 ml of dilute hydrochloric acid TS for 5 min, collect the insoluble matter on a suitable ashless filter, wash with hot water, ignite at 800° ± 25°, cool, and weigh. Calculate the percentage of acid-insoluble ash from the weight of the sample taken.

ASH (Sulfated ash)

Method I (for solids)

Transfer the quantity of the sample directed in the individual monograph to a tared 50 to 100 ml platinum dish or other suitable container, and add sufficient diluted sulfuric acid TS to moisten the entire sample. Heat gently, using a hot plate, an Argand burner, or an infrared heat lamp, until the sample is dry and thoroughly charred, then continue heating until all of the sample has been volatilized or nearly all of the carbon has been oxidized, and

cool. Moisten the residue with 0.5 ml of concentrated sulfuric acid, and heat in the same manner until the remainder of the sample and any excess sulfuric acid have been volatilized. Finally ignite in a muffle furnace at 800° ± 25° for 15 min or longer, if necessary, to complete ignition, cool in a desiccator, and weigh.

(Note: In order to promote volatilization of sulfuric acid, it is advisable to add a few pieces of ammonium carbonate just before completing ignition.)

Method II (for liquids)

Unless otherwise directed, transfer the required weight of the sample to a suitable tared container, add 10 ml of diluted sulfuric acid TS, and mix thoroughly. Evaporate the sample completely by heating gently without boiling, and cool. Finally, ignite in a muffle furnace at 800° ± 25° for 15 min or longer, cool in a desiccator, and weigh.

2.5.5. PEROXIDE VALUE

The peroxide value I_p is the number that expresses in milliequivalents of active oxygen the quantity of peroxide contained in 1000 g of the substance, as determined by the methods described below.

When the monograph does not specify the method to be used, method A is applied. Any change from method A to method B is validated.

METHOD A

Place 5.00 g of the substance to be examined (m g) in a 250 ml conical flask fitted with a ground-glass stopper. Add 30 ml of a mixture of 2 volumes of *chloroform R* and 3 volumes of *glacial acetic acid R*. Shake to dissolve the substance and add 0.5 ml of *saturated potassium iodide solution R*. Shake for exactly 1 min then add 30 ml of *water R*. Titrate with *0.01 M sodium thiosulphate*, adding the titrant slowly with continuous vigorous shaking, until the yellow colour is almost discharged. Add 5 ml of *starch solution R* and continue the titration, shaking vigorously, until the colour is discharged (n_1 ml of *0.01 M sodium thiosulphate*). Carry out a blank test under the same conditions (n_2 ml of *0.01 M sodium thiosulphate*). The volume of *0.01 M sodium thiosulphate* used in the blank titration must not exceed 0.1 ml.

$$I_p = \frac{10(n_1 - n_2)}{m}$$

METHOD B

Carry out the operations avoiding exposure to actinic light.

Place 50 ml of a mixture of 2 volumes of *trimethylpentane R* and 3 volumes of *glacial acetic acid R* in a conical flask and replace the stopper. Swirl the flask until the substance to be examined (m g; see Table 2.5.5.-1) has dissolved. Using a suitable volumetric pipette, add 0.5 ml of *saturated potassium iodide solution R* and replace the stopper. Allow the solution to stand for 60 ± 1 s, thoroughly shaking the solution continuously, then add 30 ml of *water R*.

Table 2.5.5.-1

Expected peroxide value I_p	Mass of substance to be examined (g)
0 to 12	2.00 to 5.00
12 to 20	1.20 to 2.00
20 to 30	0.80 to 1.20
30 to 50	0.500 to 0.800
50 to 90	0.300 to 0.500

Titrate the solution with *0.01 M sodium thiosulphate* (V_1 ml), adding it gradually and with constant, vigorous shaking, until the yellow iodine colour has almost disappeared. Add about 0.5 ml of *starch solution R1* and continue the titration, with constant shaking especially near the end point, to liberate all of the iodine from the solvent layer. Add the sodium thiosulphate solution dropwise until the blue colour just disappears.

Depending on the volume of *0.01 M sodium thiosulphate* used, it may be necessary to titrate with *0.1 M sodium thiosulphate*.

NOTE: there is a 15 s to 30 s delay in neutralising the starch indicator for peroxide values of 70 and greater, due to the tendency of trimethylpentane to float on the surface of the aqueous medium and the time necessary to adequately mix the solvent and the aqueous titrant, thus liberating the last traces of iodine. It is recommended to use *0.1 M sodium thiosulphate* for peroxide values greater than 150. A small amount (0.5 per cent to 1.0 per cent (*m/m*)) of high HLB emulsifier (for example polysorbate 60) may be added to the mixture to retard the phase separation and decrease the time lag in the liberation of iodine.

Carry out a blank determination (V_0 ml). If the result of the blank determination exceeds 0.1 ml of titration reagent, replace the impure reagents and repeat the determination.

$$I_p = \frac{1000\,(V_1 - V_0)\,c}{m}$$

c = concentration of the sodium thiosulphate solution in moles, per litre.

F. Peroxide Value

(Ph. Eur. method 2.5.5)

The peroxide value I_p is the number that expresses in milliequivalents of active oxygen the quantity of peroxide contained in 1000 g of the substance, when determined by the methods described below.

When the monograph does not specify which method is to be used, Method A should be applied. Any change from Method A to Method B should be validated.

METHOD A

Place 5.00 g (m g) of the substance being examined in a 250-ml conical flask fitted with a ground-glass stopper. Add 30 ml of a mixture of 2 volumes of *chloroform* and 3 volumes of *glacial acetic acid*. Shake to dissolve the substance and add 0.5 ml of *saturated potassium iodide solution*. Shake for exactly 1 minute then add 30 ml of *water*. Titrate with 0.01M *sodium thiosulphate VS* adding the titrant slowly with continuous vigorous shaking until the yellow colour is almost discharged. Add 5 ml of *starch solution* and continue the titration, shaking vigorously, until the colour is discharged (n_1 ml of 0.01M *sodium thiosulphate VS*). Carry out a blank test under the same conditions (n_2 ml of 0.01M *sodium thiosulphate VS*). The volume of 0.01M *sodium thiosulphate VS* used in the blank titration must not exceed 0.1 ml.

$$I_p = \frac{10(n_1 - n_2)}{m}$$

METHOD B

Carry out the operations avoiding exposure to actinic light.

Place 50 ml of a mixture of 2 volumes of *trimethylpentane* and 3 volumes of *glacial acetic acid* in a conical flask and replace the stopper. Swirl the flask until the substance being examined (m g; see Table 10F-1) has dissolved. Using a suitable volumetric pipette, add 0.5 ml of *saturated potassium iodide solution* and replace the stopper. Allow the solution to stand for 60 seconds ± 1 second, thoroughly shaking the solution continuously, then add 30 ml of *water*.

Table 10F-1

Expected peroxide value	Mass of substance to be examined (g)
0 to 12	2.00 to 5.00
12 to 20	1.20 to 2.00
20 to 30	0.80 to 1.20
30 to 50	0.500 to 0.800
50 to 90	0.300 to 0.500

Titrate the solution with 0.1M *sodium thiosulphate VS* (V_1 ml), adding it gradually and with constant, vigorous shaking, until the yellow iodine colour has almost disappeared. Add about 0.5 ml of *starch solution R1* and continue the titration, with constant shaking especially near the end-point, to liberate all of the iodine from the solvent layer. Add the sodium thiosulphate solution dropwise until the blue colour just disappears.

Depending on the volume of 0.01M *sodium thiosulphate VS* used, it may be necessary to titrate with 0.1M *sodium thiosulphate VS*.

NOTE: There is a 15 second to 30 second delay in neutralising the starch indicator for peroxide values of 70 and greater, due to the tendency of trimethylpentane to float on the surface of the aqueous medium and the time necessary to mix the solvent and the aqueous titrant adequately, thus liberating the last traces of iodine. It is recommended to use 0.1M *sodium thiosulphate VS* for peroxide values greater than 150. A small amount (0.5% to 1.0% (w/w)) of high HLB (hydrophilic/lipophilic balance) emulsifier (for example, polysorbate 60) may be added to the reaction mixture to retard the phase separation and decrease the time lag in the liberation of iodine.

Carry out a blank determination (V_0 ml). If the result of the blank determination exceeds 0.1 ml of titration reagent, replace the impure reagents and repeat the determination.

$$I_p = \frac{1000(V_1 - V_0)c}{m}$$

where c = concentration of the sodium thiosulphate solution in moles per litre.

資料３．参考文献（抜粋）

６．米国化学物質規格集（(Food Chemicals Codex 5th Edition Preface xiii）

７．英国薬局方（British Pharmacopoeia 2004; BP、Preface viii）

８．欧州薬局方（European Pharmacopoeia 5.0; EP、II Introduction v）

９．米国薬局方（United States Pharmacopeia 27; USP、Mission and Prefacev）

10. 第十五改正日本薬局方原案作成要領
第一部「第 15 改正日本薬局方原案の作成に関する細則」

13. 英国薬局方（British Pharmacopoeia 2004; BP General Notices p 21）
米国薬局方（United States Pharmacopeia 27; USP General Notices p8）
欧州薬局方（European Pharmacopoeia 5.0; EP General Notices p7）
米国食品化学物質規格集（Food Chemicals Codex 5th Edition; FCC General Provisions and Requirements p4）
Guide to JECFA specification,1991,p5

16. Compendium of food additive specification Addendum 5 p201

17. Compendium of food additive specification Addendum 6 p215～219

FIFTH EDITION

FOOD CHEMICALS CODEX

Effective January 1, 2004

COMMITTEE ON FOOD CHEMICALS CODEX

Food and Nutrition Board

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

THE NATIONAL ACADEMIES PRESS
Washington, D.C.
www.nap.edu

Preface

The Fifth Edition of the *Food Chemicals Codex* (FCC) is a result of the collective efforts of the many members, past and present, of the Committee on Food Chemicals Codex over the past 42 years. The current committee, whose members have brought all these efforts to fruition with this edition, was appointed following a request from the U.S. Food and Drug Administration (FDA) to continue this activity. The charge to the committee states that "the committee shall (1) provide information on matters related to the purity of food ingredients used in the United States and shall be knowledgeable of the purity of food ingredients used in other countries; (2) provide information on food-grade specifications for food additives, GRAS [generally recognized as safe] substances, and any other food substances used as ingredients; and (3) publish specification monographs in a Fifth Edition of the *Food Chemicals Codex*. To provide such information, the committee shall review proposals from industry, government, and any other source."

The FCC project, currently under the Food and Nutrition Board of the Institute of Medicine of the National Academies, began in 1961, soon after the passage of the 1958 Food Additives Amendment to the federal Food, Drug, and Cosmetic Act. Although the FDA had, by regulations and informal statements, defined in general terms the quality requirements for GRAS and other food chemicals, these requirements were not sufficiently specific to serve as release, procurement, and acceptance specifications for manufacturers and users of food chemicals. Therefore, regulators and other interested parties believed that the publication of a book of standards designed especially for food chemicals would promote uniformity of quality and added assurance of safety for such chemicals. For these reasons, the Food Protection Committee of the National Academy of Sciences/National Research Council received requests in 1958 from its Industry Liaison Panel and other sources to undertake a project to produce a *Food Chemicals Codex* comparable in many respects to the *United States Pharmacopeia* and the *National Formulary* for drugs. As a result of these requests, representatives of industry and government agencies agreed that there was a definite need for such a *Codex* and that the Food Protection Committee was a suitable body to undertake the project.

The first edition, published in 1966, was supported by a Public Health Service grant and more than 100 supplementary grants from industry, associations, and foundations. Its role, which is still that of the *Food Chemicals Codex*, was to define the quality of food-grade chemicals in terms of identity, strength, and purity based on the elements of safety and good manufacturing practice. Later editions were supported by direct contracts with the FDA. Such sponsorship has been sufficient to support the publication of 4 earlier editions and 14 supplements in a 42-year span.

British Pharmacopoeia 2004

Volume I

Published on the recommendation of the Medicines Commission pursuant to the Medicines Act 1968 and notified in draft to the European Commission in accordance with Directive 98/34/EEC.

The monographs of the Fourth Edition of the European Pharmacopoeia (2001), as amended by Supplements 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7 and 4.8 published by the Council of Europe in October 2001, January 2002, June 2002, November 2002, February 2003, June 2003, September 2003 and November 2003 respectively are reproduced either in this edition of the British Pharmacopoeia or in the associated edition of the British Pharmacopoeia (Veterinary).

See General Notices

Effective date: 1 December 2004

see Notices

London: The Stationery Office

Preface

The British Pharmacopoeia 2004 is published for the Health Ministers on the recommendation of the Medicines Commission in accordance with section 99(6) of the Medicines Act 1968.

The Medicines Commission believes that the British Pharmacopoeia contributes significantly to the overall control of the quality of medicinal products by providing an authoritative statement of the quality that a product is expected to meet at any time during its period of use. The Pharmacopoeial standards, which are publicly available and legally enforceable, are designed to complement and assist the licensing and inspection processes and are part of the system for safeguarding purchasers and users of medicinal products.

The Medicines Commission wishes to record its appreciation of the services of all those who have contributed to this important work.

EUROPEAN PHARMACOPOEIA

FIFTH EDITION

Volume 1

Published in accordance with the
Convention on the Elaboration of a European Pharmacopoeia
(European Treaty Series No. 50)

Council of Europe
Strasbourg

II. INTRODUCTION

The European Pharmacopoeia is prepared under the auspices of the Council of Europe in accordance with the terms of the *Convention on the elaboration of a European Pharmacopoeia* (European Treaty Series No. 50) as amended by the Protocol to the Convention (European Treaty Series No. 134), signed by the Governments of Austria, Belgium, Bosnia and Herzegovina, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Portugal, Romania, Serbia and Montenegro, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, "the Former Yugoslav Republic of Macedonia", Turkey, the United Kingdom, and by the European Community.

The preparation of the Pharmacopoeia is the responsibility of the *European Pharmacopoeia Commission* ("the Commission"), appointed in accordance with Article 5 of the above-mentioned Convention. It is composed of delegations appointed by the Contracting Parties. Each delegation consists of not more than 3 members chosen for their competence in matters within the functions of the Commission.

Observers from non-Member States and international organisations are admitted to Sessions of the Commission in accordance with the Rules of Procedures. Observers are at present admitted from: Albania, Algeria, Australia, Bulgaria, Canada, China, Georgia, Lithuania, Malaysia, Malta, Morocco, Poland, Senegal, Syria, Tunisia, Ukraine, and the World Health Organisation.

The functions of the Commission established by Article 6 of the Convention as amended by the Protocol are:

Article 6

"Subject to the provision of Article 4 of the present Convention, the functions of the Commission shall be:

(a) to determine the general principles applicable to the elaboration of the European Pharmacopoeia;

(b) to decide upon methods of analysis for that purpose;

(c) to arrange for the preparation of and to adopt monographs to be included in the European Pharmacopoeia and;

(d) to recommend the fixing of the time limits within which its decisions of a technical character relating to the European Pharmacopoeia shall be implemented within the territories of the Contracting Parties."

In accordance with the terms of the Convention, the Contracting Parties undertake to take the necessary measures to ensure that the monographs of the European Pharmacopoeia shall become the official standards applicable within their respective territories.

PURPOSE OF THE EUROPEAN PHARMACOPOEIA

The purpose of the European Pharmacopoeia is to promote public health by the provision of recognised common standards for use by health-care professionals and others concerned with the quality of medicines. Such standards are to be of appropriate quality as a basis for the safe use of medicines by patients and consumers. Their existence:

- facilitates the free movement of medicinal products in Europe;
- ensures the quality of medicinal products exported from Europe.

European Pharmacopoeia monographs and other texts are designed to be appropriate to the needs of:

- regulatory authorities;
- those engaged in the control of quality;
- manufacturers of starting materials and medicinal products.

The European Pharmacopoeia is widely used internationally. It is the intention of the Commission to work closely with users of the Pharmacopoeia in order to satisfy better their needs and facilitate their co-operation. To this end improved procedures are being developed for obtaining advice on priorities for elaborating new monographs and enhancing the quality of the Pharmacopoeia.

TECHNICAL SECRETARIAT AND LABORATORY

The European Pharmacopoeia Commission has a Technical Secretariat with scientific and administrative staff, situated in Strasbourg. The European Pharmacopoeia Laboratory is situated within the Secretariat and, amongst other duties, is in charge of the establishment and monitoring of all reference substances, preparations and spectra needed for the monographs of the Pharmacopoeia. The Technical Secretariat is an administrative division of the European Directorate for the Quality of Medicines (EDQM) of the Council of Europe.

GENERAL PRINCIPLES

General rules for interpretation of the texts of the Pharmacopoeia are given in the General Notices. The following information should also be noted.

The general principles applied in the elaboration of monographs of the European Pharmacopoeia are laid down in technical guides. The *Technical Guide for the Elaboration of Monographs*, which deals mainly with monographs on chemical substances, is available as a special issue of *Pharmeuropa* (see below under Publications). Other technical guides are being prepared to deal with aspects specific to monographs on other groups of products. The principles applied are revised from time to time without complete retrospective application so that monographs published already may not always follow the latest recommendations, but wherever an issue with impact on public health is identified, monographs are revised.

The procedures for the tests and assays published in the individual monographs have been validated, according to current practice at the time of their elaboration, for the purpose for which they are intended.

It is recognised that general chapters are used elsewhere than in the monographs of the Pharmacopoeia; in these circumstances users are recommended to consult the Technical Guide which gives extensive information on the application of many of the methods.

General monographs. The standards of the European Pharmacopoeia are represented by general and specific monographs. The use of general monographs has developed in recent years to provide standards that best fulfil the aims stated above and meet the needs of users. It is now usually necessary to apply one or more general monographs along with any specific monograph. Since it is not practically possible to include in each specific monograph a cross-reference to applicable or potentially applicable general monographs, cross-referencing has been discontinued except where it is necessary to avoid ambiguity.

2004

USP 27

THE UNITED STATES PHARMACOPEIA

NF 22

THE NATIONAL FORMULARY

By authority of the United States Pharmacopeial Convention, Inc., meeting at Washington, D.C., April 12–16, 2000. Prepared by the Council of Experts and published by the Board of Trustees

Official from January 1, 2004

The designation on the cover of this publication, "USP NF 2004," is for ease of identification only. The publication contains two separate compendia: The Pharmacopeia of the United States Twenty-seventh Revision, and the National Formulary, Twenty-second Edition.

UNITED STATES PHARMACOPEIAL CONVENTION, INC.
12601 Twinbrook Parkway, Rockville, MD 20852

Mission and Preface

MISSION STATEMENT

Promoting the Public Health

USP–NF is published in continuing pursuit of the mission of the United States Pharmacopeial Convention (USP), which is:

"to promote the public health and benefit practitioners and patients by disseminating authoritative standards and information developed by its volunteers for medicines, other health care technologies, and related practices used to maintain and improve health and promote optimal health care delivery."

Working with many constituencies and stakeholders around the world, USP's compendial activities support the availability of safe, good quality medicines for consumers everywhere.

日本薬局方

第十五改正日本薬局方原案作成要領

第一部「第十五改正日本薬局方原案の作成に関する細則」

1．　基本的事項

1.1　規格及び試験方法の設定

1.1.1　試験項目の設定

日本薬局方は，薬事法第41条の規定により，医薬品の適正な性状及び品質の確保を図ることを目的とするものであり，試験項目としては，有効性，安全性に関して同等とみなすことができる一定の品質を総合的に担保する上で必要なものを設定する．ただし，当該品目の原料，製造過程などからみて，適正な品質を確保できることが明らかであるなど合理的な理由がある場合には，3.1 に規定するすべての項目を設定する必要はない．

1.1.2　規格値の設定

規格値には，徒らに高い純度や含量を求めるのではなく，当該医薬品の有効性と安全性を確保することができるよう，実測値及び必要に応じて安定性試験の結果などに基づき，一定の品質の保証に必要な値を設定する．

ただし，生物薬品などにみられるように，同一品目であっても製法が異なることによって，一定の品質の保証に必要な値を画一的に設定することが極めて困難な場合には，試験項目を設定した場合にあっても，規格値の設定は行わず，薬事法に基づく承認の際などに規格値を設定させることができる．

1.1.3　試験方法の設定

試験方法の設定に当たっては，品質の適正化を図ることを目的とするものであるので，医薬品の品質の良否が能率よく明らかとなる方法を設定する．

試験方法については，徒らに高い感度や精度をもつ方法の設定を求めるのではなく，必要な目的が達せられるかぎり，簡易なものとなるよう配慮する．更に，試験の妥当性を必要に応じて確認できる操作法，標準溶液と共に試験するなど目的が達せられる感度及び精度が得られていることが確認できる操作法などを試験法中に導入し，合理的なものとなるよう配慮する．このような観点から，確認試験，純度試験への機器分析の導入，定量法への相対試験法の導入など，簡便で鋭敏な試験法を積極的に導入する．

試料の調製法の規定に当たっては，試験における試料並びに試薬の使用量を可能な限り低減するよう努める．

なお，規格値を薬事法に基づく承認の際などに設定させる試験項目にあっては，試験方法を設定する必要はない．

USP

Identification Tests—The Pharmacopeial tests headed *Identification* are provided as an aid in verifying the identity of articles as they are purported to be, such as those taken from labeled containers. Such tests, however specific, are not necessarily sufficient to establish proof of identity; but failure of an article taken from a labeled container to meet the requirements of a prescribed identification test indicates that the article may be mislabeled. Other tests and specifications in the monograph often contribute to establishing or confirming the identity of the article under examination.

BP

Identification

The tests described or referred to under the heading Identification are not necessarily sufficient to establish absolute proof of identity. They provide a means of verifying that the identity of the material being examined is in accordance with the label on the container.

Unless otherwise prescribed, identification tests are carried out at a temperature between 15 °C and 25 °C.

When tests for infrared absorption are applied to material extracted from formulated preparations, strict concordance with the specified reference spectrum may not always be possible, but nevertheless a close resemblance between the spectrum of the extracted material and the specified reference spectrum should be achieved.

EP

IDENTIFICATION

The tests given in the identification section are not designed to give a full confirmation of the chemical structure or composition of the product; they are intended to give confirmation, with an acceptable degree of assurance, that the article conforms to the description on the label.

Certain monographs have subdivisions entitled "First identification" and "Second identification". The test or tests that constitute the "First identification" may be used for identification in all circumstances. The test or tests that constitute the "Second identification" may be used for identification provided it can be demonstrated that the substance or preparation is fully traceable to a batch certified to comply with all the other requirements of the monograph.