

EUROPEAN
PHARMACOPOEIA

3rd Edition

2000

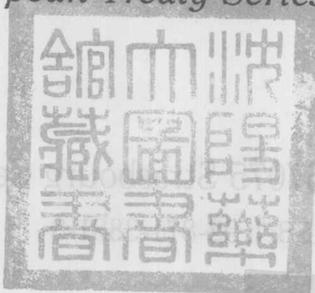
SUPPLEMENT

EUROPEAN PHARMACOPOEIA

Third Edition

Supplement 2000

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



Y155986

Council of Europe
Strasbourg

EUROPEAN PHARMACOPOEIA

Third Edition

Supplement 2000

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

© Council of Europe, 67075 Strasbourg Cedex, France - 1999

ISBN: 92-871-3881-8



9 789287 138811

All rights reserved. Apart from any fair dealing for the purposes of research or private study, this publication may not be reproduced, stored or transmitted in any form or by any means without the prior permission in writing of the publisher.

I. CONTENTS OF THE THIRD EDITION SUPPLEMENT 2000

For the information of the reader, lists are given below of: new monographs and general chapters added to the Pharmacopoeia with the publication of the first (1998), second (1999) and third (2000) supplements to the Third Edition (Volume 1999); monographs and general chapters that have been technically revised since the publication of the Third Edition; monographs and general chapters that have been corrected since the publication of the Third Edition; suppressed monographs.

International Harmonisation: monographs revised or elaborated in collaboration with the Pharmacopoeias of the United States and Japan are identified in the present list by «D». Residual differences between the harmonised texts of the three Pharmacopoeias are the subject of a commentary in Pharmeuropa.

SUPPLEMENT 1998

Monographs from Supplement 1998

The monographs below appeared in Supplement 1998 and were implemented on 1 January 1998, unless otherwise indicated in notes at the end of this section (Supplement 1998).

- | | |
|----------------------------------------------------------------------------------------|----------------------------------------------------------|
| Aceclofenac | Carmellose sodium, low-substituted |
| Acesulfame potassium | Carmustine |
| Acetazolamide | Cascara |
| Alfentanil hydrochloride | Cefalotin sodium |
| Air, medical | Cetirizine dihydrochloride |
| Amoxicillin trihydrate | Chenodeoxycholic acid |
| Arachis oil, hydrogenated | Chlorcyclizine hydrochloride |
| Aujeszký's disease vaccine (inactivated) for pigs | Chlortalidon |
| Aujeszký's disease vaccine (live) for pigs for parenteral administration, freeze-dried | Chlortetracycline hydrochloride |
| Benperidol | Cinnarizine |
| Benzylpenicillin potassium | Clemastine fumarate |
| Benzylpenicillin procaine | Cloxacillin sodium |
| Benzylpenicillin sodium | Clozapine |
| Betamethasone acetate | Crotamiton |
| Betamethasone sodium phosphate | Cyanocobalamin |
| Birch leaf | Dalteparin sodium |
| Bitter-orange-flower oil | Dexamethasone |
| Bovine parainfluenza virus vaccine (live), freeze-dried | Dexamethasone sodium phosphate |
| Bovine respiratory syncytial virus vaccine (live), freeze-dried | Dicloxacillin sodium |
| Bromperidol | Dicycloverine hydrochloride |
| Brompheniramine maleate | Diethylene glycol monoethyl ether |
| Bufexamac | Diprophylline |
| Buprenorphine | Dipyridamol |
| Buprenorphine hydrochloride | Dithranol |
| Buserelin | Dopamine hydrochloride |
| Calcitriol ⁽¹⁾ | Doxapram hydrochloride |
| Calcium ascorbate | Egg drop syndrome '76 vaccine (inactivated) |
| Calcium gluconate for injection | Equine influenza vaccine (inactivated) |
| Calcium phosphate | Etamsylate |
| Camphor, racemic | Etofylline |
| Carbasalate calcium | Eucalyptus oil |
| | Feline viral rhinotracheitis vaccine (inactivated) |
| | Feline viral rhinotracheitis vaccine (live) freeze-dried |
| | Fenbufen |
| | Fentanyl |
| | Fentanyl citrate |
| | Fenticonazole nitrate |
| | Flucloxacillin sodium |

Fluocortolone pivalate	Pimozide
Fluorescein sodium	Pivampicillin
Formaldehyde solution (35 per cent)	Polymyxin B sulphate
Framycetin sulphate	Polysorbate 80
Frangula bark	Potassium clavulanate
Frangula bark dry extract, standardised	◊Potato starch
	Prazosin hydrochloride
Galactose	Prednisolone acetate
Gallium (⁶⁷ Ga) citrate injection	Prednisolone sodium phosphate
Guar	Protirelin
	Proxyphylline
Haemodialysis solutions, concentrated, water for diluting	Pyridostigmine bromide
Haemofiltration, solutions for	
Haloperidol	Rabies vaccine (inactivated) for veterinary use
Hawthorn berries	Riboflavine sodium phosphate
Hepatitis A vaccine (inactivated, adsorbed)	Rifamycin sodium
Hexetidine	
Histidine	Salbutamol
Hop strobile	Salbutamol sulphate
Human coagulation factor IX, freeze-dried	Salicylic acid (366)
Human coagulation factor VII, freeze-dried	Selegiline hydrochloride
Human coagulation factor VIII, freeze-dried	Senna leaf
Human hepatitis B immunoglobulin for intravenous use	Senna leaf dry extract, standardised
Human prothrombin complex, freeze-dried	Senna pods, Alexandrian
Hydroxyethyl salicylate	Senna pods, Tinnevely
◊Hypromellose phthalate	Sodium chloride
	Sodium lactate solution
	Sodium laurilsulfate
Indium (¹¹¹ In) chloride solution	Sodium nitroprusside
Ipecacuanha root	Soya-bean oil, hydrogenated
Ipratropium bromide	Stannous chloride dihydrate
Isosorbide mononitrate, diluted	◊Sucrose
	Sulindac
Java tea	Sulphur for external use
	Sutures, sterile non-absorbable
Ketoconazole	
	Tenoxicam
Labetalol hydrochloride	Terconazole
Lactulose	Tinzaparin sodium
Lidocaine hydrochloride	DL- α -Tocopheryl α -hydrogen succinate
Liquorice root	RRR- α -Tocopheryl hydrogen succinate
Lisinopril dihydrate	Triamcinolone acetonide
Lomustine	Triamcinolone hexacetonide
Lovage root	
	Ursodeoxycholic acid
Maltitol	
Maltitol liquid	Vaccines for human use
Mefloquine hydrochloride	Valerian root
Mepivacaine hydrochloride	
Metformin hydrochloride	◊Wheat starch
Mitoxantrone hydrochloride	
	Xylose
Neomycin sulphate	
Neostigmine bromide	Zinc acexamate
Nitrendipine	Zopiclone
Nitrogen	
Nitrous oxide	General monographs on dosage forms
Nystatin	
	Eye preparations
Omega-3-acid ethyl esters	Chewing gums, medicated
Oxybuprocaine hydrochloride	Intraruminal devices
Oxygen	Tablets
Pancreas powder	
Paracetamol	
Penicillamine	
Phenytoin	

General chapters from Supplement 1998

- 2.2.7. Optical rotation
- 2.2.41. Circular dichroism
- 2.4.23. Sterols in fatty oils
- 2.5.7. Unsaponifiable matter
- 2.5.29. Sulphur dioxide
- 2.5.30. Oxidising substances
- 2.5.31. Ribose in polysaccharide vaccines
- 2.6.7. Mycoplasmas
- 2.6.16. Test for extraneous agents in viral vaccines for human use
- 2.7.11. Assay of human coagulation factor IX
- 2.7.12. Assay of heparin in coagulation factor concentrates
- 2.9.4. Dissolution test for transdermal patches
- 2.9.14. Specific surface area by air permeability
- 5.1.3. Efficacy of antimicrobial preservation

(1) The revised version of this monograph entered into force on 1 October 1995.

SUPPLEMENT 1999

Monographs from Supplement 1999

The monographs below appeared in Supplement 1999 and were implemented on 1 January 1999, unless otherwise indicated in notes at the end of this section (Supplement 1999).

- Acetone
- Aciclovir
- Alcuronium chloride
- Alfacalcidol
- Alfuzosin hydrochloride
- Alginate acid
- Allantoin
- Alteplase for injection
- Amidotrizoic acid dihydrate
- Amikacin
- Amikacin sulphate
- Aminoglutethimide
- Amphotericin B
- Ampicillin sodium
- Ascorbic acid
- Bacampicillin hydrochloride
- Bambuterol hydrochloride
- Beeswax, white
- Beeswax, yellow
- Belladonna leaf dry extract, standardised
- Benzalkonium chloride
- Benzalkonium chloride solution

- Betadex
- Biotin
- Butyl parahydroxybenzoate
- Calcifediol
- Calcium dobesilate monohydrate
- Calcium levulinate dihydrate
- Calendula flower
- Canine adenovirus vaccine (inactivated)
- Canine distemper vaccine (live), freeze-dried
- Caprylocaproyl macroglyglycerides
- Carbenicillin sodium
- Carbomers
- Carbon dioxide
- Cefaclor
- Cefixime
- Cefotaxime sodium
- Cefuroxime axetil
- Centauray
- Cetostearyl alcohol (Type A) emulsifying
- Cetostearyl alcohol (Type B) emulsifying
- Cetylpyridinium chloride
- Chlorocresol
- Chlorpropamide
- Cholesterol
- Ciclopirox olamine
- Clebopride malate
- Cod-liver oil (type A)
- Cod-liver oil (type B)
- Copovidone
- Coriander
- Corticotropin
- Cottonseed oil, hydrogenated
- Couch grass rhizome
- Cyclizine hydrochloride
- Cyproterone acetate
- Daunorubicin hydrochloride
- Decyl oleate
- Depropine citrate
- Dexchlorpheniramine maleate
- Digitoxin
- Dihydralazine sulphate (hydrated)
- Dimeticone
- Dinoprost trometamol
- Dinoprostone
- Dirithromycin
- Disodium phosphate dodecahydrate
- Dobutamine hydrochloride
- Doxycycline hyclate
- Duck viral hepatitis vaccine (live)
- Elder flower
- Enoxaparin sodium
- Ergocalciferol
- Erythropoietin concentrated solution
- Estriol
- Ethanol (96 per cent)
- Ethanol, anhydrous
- Ethyl oleate
- Ethyl parahydroxybenzoate
- γ-Ethylcellulose
- Etilefrine hydrochloride
- Etoposide
- Eucalyptus leaf
- Eugenol

Feline infectious enteritis (feline panleucopenia) vaccine (inactivated)	Methacrylic acid - methyl methacrylate copolymer (1:1)
Feline infectious enteritis (feline panleucopenia) vaccine (live)	Methacrylic acid - methyl methacrylate copolymer (1:2)
Feline leukaemia vaccine (inactivated)	◊Methyl parahydroxybenzoate
Fenbendazole	Methylprednisolone
Fennel, bitter	Methylprednisolone hydrogen succinate
Fennel, sweet	Metixene hydrochloride
Fenugreek	Metoclopramide
Fludeoxyglucose (¹⁸ F) injection	Metrifonate
Flumazenil	Minocycline hydrochloride
Flumetasone pivalate	Mumps vaccine (live)
Fluoxetine hydrochloride	Myrrh
Fosfomycin calcium	Nadroparin calcium
Fosfomycin sodium	Netilmicin sulphate
Gallamine triethiodide	Nimodipine
Garlic powder	Norfloxacin
Glucose liquid	Nortryptiline hydrochloride
Glycerol trinitrate solution	Oleoyl macrogolglycerides
Guar galactomannan	Omega-3-acid triglycerides
Haemophilus type b conjugate vaccine	Oxolinic acid
Halothane	Oxybutynin hydrochloride
Homoeopathic preparations	Parnaparin sodium
Hydrocortisone	Pentaerythryl tetranitrate, diluted
Imipenem	Pentamidine diisetonate
Insulin	Pertussis vaccine (acellular component, adsorbed)
Insulin human	Pheniramine maleate
Insulin injection, biphasic isophane	Phenoxymethylpenicillin
Insulin injection, isophane	Phenoxymethylpenicillin potassium
Insulin preparations, injectable	Phytomenadione
Insulin zinc injectable suspension	Picotamide monohydrate
Insulin zinc injectable suspension (amorphous)	Pilocarpine hydrochloride
Insulin zinc injectable suspension (crystalline)	Pilocarpine nitrate
Iobenguane (¹²³ I) injection	Piperacillin
Iobenguane (¹³¹ I) injection for diagnostic use	Piperacillin sodium
Iobenguane (¹³¹ I) injection for therapeutic use	Pivmecillinam hydrochloride
Iohexol	Porcine actinobacillosis vaccine (inactivated)
Iopamidol	Porcine progressive atrophic rhinitis vaccine (inactivated)
Iopanoic acid	Prilocaine
Isopropyl alcohol	Prilocaine hydrochloride
Itraconazole	Primrose root
Ivermectin	Promazine hydrochloride
Lactulose liquid	Promethazine hydrochloride
Lauroyl macrogolglycerides	Propacetamol hydrochloride
Lavender oil	Propranolol hydrochloride
Levocarnitine	Propyl gallate
Linoleoyl macrogolglycerides	Propyl parahydroxybenzoate
Lorazepam	Pseudoephedrine hydrochloride
Macrogol stearate	Quinidine sulphate
Macrogol stearyl ether	Quinine hydrochloride
Magnesium chloride 4.5-hydrate	Quinine sulphate
Magnesium chloride hexahydrate	Rabies vaccine for human use prepared in cell cultures
Maize oil, refined	Ramipril
Malathion	Rapeseed oil, refined
Maprotiline hydrochloride	Roxithromycin
Measles vaccine (live)	Rubella vaccine (live)
Measles, mumps and rubella vaccine (live)	Sage leaf
Medroxyprogesterone acetate	Sesame oil, refined
Mefenamic acid	Sodium alginate
Metamizole sodium	Sodium amidotrizoate
Methacrylic acid - ethyl acrylate copolymer (1:1)	Sodium cetostearyl sulphate
Methacrylic acid - ethyl acrylate copolymer (1:1) dispersion 30 per cent	Sodium methyl parahydroxybenzoate
	Sodium propyl parahydroxybenzoate

SUPPLEMENT 2000

New monographs from Supplement 2000

The monographs below appear for the first time in Supplement 2000. They will be implemented on 1 January 2000 at the latest, unless otherwise indicated.

Solution for organ preservation
Somatropin
Somatropin bulk solution
Somatropin for injection
Starch, pregelatinised⁽¹⁾
Stearoyl macrogolglycerides
Sufentanil citrate
Sunflower oil, refined

Talc
Technetium (^{99m}Tc) medronate injection
Technetium (^{99m}Tc) mertiatide injection
Terbutaline sulphate
Testosterone
Thyme
Thyme oil
Ticarcillin sodium
Tick-borne encephalitis vaccine (inactivated)
α-Tocopherol
α-Tocopheryl acetate
Triamcinolone
Triflusal
Tuberculin, old for human use
Tuberculin, purified protein derivative for human use

Valproic acid
Verapamil hydrochloride
Vindesine sulphate

Wheat-germ oil, refined
Wormwood

Xanthan gum
Xylitol

Yarrow
Yellow fever vaccine (live)

Zolpidem tartrate

General monographs on dosage forms

Preparations for inhalation
Rectal preparations

General chapters from Supplement 1999

- 2.2.27. Thin-layer chromatography
- 2.3.2. Identification of fatty oils by thin-layer chromatography
- 2.4.26. *N,N*-Dimethylaniline
- 2.5.32. Coulometric titration, micro-method
- 2.5.5. Peroxide value
- 2.6.2. Mycobacteria
- 2.6.14. Bacterial endotoxins
- 2.6.21. Nucleic acid amplification techniques
- 2.7.4. Assay of blood coagulation factor VIII
- 2.7.10. Assay of human coagulation factor VIII
- 2.9.20. Particulate contamination: visible particles
- 2.9.24. Resistance to rupture of suppositories and pessaries

(1) The revised version of this monograph entered into force on 1 January 1998.

N-Acetyltryptophan
N-Acetyltyrosine
Acitretrin
Albendazole
Alchemilla
Aluminium magnesium silicate
Ammonium bromide
Ammonium hydrogen carbonate
Arnica flower
Avian paramyxovirus 3 vaccine (inactivated)

Benzbromarone
Bezafibrate
Bifonazole
Boldo leaf
Bromperidol decanoate
Buflomedil hydrochloride

Calcium glucoheptonate
D-Camphor
Caprylic acid
Cefamandole nafate
Cefatrizine propylene glycol
Cefoperazone sodium
Ceftazidime
Cellulose acetate butyrate
Ciclopirox
Cilastatin sodium
Clenbuterol hydrochloride
Coconut oil, refined
Cocoyl caprylocaprate
Codeine hydrochloride dihydrate

Dequalinium chloride
Detomidine hydrochloride for veterinary use
Diethylene glycol monopalmitostearate
Dihydroergocristine mesilate
Dimetindene maleate
Docusate sodium

Eleutherococcus
Enalapril maleate
Ethylene glycol monopalmitostearate
Etodolac

Flutamide
Flutrimazole
Fosfomycin trometamol
Fucus

Glycerol dibehenate
Glycerol distearate
Glycerol mono-oleates
Glycerol monolinoleate

Haloperidol decanoate
Hawthorn leaf and flower

- Herbal drug preparations
- Herbal drugs
- Herbal teas
- Hexamidine diisetonate
- Hexylresorcinol
- Hypericum
- Iceland moss
- Interferon gamma-1b concentrated solution
- Leuprorelin
- Macrogol 6 glycerol caprylocaprate
- Macrogols
- Magnesium aspartate dihydrate
- Magnesium glycerophosphate
- Melissa leaf
- Metoprolol succinate
- Mometasone furoate
- Mupirocin
- Mupirocin calcium
- Nicotine
- Nizatidine
- Nonoxinol 9
- Ofloxacin
- Olive oil, refined
- Olsalazine sodium
- Oxfendazole for veterinary use
- Passion flower
- Pefloxacin mesilate dihydrate
- Penbutolol sulphate
- Pentazocine
- Pentazocine hydrochloride
- Poloxamers
- Potassium nitrate
- Prazepam
- Prednicarbate
- Products of fermentation⁽¹⁾
- Propylene glycol monopalmitostearate
- Simeticone
- Sodium caprylate
- Sodium hyaluronate
- Soya-bean oil, refined
- Stearic acid
- Strontium (⁸⁹Sr) chloride injection
- Sulfaguanidine
- Tannic acid
- Tormentil
- Triethyl citrate
- Turmeric, Javanese
- Wheat-germ oil, virgin
- Xylazine hydrochloride
- Zinc acetate dihydrate

(1) This monograph entered into force on 1 January 1999.

Revised monographs from Supplement 2000

The monographs below have been technically revised since the publication of Supplement 1999. They will be implemented on 1 January 2000, unless otherwise indicated in notes at the end of this section (Supplement 2000).

- Acetylsalicylic acid
- Alanine⁽²⁾
- Allopurinol
- Amitriptyline hydrochloride⁽²⁾
- Amoxicillin sodium
- Aprotinin
- Aprotinin concentrated solution
- Arginine⁽²⁾
- Arginine hydrochloride⁽²⁾
- Aspartic acid⁽²⁾
- Benserazide hydrochloride
- Calcitonin (salmon)
- Calcium folinate
- Calcium hydroxide⁽²⁾
- Calcium stearate
- Carmellose calcium
- Cellulose acetate
- Cellulose acetate phthalate⁽²⁾
- Charcoal, activated⁽²⁾
- Chlorprothixene hydrochloride⁽²⁾
- Chymotrypsin
- Clostridium chauvoei vaccine for veterinary use⁽²⁾
- Cortisone acetate
- Croscarmellose sodium
- Cysteine hydrochloride monohydrate⁽²⁾
- Cystine⁽²⁾
- Demeclocycline hydrochloride
- Desipramine hydrochloride
- Desmopressin
- Dosulepin hydrochloride
- Doxepin hydrochloride
- Erythromycin stearate
- Ethinylestradiol
- Ferrous fumarate
- Flecainide acetate
- Glutamic acid⁽²⁾
- Glycerol
- Glycerol (85 per cent)
- Glycerol monostearate 40-55
- Gonadorelin acetate
- Haemodialysis solutions for
- Haemofiltration and for haemodiafiltration, solutions for
- Hamamelis leaf
- Histidine⁽²⁾
- Histidine hydrochloride monohydrate⁽²⁾
- Human plasma for fractionation⁽²⁾
- ◊Hydroxyethylcellulose
- Hydroxyzine hydrochloride
- Interferon alfa-2 concentrated solution
- Iotalamic acid
- Isoleucine⁽²⁾

Isoprenaline hydrochloride
 Isotretinoin
 Ispaghula husk
 Ispaghula seed
 Lactitol monohydrate⁽²⁾
 Leucine⁽²⁾
 Lysine hydrochloride⁽²⁾
 Macrogol cetostearyl ether
 Macrogol glycerol cocoates
 Magnesium stearate
 Methionine⁽²⁾
 Methotrexate
 Morphine hydrochloride
 Morphine sulphate
 Nabumetone
 Nalidixic acid
 Naloxone hydrochloride dihydrate
 Naphazoline hydrochloride
 Naphazoline nitrate
 Newcastle disease vaccine (inactivated)
 Olive oil, virgin
 Omeprazole
 Oxytocin
 Oxytocin bulk solution
 Peritoneal dialysis, solutions for
 Phenylalanine⁽²⁾
 Piroxicam
 Poliomyelitis vaccine (inactivated)
 Polyacrylate dispersion 30 per cent
 Prednisolone
 Proline⁽²⁾
 Propylthiouracil
 Protamine hydrochloride
 Protamine sulphate
 Radiopharmaceutical preparations
 Rhatany root
 Serine⁽²⁾
 Sodium cyclamate
 Sodium valproate⁽²⁾
 Sulfasalazine
 Swine erysipelas vaccine (inactivated)
 Threonine⁽²⁾
 Tiaprofenic acid
 RRR- α -Tocopherol
 RRR- α -Tocopheryl acetate
 Tragacanth
 Tranexamic acid
 Tretinoin
 Trimethoprim⁽²⁾
 Trypsin
 Tryptophan⁽²⁾
 Tylosin for veterinary use
 Tylosin tartrate for veterinary use
 Tyrosine⁽²⁾
 Undecylenic acid⁽²⁾
 Valine⁽²⁾

Water, for injections⁽³⁾
 Water, purified⁽³⁾
 Wool-fat, hydrogenated

Zinc undecylenate⁽²⁾

Corrected monographs from Supplement 2000

The monographs below have been corrected in Supplement 2000. They are implemented at the time of publication.

Aciclovir
 Air, medical
 Alcuronium chloride
 Aluminium oxide, hydrated
 Aluminium sulphate
 Aminoglutethimide
 Amphotericin B
 Ampicillin sodium
 Anise oil

Barium sulphate
 Benperidol
 Bromperidol

Calcifediol
 Caprylocaproyl macrogolglycerides
 Carbon dioxide
 Cellulose acetate phthalate
 Chewing gums, medicated
 Chloral hydrate
 Cinnarizine
 Clozapine
 Cod liver oil (type A)
 Cod liver oil (type B)

Dimeticone
 Dithranol

Elder flower
 Erythropoietin concentrated solution
 Ethanol, 96 per cent
 Ethanol, anhydrous
 Etilefrine hydrochloride
 Eugenol

Fenbendazole
 Fenofibrate
 Fentanyl
 Fentanyl citrate
 Fenticonazole nitrate
 Ferrous gluconate
 Ferrous sulphate

Glucose, liquid

Haemodialysis solutions, concentrated, water for diluting
 Haloperidol
 Hop strobile
 Hydrochlorothiazide

Isopropyl (alcohol)
 Itraconazole

Java tea

Ketoconazole
 Lactulose, liquid
 Lisinopril dihydrate
 Magnesium chloride 4.5 - hydrate
 Magnesium chloride hexahydrate
 Magnesium hydroxide
 Magnesium trisilicate
 Metoclopramide
 Metrifonate
 Nicotinamide
 Nitrogen
 Nitrous oxide
 Norfloxacin
 Omega-3-acid triglycerides
 Oxytetracycline
 Oxybuprocaine hydrochloride
 Oxygen
 Penicillamine
 Pentobarbital sodium
 Picotamide monohydrate
 Pilocarpine hydrochloride
 Pilocarpine nitrate
 Pimozide
 Prilocaine
 Primula root
 Pyridostigmine bromide
 Rabies vaccine for human use prepared in cell cultures
 Sage leaf (*salvia officinalis*)
 Salicylic acid
 Sodium chloride
 Sodium lactate solution
 Sodium salicylate
 Somatropin
 Somatropin bulk solution
 Somatropin for injection
 Sufentanil citrate
 Sulpiride
 Terconazole
 Tetracycline
 Thyme oil

New general chapters from Supplement 2000

2.2.42. Density of solids
 2.2.43. Mass spectrometry
 2.2.44. Total organic carbon in water for pharmaceutical use⁽¹⁾
 2.4.27. Nickel in hydrogenated vegetable oils
 2.4.28. 2-Ethylhexanoic acid
 2.8.14. Assay of tannins in herbal drugs
 2.9.25. Drug release from medicated chewing gum
 2.9.26. Specific surface area by gas absorption
 5.6. Assay of interferons
 5.7. Table of physical characteristics of radionuclides mentioned in the European Pharmacopoeia

Revised general chapters from Supplement 2000

2.2.6 Refractive index⁽²⁾
 2.2.24 Absorption spectrophotometry, infrared
 2.2.25 Absorption spectrophotometry, ultraviolet and visible
 2.2.31. Electrophoresis
 2.4.22. Foreign oils in fatty oils by gas chromatography
 2.5.6. Saponification value
 2.6.1. Sterility⁽⁴⁾
 2.6.12. Microbial examination of non-sterile products (total viable aerobic count)
 2.6.13. Microbial examination of non-sterile products (test for specified micro-organisms)
 2.9.7. Tablet friability of uncoated tablets
 2.9.18. Preparations for inhalation
 2.9.19. Particulate contamination - sub-visible particles⁽³⁾
 2.9.22. Softening time determination of lipophilic suppositories
 3.1. Materials used for the manufacture of containers
 3.1.1. Materials for containers for human blood and blood components
 3.1.1.1. Materials based on plasticised poly(vinyl chloride) for containers for human blood and blood components
 3.1.1.2. Materials based on plasticised poly(vinyl chloride) for tubing used in sets for the transfusion of blood and blood components
 3.1.3. Polyolefines (3.1.3)
 3.1.4. Polyethylene without additives for containers for preparations for parenteral use and for ophthalmic preparations
 3.1.5. Polyethylene with additives for containers for preparations for parenteral use and for ophthalmic preparations
 3.1.6. Polypropylene for containers and closures for preparations for parenteral and ophthalmic use
 3.1.7. Poly(ethylene - vinyl acetate) for containers and tubing for total parenteral nutrition preparations
 3.1.8. Silicone oil used as a lubricant
 3.1.9. Silicone elastomer for closures and tubing
 3.1.12. Rubber for closures for containers for aqueous parenteral preparations and for powders for freeze-dried products
 3.1.13. Plastic additives
 3.1.14. Materials based on plasticised poly(vinyl chloride) for containers for aqueous solutions for intravenous infusion
 3.2. Containers
 3.2.2. Plastic containers and closures for pharmaceutical use
 3.2.2.1. Plastic containers for aqueous solutions for parenteral infusion
 5.1.4. Microbial quality of pharmaceutical preparations
 5.3. Statistical analysis of results of biological assays and tests

Corrected general chapters from Supplement 2000

- 1.5. Abbreviations and symbols
- 2.1.6. Gas detector tubes
- 2.4.8. Heavy metals
- 2.4.24. Identification and control of residual solvents
- 2.4.25. Residual ethylene oxide and dioxan
- 2.5.26. Nitrogen monoxide and nitrogen dioxide in medicinal gases
- 2.6.14. Bacterial endotoxins
- 2.7.2. Microbiological assay of antibiotics
- 2.9.23. Pycnometric density of solids
- 3.1.10. Materials based on non-plasticised poly(vinyl chloride) for containers for non-injectable, aqueous solutions
- 3.1.11. Materials based on non-plasticised poly(vinyl chloride) for containers for dry dosage forms for oral administration
- 5.4. Residual solvents
- 5.5. Alcoholimetric Tables

Suppression of monographs

The following monographs will be deleted on 1 January 1999.

- 2.4.20. Antioxydants in fatty oils
- Ethisterone
- Phenacetine
- Sterile reconstituted collagen strands

Texts whose title was changed in Supplement 2000

The following monographs have been merged into one single monograph «Macrogols».

- Macrogol 300
- Macrogol 400
- Macrogol 1000
- Macrogol 1500
- Macrogol 3000
- Macrogol 4000
- Macrogol 6000
- Macrogol 20000
- Macrogol 35000

The titles of the following monographs have been changed.

- Glycerol monostearate 40-50 becomes:
Glycerol monostearate 40-55
- Solutions for haemofiltration becomes:
Solutions for haemofiltration and haemodiafiltration
- Macrogol 7 glycerol cocoate becomes:
Macrogol glycerol cocoates
- Naloxone hydrochloride becomes:
Naloxone hydrochloride dihydrate
- Olive oil becomes:
Olive oil, virgin
- Oxytocin concentrated solution becomes:
Oxytocin bulk solution
- Primrose root becomes:
Primula root

The numbering of the following texts has been changed:

- 3.1.1. Materials based on plasticised poly(vinyl chloride) for (...) containers for aqueous solutions (...) is superseded, in part, by: 3.1.14.
- 3.1.2. Materials based on plasticised poly(vinyl chloride) for tubing (...) is superseded by: 3.1.1.2.
- 3.2.7. Plastic containers for aqueous solutions (...) is superseded by: 3.2.2.1.

- (1) This text entered into force on 1 July 1999.
- (2) The revised version of this text entered into force on 1 January 1999.
- (3) The revised version of this text entered into force on 1 July 1999.
- (4) The revised version of this text entered into force on 1 September 1998.

INTERNATIONAL HARMONISATION

The following texts have been revised or elaborated in collaboration with the Pharmacopoeias of Japan and of the United States in order to have harmonised texts in the three Pharmacopoeias. Residual differences are the subject of a commentary in Pharmeuropa.

- 2.2.31. Electrophoresis
- Alteplase for injection
- Ethylcellulose
- Hydroxyethylcellulose
- Hypromellose phthalate
- Methyl parahydroxybenzoate
- Potato starch
- Sucrose
- Wheat starch

II. CORRIGENDA

CONTENTS

The page number for the reagents in the table of contents should read '187' instead of '1875'.

INTRODUCTION

Page iv. General Principles. Read:

'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 the European Pharmacopoeia are laid down in the *Technical Guide for the Elaboration of Monographs* available as a special issue of *Pharmeuropa*.

The procedures for the tests and assays published in the individual monographs have been validated according to the 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 CHAPTERS

2.2.29. LIQUID CHROMATOGRAPHY

Page 33. Replace the following:

'The **number of theoretical plates** (n) may be calculated from data obtained under isothermal conditions from the formula:'

by:

'The **number of theoretical plates** (n) may be calculated from data obtained under isocratic conditions from the formula:'

2.2.33. NUCLEAR MAGNETIC RESONANCE SPECTROMETRY

Page 37. *Apparatus* - paragraphs 2) and 4). Replace:

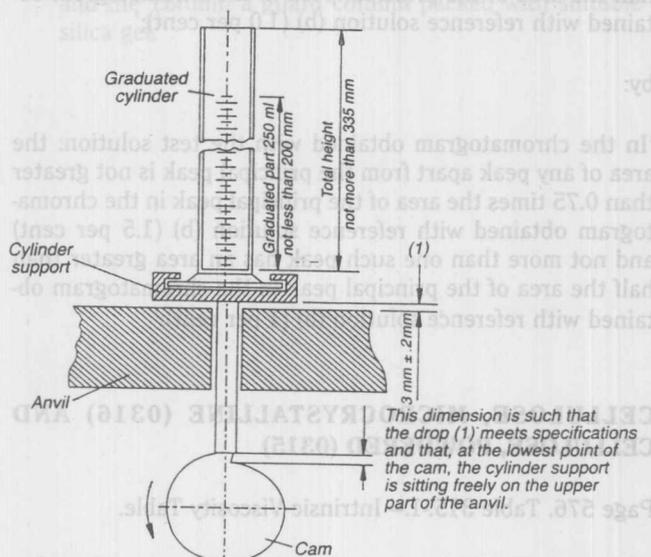
'carbon tetrachloride R'

by:

'deuterated chloroform R'

2.9.15. APPARENT VOLUME

Page 141. Replace the figure 2.9.15-1 by



4.1.1. REAGENTS

Delete Indophenol blue.

5.1.5. APPLICATION OF THE F_0 CONCEPT TO STEAM STERILISATION OF AQUEOUS PREPARATIONS

Page 288. Replace the following:

$$IF = N_0 - N = 10^{t/D}$$

by:

$$IF = \frac{N_0}{N} = 10^{t/D}$$

MONOGRAPHS

ALPRAZOLAM (1065)

Page 365. TESTS - **Related substances**. Replace the following:

– a stainless steel column 0.25 m long and 4.6 mm in internal diameter packed with *phenylsilyl silica gel for chromatography R* (5 μm),

by:

– a stainless steel column 0.25 m long and 4.6 mm in internal diameter packed with *phenylsilyl silica gel for chromatography R1* (5 μm),

BETAMETHASONE DIPROPIONATE (0809)

Page 475. TESTS - Related substances. Replace the following:

'In the chromatogram obtained with the test solution: the area of any peak apart from the principal peak is not greater than 0.75 times the area of the principal peak in the chromatogram obtained with reference solution (b) (2.0 per cent) and not more than one such peak has an area greater than half the area of the principal peak in the chromatogram obtained with reference solution (b) (1.0 per cent);'

by:

'In the chromatogram obtained with the test solution: the area of any peak apart from the principal peak is not greater than 0.75 times the area of the principal peak in the chromatogram obtained with reference solution (b) (1.5 per cent) and not more than one such peak has an area greater than half the area of the principal peak in the chromatogram obtained with reference solution (b) (1 per cent);'

CELLULOSE, MICROCRYSTALLINE (0316) AND CELLULOSE, POWDERED (0315)

Page 576. Table 315.-1.- Intrinsic Viscosity Table.

In the bottom right-hand corner of the table, replace the value 3.417 by 2.417 which corresponds to the co-ordinate for 5.9 and η_{rel} 0.09.

Page 577. Insert new values for η_{rel} after the line commencing 9.9 as follows:

η_{rel}	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
--------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

CHLORHEXIDINE DIGLUCONATE SOLUTION (0658)

Page 601. IDENTIFICATION - Identification B. Replace the following:

'Reference solution. Dissolve 25 mg of calcium digluconate CRS in 1 ml of water R.'

by:

'Reference solution. Dissolve 25 mg of calcium gluconate CRS in 1 ml of water R.'

HYALURONIDASE (0912)

Page 972. ASSAY. Replace the following:

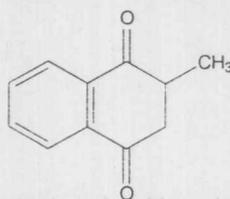
'Plot $(\ln h)^{-1}$ as a function of the reaction time $(t_1 + t_2/2)$ in seconds. A linear relationship is obtained.'

by:

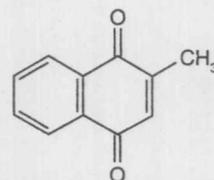
'Plot $(\ln \eta)^{-1}$ as a function of the reaction time $(t_1 + t_2/2)$ in seconds. A linear relationship is obtained.'

MENADIONE (0507)

Page 1154. Replace the chemical formula:



by:

**PROPYLENE GLYCOL MONOSTEARATE (1143)**

Page 1400. IDENTIFICATION - Identification B. Replace the following:

'The retention time and size of the two principal peaks in the chromatogram obtained..'

by:

'The retention times of the two principal peaks in the chromatogram obtained..'

TETRACOSACTIDE (0644)

Page 1621. TESTS - Amino acids. Glycine had been omitted from the table of amino acids which should now read as follows:

Lysine	Threonine	Glycine	Isoleucine
Histidine	Serine	Alanine	Leucine
Arginine	Glutamic acid	Valine	Tyrosine
Aspartic acid	Proline	Methionine	Phenylalanine

VACCINES FOR VETERINARY USE (0062)

Page 1702. TESTS - Mycoplasmas. Following the republication of the test for mycoplasmas in Supplement 1998 the test may be amended by deleting the sentence:

'Depending on the origin of any cells used for production of the vaccine, the composition of the culture media and the target species, carry out either the test for avian mycoplasmas, or the test for non-avian mycoplasmas and ureaplasmas, or both.'

VINBLASTINE SULPHATE (0748)

Page 1711. ASSAY. Replace the following:

'— a stainless steel column 0.25 m long and 4.6 mm in internal diameter packed with octylsilyl silica gel for chromatography R (5 μ m). Place between the pump and the injector a guard column packed with suitable silica gel.'

by:

‘— a stainless steel column 0.25 m long and 4.6 mm in internal diameter packed with *octylsilyl silica gel for chromatography R* (5 µm). Place between the injector and the column a guard column packed with suitable silica gel,’

VINCRIStINE SULPHATE (0749)

Page 1712. ASSAY. Replace the following:

‘— a stainless steel column 0.25 m long and 4.6 mm in internal diameter packed with *octylsilyl silica gel for chromatography R* (5 µm). Place between the pump and the injector a guard column packed with suitable silica gel,’

by:

‘— a stainless steel column 0.25 m long and 4.6 mm in internal diameter packed with *octylsilyl silica gel for chromatography R* (5 µm). Place between the injector and the column a guard column packed with suitable silica gel,’

CONTENTS

I.	Contents of the Third Edition Supplement 2000	i
II.	Corrigenda	xi
GENERAL CHAPTERS		
1.	General notices	
1.5.	<i>Abbreviations and symbols</i>	3
2.	Methods of analysis	5
2.1.	<i>Apparatus</i>	5
2.1.6.	Gas detector tubes	5
2.2.	<i>Physical and physico-chemical methods</i>	7
2.2.6.	Refractive index	7
2.2.7.	Optical rotation	7
2.2.24.	Absorption spectrophotometry, infrared	8
2.2.25.	Absorption spectrophotometry, ultraviolet and visible	9
2.2.27.	Thin-layer chromatography	11
2.2.31.	Electrophoresis	12
2.2.41.	Circular dichroism	18
2.2.42.	Density of solids	20
2.2.43.	Mass spectrometry	20
2.2.44.	Total organic carbon in water for pharmaceutical use	23
2.3.	<i>Identification</i>	25
2.3.2.	Identification of fatty oils by thin-layer chromatography	25
2.4.	<i>Limit tests</i>	27
2.4.8.	Heavy metals	27
2.4.22.	Foreign oils in fatty oils by gas chromatography	29
2.4.23.	Sterols in fatty oils	31
2.4.24.	Identification and control of residual solvents	32
2.4.25.	Residual ethylene oxide and dioxan	37
2.4.26.	<i>N,N</i> -Dimethylaniline	38
2.4.27.	Nickel in hydrogenated vegetable oils	39
2.4.28.	2-Ethylhexanoic acid	40
2.5.	<i>Assays</i>	41
2.5.5.	Peroxide value	41
2.5.6.	Saponification value	41
2.5.7.	Unsaponifiable matter	42
2.5.26.	Nitrogen monoxide and nitrogen dioxide in medicinal gases	42
2.5.29.	Sulphur dioxide	43
2.5.30.	Oxidising substances	43
2.5.31.	Ribose in polysaccharide vaccines	43
2.5.32.	Micro-method - coulometric titration	43
2.6.	<i>Biological tests</i>	45
2.6.1.	Sterility	45
2.6.2.	Mycobacteria	49
2.6.7.	Mycoplasmas	49
2.6.12.	Microbiological examination of non-sterile products (total viable aerobic count)	52
2.6.13.	Microbiological examination of non-sterile products (test for specified micro-organisms)	56
2.6.14.	Bacterial endotoxins	61
2.6.16.	Tests for extraneous agents in viral vaccines for human use	69
2.6.21.	Nucleic acid amplification techniques	71
2.7.	<i>Biological assays</i>	73
2.7.2.	Microbiological assay of antibiotics	73
2.7.4.	Assay of blood coagulation factor VIII	79
2.7.10.	Assay of human coagulation factor VII	81
2.7.11.	Assay of human coagulation factor IX	82
2.7.12.	Assay of heparin in coagulation factor concentrates	82
2.8.	<i>Methods of pharmacognosy</i>	83
2.8.14.	Determination of tannins in herbal drugs	83
2.9.	<i>Pharmaceutical technical procedures</i>	85
2.9.4.	Dissolution test for transdermal patches	85
2.9.7.	Friability of uncoated tablets	87
2.9.14.	Specific surface area by air permeability	87

2.9.18.	Preparations for inhalation: aerodynamic assessment of fine particles - fine particle dose and particle size distribution	89
2.9.19.	Particulate contamination: sub-visible particles	100
2.9.20.	Particulate contamination: visible particles	100
2.9.22.	Softening time determination of lipophilic suppositories	101
2.9.23.	Pycnometric density of solids	102
2.9.24.	Resistance to rupture of suppositories and pessaries	103
2.9.25.	Chewing gum, medicated, drug release from	104
2.9.26.	Specific surface area by gas adsorption	105
3.	Materials used for the manufacture of containers and containers	109
3.1.	<i>Materials used for the manufacture of containers</i>	109
3.1.1.	Materials for containers for human blood and blood components (Note: for materials based on plasticised poly(vinyl chloride) for containers for aqueous solutions for intravenous infusion, see text 3.1.14)	109
3.1.1.1.	Materials based on plasticised poly(vinyl chloride) for containers for human blood and blood components	109
3.1.1.2.	Materials based on plasticised poly(vinyl chloride) for tubing used in sets for the transfusion of blood and blood components	113
3.1.2.	(This text is superseded by text 3.1.1.2)	
3.1.3.	Polyolefines	115
3.1.4.	Polyethylene without additives for containers for preparations for parenteral use and for ophthalmic preparations	119
3.1.5.	Polyethylene with additives for containers for preparations for parenteral use and for ophthalmic preparations	120
3.1.6.	Polypropylene for containers and closures for preparations for parenteral and ophthalmic use	124
3.1.7.	Poly(ethylene - vinyl acetate) for containers and tubing for total parenteral nutrition preparations	128
3.1.8.	Silicone oil used as a lubricant	130
3.1.9.	Silicone elastomer for closures and tubing	131
3.1.10.	Materials based on non-plasticised poly(vinyl chloride) for containers for non-injectable, aqueous solutions	132
3.1.11.	Materials based on non-plasticised poly(vinyl chloride) for containers for dry dosage forms for oral administration	134
3.1.12.	Rubber for closures for containers for aqueous parenteral preparations and for powders for freeze-dried products	136
3.1.13.	Plastic additives	137
3.1.14.	Materials based on plasticised poly(vinyl chloride) for containers for aqueous solutions for intravenous infusion	140
3.2.	<i>Containers</i>	145
3.2.2.	Plastic containers and closures for pharmaceutical use	145
3.2.2.1.	Plastic containers for aqueous solutions for parenteral infusion	146
3.2.7.	(This text is superseded by text 3.2.2.1)	
4.	Reagents	147
4.1.	<i>Reagents, standard solutions, buffer solutions</i>	147
4.1.1.	Reagents	147
4.1.2.	Standard solutions for limit tests	245
4.1.3.	Buffer solutions	248
4.2.	<i>Volumetric analysis</i>	253
4.2.1.	Primary standards for volumetric solutions	253
4.2.2.	Volumetric solutions	253
5.	General texts	259
5.1.3.	Efficacy of antimicrobial preservation	259
5.1.4.	Microbiological quality of pharmaceutical preparations	260
5.3.	<i>Statistical analysis of results of biological assays and tests</i>	263
5.4.	<i>Residual solvents</i>	295
5.5.	<i>Alcoholimetric tables</i>	305
5.6.	<i>Assay of interferons</i>	317
5.7.	<i>Table of physical characteristics of radionuclides mentioned in the European Pharmacopoeia</i>	321
MONOGRAPHS		329
MONOGRAPHS ON DOSAGE FORMS		1345
INDEX		1361