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**SIMPLE TESTS FOR DRUGS INCLUDED IN
THE WHO MODEL LIST OF ESSENTIAL DRUGS**

The tests mentioned in this document have been prepared by a number of laboratories over the course of several years. They represent a useful and important tool, not only for the determination of identity, but also for the detection of counterfeit, spurious and substandard drugs.

This document gives information on tests from different sources, and indicates the type of tests used. The present compilation refers to substances and dosage forms in the WHO Model List of Essential Drugs (1).

The tests are simple, uncomplicated and inexpensive. They are methods which have been developed either as identity or stability tests using different approaches, and cover visual methods, melting behaviour, colour, precipitation and other reactions, and thin-layer chromatography (TLC) techniques. The tests do not need to be carried out by fully-qualified pharmacists or chemists, but by those having some understanding of analytical chemistry. They can be performed outside a laboratory, for example in local (zonal) drug inspectors' offices, customs posts, ports of entry, wholesale, warehouses, large pharmacies e.g. central pharmacies, and health care facilities, or in the field, e.g. in relation to the control of unauthorized drug markets.

(1) The Use of Essential Drugs. Sixth Report of the WHO Expert Committee, WHO Technical Report Series No. 850, World Health Organization, Geneva, 1995.

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Glossary of publications referred to in the document:

- BT** **Visual characteristic; melting behaviour; colour, precipitation and other reactions**
Basic tests for pharmaceutical substances, World Health Organization, Geneva, 1986
Basic tests for pharmaceutical dosage forms, World Health Organization, Geneva, 1991
Basic tests for pharmaceutical substances, medicinal plant materials and dosage forms
(in press)
- SNIP** **Colour, precipitation and other reactions, TLC, assay methods by titration, UV absorbance etc.**
Fabiani P, Pesez M. Drugs Identification and Assay Sheets. Syndicat de l'Industrie Pharmaceutique, 88, rue de la Faisanderie, 75116 Paris, France, 1988-1991.
Tel. (33)(1) 45 03 21 01; Telex 612828 F.
- VB** **TLC**
Vincent-Ballereau F. et al. Contrôle de Qualité des Médicaments Essentiels dans les pays en développement, Méthodes standardisées. GEEP, Groupe d'Etudes Epidémiologiques et Prophylactiques. Centre Hospitalier de Villeneuve-Saint-Georges 94195, Villeneuve St-Georges Cedex, France, 1993.
Tel. (33) 40 41 28 27; FAX (33) 40 08 41 63.
- LAYF** **TLC**
Kenyon AS, Layloff TP. Rapid Screening of Pharmaceuticals by Thin-layer Chromatography. USA Food and Drug Administration, Division of Drug Analysis, 1114 Market St., Room 1002, St. Louis, Missouri 63101, USA, 1994.
Tel. (314) 539-2134; FAX (314) 539-2113.
- PP** **TLC**
Pachaly P. et al. Simple Thin-layer Chromatographic Identification of Active Ingredients in Essential Drugs. Gesundheitshilfe Dritte Welt, German Pharma Health Fund e.V., Pharmaceutical Institute of the Rhenish Friedrich Wilhelm University, Kreuzbergweg 26, Bonn, D-53115 Germany, 1994.
Tel. (228) 73 23 01; FAX (228) 73 25 67 or 21 11 51.
- LK** **TLC**
Kraus L. Concise practical book of thin-layer chromatography. Lehrstuhl für Pharmazeutische Biologie, Bundesstrasse 43, Hamburg 13, D-20146 Germany; Desaga GmbH, Maass-Strasse 26-28, Heidelberg, D-69123 Germany, 1993.
(Desaga Order No. 12 49 53)
- Bel** **Visual characteristics; melting behaviour; colour, precipitation and other reactions, TLC**
Fiches de vérification d'identité des médicaments en officine. Ministère de la Santé Publique, Inspection Générale de la Pharmacie, Secrétariat de la Commission Belge de la Pharmacopée, Cité Administrative de l'Etat, Quartier Vésale, 1010 Bruxelles, Belgique, 1987, 1993.
Tel. 02/210.49.31.
- JIC** **Visual characteristics, TLC**
Technology Transfer Promotion Project for Pharmaceutical Field, Committee on countermeasures against counterfeit and sub-standard drugs, 994, Japan International Corporation of Welfare Services, Shinjuku Takasago bldg. 10F, 16-5 Tomihisa-cho Shinjuku-ku, Tokyo 162, Japan, 1993-95.
Tel. 81-3-3225-6591; FAX 81-3-3225-6590.

A test kit was developed for Narcotic Substances by the United Nations International Drug Control Programme, Vienna International Centre, P.O. Box 500, A-1400 Vienna, Austria.
Tel. 43-1-213450; FAX 43-1-21345-5866; Telex 135612 uno a.

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
acetazolamide	substance tablet, 250 mg	X X	X	X				X	
acetylsalicylic acid	substance suppository, 50-150 mg; tablet, 100-500 mg	X X	X	X	X	X X		X	X
albendazole	substance chewable tablet, 200 mg			X		X X			
albumin, human	injectable solution 5%, 25%	-----n.a.-----							
alcuronium chloride	substance injection, 5 mg/ml in 2-ml amp.								
allopurinol	substance tablet, 100 mg	X X			X			X	X
aluminium diacetate	substance solution, 13% for dilution	X							
aluminium hydroxide	substance oral suspension, 320 mg/5 ml; tablet, 500 mg	X X							
amiloride hydrochloride	substance tablet, 5 mg	X X	X						
aminobenzoic acid	substance cream; gel; lotion								
aminophylline	substance injection, 25 mg/ml in 10-ml amp.;	X X	X						
	tablet, 100 mg, 200 mg	X	X	X					
amitriptyline hydrochloride	substance tablet, 25 mg	X X	X						
amoxicillin	substance capsules, 250 mg, 500 mg; powder for oral suspension, 125 mg/5 ml; tablet, 250 mg, 500 mg			X	X	X X			X X X
amphotericin B	substance powder for injection, 50 mg in vial	X							
ampicillin sodium	substance powder for injection, 500 mg of ampicillin in vial	X X		X					
anti-D immunoglobulin (human)	injection, 250 µg/ml in single- dose vial	-----n.a.-----							
antiscorpion sera	injection	-----n.a.-----							
antitetanus immuno- globulin (human)	injection, 500 IU in vial	-----n.a.-----							
antivenom serum	injection	-----n.a.-----							

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
ascorbic acid	substance tablet, 50 mg	X X		X				X	X
asparaginase	substance powder for injection, 10 000 IU in vial								
atenolol	substance tablet, 50 mg, 100 mg								
atropine sulfate	substance injection, 1 mg in 1-ml amp.; solution (eye drops), 0.1%, 0.5%, 1%; tablet, 1 mg	X X		X					
azathioprine	substance tablet, 50 mg	X X		X			X		
azathioprine sodium	powder for injection, 100 mg of azathioprine in vial	X							
bacitracin zinc	substance ointment, 500 IU + neomycin sulfate, 5 mg/g	X							
barium sulfate	substance aqueous suspension	X							
BCG vaccine (dried)	injection		n.a.						
beclometasone dipropionate	substance inhalation, 50 µg/dose	X X							
benzathine benzyl- penicillin	substance powder for injection, 1.44 g benzylpenicillin (=2.4 million IU) in 5-ml vials	X X				X			
benznidazole	substance tablet, 100 mg								
benzoic acid	substance cream, 6%+ salicylic acid, 3%; ointment, 6%+ salicylic acid, 3%	X							
benzoyl peroxide	substance cream 5%; lotion 5%							X	
benzyl benzoate	substance lotion, 25%	X X		X				X	
benzylpenicillin potassium	substance powder for injection, 600 mg benzylpenicillin (=1 million IU), 3.0 g benzylpenicillin (=5 million IU) in vial	X X							X X
benzylpenicillin sodium	substance powder for injection, 600 mg benzylpenicillin(=1 million IU), 3.0 g (benzylpenicillin (=5 million IU) in vial	X X		X			X		

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
betamethasone valerate	substance	X							
	cream, 0.1% of betamethasone;	X							
	ointment, 0.1% of betamethasone	X							
biperiden hydrochloride	substance tablet, 2 mg	X							
biperiden lactate	injection, 5 mg in 1-ml amp.								
bleomycin sulfate	substance powder for injection, 15 mg of bleomycin in vial (complex A ₂ /B ₂)								
bupivacaine hydrochloride	substance	X							
	injection, 0.25%, 0.5% in vial; injection for spinal anaesthesia, 0.5% in 4 ml amp. with 7.5% glucose solution	X	X						
calamine	substance lotion								
calcium folinate	substance	X							
	injection, 3 mg/ml in 10-ml amp.;	X							
calcium gluconate	substance	X							
	injection, 100 mg/ml in 10-ml amp.	X							
calcium hypochlorite	powder for solution								
captopril	substance	X							
	scored tablet, 25 mg		X	X					
carbamazepine	substance	X							
	scored tablet, 100 mg, 200 mg	X	X	X	X				
carbidopa	substance	X							
	tablet, 10 mg + levodopa, 100 mg; 25 mg + levodopa, 250 mg								
charcoal, activated	substance powder	X							
chloral hydrate	substance syrup, 200 mg/5 ml	X							
chloramphenicol	substance	X							X
	capsule, 250 mg;	X							X
chloramphenicol palmitate	substance	X							
	oral suspension, 150 mg of chloramphenicol/5 ml	X							
chloramphenicol sodium succinate	substance	X							X
	oily suspension, injection 0.5 g of chloramphenicol/ml in 2-ml amp.								
	powder for injection, 1 g of chloramphenicol in vial	X							X
chlorhexidine digluconate	solution, 5% concentrate for dilution		X	X				X	

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
cloxacillin sodium	substance	X							
	capsule, 500 mg of cloxacillin;	X	X	X	X				X
	powder for injection, 500 mg of cloxacillin in vial;	X		X					X
	powder for oral solution, 125 mg of cloxacillin/5 ml								X
coal tar	substance solution, topical, 5%	X							
codeine phosphate	substance	X					X	X	
	tablet, 10 mg, 30 mg	X	X						
colchicine	substance	X							
	tablet, 500 µg	X	X	X					X
cyclophosphamide	substance	X							
	powder for injection, 500 mg in vial; tablet, 25 mg	X	X						
cytarabine	substance	X							
	powder for injection, 100 mg in vial								
dacarbazine	substance powder for injection, 100 mg								
dactinomycin	substance powder for injection, 500 µg in vial								
dapsons	substance	X							
	tablet, 50 mg, 100 mg	X	X	X					
deferoxamine mesilate	substance	X							
	powder for injection, 500 mg in vial		X						
desmopressin acetate	substance injection, 4 µg/ml in 1-ml amp. nasal spray, 10 µg/metered dose								
dexamethasone	substance	X				X		X	
	tablet, 500 µg, 4 mg	X	X		X	X			
dexamethasone sodium phosphate	substance	X							X
	injection, 4 mg of dexamethasone in 1-ml amp.	X			X				
dextran 70	substance injectable solution, 6%	X							
diazepam	substance	X							
	injection, 5 mg/ml in 2-ml amp.;	X	X						
	scored tablet, 2 mg, 5 mg	X	X	X	X				
diethylcarbamazine dihydrogen citrate	substance	X							
	tablet, 50 mg	X	X	X					
diethyltoluamide	substance solution, topical, 50%, 75%								
digitoxin	substance	X							
	injection, 200 µg in 1-ml amp.;	X	X						
	tablet, 50 µg, 100 µg	X							

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
digoxin	substance	X							
	injection, 250 µg/ml in 2-ml amp.	X	X						
	oral solution, 50 µg/ml;	X	X						
	tablet, 62.5 µg, 250 µg	X	X		X				
diloxanide furate	substance	X							
	tablet, 500 mg			X					
dimercaprol	substance	X							
	injection, in oil 50 mg/ml in 2-ml amp.		X						
dioxybenzone	substance								
	cream;								
	lotion;								
	gel								
diphtheria antitoxin	injection, 10 000 IU, 20 000 IU in vial								n.a.
diphtheria-pertussis-tetanus vaccine	injection								n.a.
diphtheria-tetanus vaccine	injection								n.a.
dithranol	substance								
	ointment, 0.1-2%								
dopamine hydrochloride	substance	X							
	injection, 40 mg/ml in 5-ml vial	X	X						
doxorubicin hydrochloride	substance	X							
	powder for injection, 10 mg, 50 mg in vial	X							
doxycycline hyclate	substance	X							
	capsule, 100 mg of doxycycline;	X					X		
	tablet, 100 mg of doxycycline	X	X				X		
eflornithine hydrochloride	substance								
	injection, 200 mg/ml in 100-ml bottles								
epinephrine	substance	X							
	dental cartridge, 1:80 000+ lidocaine hydrochloride, 2%								
	injection, 1:200 000+ lidocaine hydrochloride, 1%, 2%								
epinephrine hydrochloride	substance	X							
	injection, 1 mg of epinephrine in 1-ml amp.; solution (eye drops), 2% of epinephrine	X							
epinephrine hydrogen tartrate	substance	X							
	injection, 1 mg of epinephrine in 1-ml amp.	X							
ergocalciferol	substance	X							
	capsule, 1.25 mg (50 000 IU); oral solution, 250 µg/ml (10 000 IU); tablet, 1.25 mg (50 000 IU)		X						

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
ergometrine hydrogen maleate	substance	X							
	injection, 200 µg in 1-ml amp.;	X							
	tablet, 200 µg	X							
ergotamine tartrate	substance	X						X	
	tablet, 1 mg	X			X				
erythromycin ethylsuccinate	substance	X							
	capsule, 250 mg of erythromycin;								X
	powder for oral suspension, 125 mg of erythromycin;								X
	tablet, 250 mg of erythromycin		X		X				X
erythromycin lactobionate	substance	X							
	powder for injection, 500 mg of erythromycin in vial				X				
erythromycin stearate	substance	X							
	capsule, 250 mg of erythromycin;								
	powder for oral suspension, 125 mg of erythromycin; tablet, 250 mg of erythromycin	X			X				
ethambutol hydrochloride	substance	X							
	tablet, 100-400 mg	X	X	X	X				
ether, anaesthetic	solution					n.a.			
	inhalation					n.a.			
ethinylestradiol	substance	X							
	tablet, 50 µg;	X	X						
	tablet, 30 µg+levonorgestrel 150 µg, 30 µg+levonorgestrel, 250 µg; tablet, 35 µg+								
	norethisterone, 1.0 mg								
ethosuximide	substance	X							
	capsule, 250 mg; syrup, 250 mg/5 ml;		X						
etoposide	substance capsule, 100 mg; injection 20 mg/ml in 5-ml amp.								
factor VIII conc.	dried					n.a.			
factor IX complex (coagulation factors II, VII, IX, X) conc.	dried					n.a.			
ferrous sulfate	substance	X							
	oral solution 25 mg of Fe in 1 ml;	X	X						
	tablet 60 mg of Fe; tablet 60 mg of Fe+folic acid, 250 µg								
flucytosine	substance	X							
	capsule, 250 mg; infusion, 2.5 g in 250 ml								
fludrocortisone acetate	substance tablet, 100 µg	X						X	
fluorescein sodium	substance solution (eye drops), 1%	X			X		X		

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
fluorouracil	substance injection, 50 mg/ml in 5-ml amp; ointment, 5%	X X							
fluphenazine decanoate	substance injection, 25 mg in 1-ml amp.	X							
fluphenazine enantate	substance injection, 25 mg in 1-ml amp.	X							
folic acid	substance tablet, 5 mg, 1 mg; tablet, 250 µg + ferrous sulfate, 60 mg of Fe	X X	X	X				X	
furosemide	substance injection, 10 mg/ml in 2-ml amp.; tablet, 40 mg	X X X	X X	X X	X				
gentamicin sulfate	substance injection, 10 mg of gentamicin/ml, 40 mg of gentamicin/ml in 2 ml vial; solution (eye drops), 0.3%	X X	X	X	X				X X X
glucose	substance injectable solution 5% isotonic; 50% hypertonic; injectable solution: 4% glucose, 0.18% NaCl (Na ⁺ 30 mmol/l, Cl ⁻ 30 mmol/l)	X X	X						
glutaral	solution, 2%								
glyceryl trinitrate	tablet (sublingual) 500 µg	X	X						
griseofulvin	substance capsule, 125 mg, 250 mg; tablet, 125 mg, 250 mg	X X	X	X					X X
haloperidol	substance injection, 5 mg in 1-ml amp.; tablet, 2 mg, 5 mg	X X X		X					
halothane	substance inhalation	X							
heparin sodium	substance injection, 1000 IU/ml, 5000 IU/ml, 20 000 IU/ml in 1-ml amp.					n.a.			
hepatitis B vaccine	injection					n.a.			
hydralazine hydrochloride	substance powder for injection 20 mg; tablet, 25 mg, 50 mg	X X							
hydrochlorothiazide	substance tablet, 25 mg, 50 mg	X X	X	X					
hydrocortisone acetate	substance cream, 1%; ointment, 1%; suppository, 25 mg	X X						X	

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
mebendazole	substance	X				X			
	chewable tablet, 100 mg	X	X	X	X	X			
medroxyprogesterone acetate	substance	X							
	(depot) injection, 150 mg/ml in 1-ml vial, 50 mg/ml in 3-ml vial;					X			
	tablet, 5 mg					X			
mefloquine hydrochloride	substance tablet 250 mg of mefloquine		X	X					
meglumine amidotrizoate	injection, 140-420 mg of I in 20 ml amp.								
meglumine antimoniate	injection, 30%, ~8.5% of Sb in 5-ml amp.								
meglumine iotroxate	injectable solution, 5-8 g of I in 100-250 ml								
melarsoprol	injection, 3.6% solution								
meningococcal vaccine	injection								n.a.
mercaptopurine	substance tablet, 50 mg		X						
methionine (DL-)	substance tablet, 250 mg	X							
methotrexate sodium	powder for injection, 50 mg of methotrexate in vial; tablet, 2.5 mg of methotrexate								
methyldopa	substance	X							
	tablet, 250 mg	X	X	X	X				
methylrosanilinium chloride (gentian violet)	substance	X							
	aqueous solution, 0.5%; tincture, 0.5%	X							
methylthioninium chloride (methylene blue)	substance injection, 10 mg/ml in 10-ml amp.	X							
metoclopramide hydrochloride	substance	X							
	injection, 5 mg of metoclopramide in 2-ml amp.;	X	X						
	tablet, 10 mg of metoclopramide	X	X	X					
metrifonate	substance	X							
	tablet, 100 mg		X						
	injection, 500 mg in 100-ml vial;	X		X					
	suppository, 500 mg, 1 g; tablet, 200-500 mg	X	X	X	X				
metronidazole benzoate	substance oral suspension 200 mg of metronidazole/5 ml								

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
pilocarpine nitrate	substance solution (eye drops), 2%, 4%	X		X					
piperacillin sodium	substance powder for injection 1 g of piperacillin, 2 g of piperacillin								
piperazine adipate	substance tablet, 500 mg of piperazine hydrate	X							
piperazine citrate	substance elixir, 500 mg of piperazine hydrate/5 ml; syrup, 500 mg of piperazine hydrate/5 ml; tablet, 500 mg of piperazine hydrate	X X							
podophyllum resin	substance solution, topical, 10-25%	X							
poliomyelitis vaccine (inactivated)	injection							n.a.	
poliomyelitis vaccine (live attenuated)	oral solution							n.a.	
procarbazine hydro- chloride	substance capsule, 50 mg of procarbazine	X							
proguanil hydrochloride	substance tablet, 100 mg	X		X					
promethazine hydro- chloride	substance elixir, 5 mg/5 ml; injection, 25 mg/ml in 2-ml amp.; syrup, 5 mg/5 ml; tablet, 10 mg, 25 mg	X X X							
propranolol hydrochloride	substance injection, 1 mg in 1-ml amp.; tablet, 10 mg, 20 mg, 40 mg, 80 mg	X X		X					
propylidone	substance oily suspension 500-600 mg/ml in 20-ml amp.								
propylthiouracil	substance tablet, 50 mg	X X							
protamine sulfate	substance injection, 10 mg/ml in 5-ml amp.								
pyrantel embonate	substance oral suspension, 50 mg of pyrantel/ml; chewable tablet, 250 mg of pyrantel	X X				X			
pyrazinamide	substance tablet, 500 mg	X X		X		X			

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
pyridostigmine bromide	substance injection, 1 mg in 1-ml amp.; tablet, 60 mg	X		X					
pyridoxine hydrochloride	substance tablet, 25 mg	X X		X					X
pyrimethamine	substance tablet, 25 mg+sulfadoxine, 500 mg	X							
quinidine sulfate	substance tablet, 200 mg	X X		X		X			
quinine bisulfate	substance tablet, 300 mg of quinine	X							
quinine dihydrochloride	substance injection, 300 mg of quinine/ml in 2-ml amp.	X							
quinine sulfate	substance tablet, 300 mg of quinine	X X							
rabies immunoglobulin	injection, 150 IU/ml in vial	-----n.a.-----							
reserpine	substance injection, 1 mg in 1-ml amp.; tablet, 100 µg, 250 µg	X X X					X		
retinol palmitate	capsule, 200 000 IU (110 mg) of retinol; water-miscible injection 100 000 IU (55 mg) of retinol in 2-ml amp.; oral oily solution, 100 000 IU of retinol/ml in multidose dispenser; sugar coated tablet, 10 000 IU (5.5 mg) of retinol								
		X				X			
riboflavin	substance tablet, 5 mg	X X							X X
rifampicin	substance capsule, 150 mg, 300 mg; tablet, 150 mg, 300 mg; tablet, 150 mg+isoniazid, 100 mg, 300 mg+isoniazid, 150 mg	X X		X	X	X			X X
rubella vaccine	injection	-----n.a.-----							
salbutamol sulfate	substance inhalation (aerosol) 100 µg of salbutamol per dose; injection, 50 µg of salbutamol/ml in 5-ml amp.; respirator solution for use in nebulizers, 5 mg/ml syrup, 2 mg of salbutamol/5 ml; tablet, 4 mg of salbutamol, 2 mg of salbutamol	X X							
				X					
		X							
		X	X			X			

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	ELK	Bel	JIC
salicylic acid	substance	X							
	cream, 3% + benzoic acid, 6%; ointment, 3% + benzoic acid 6%; solution, topical, 5% (lotion)	X							
selenium sulfide	substance detergent-based suspension, 2%								
senna fruit	substance	X							
	senna leaf senna tablet, 7.5 mg of sennosides	X							
silver nitrate	substance solution (eye drops), 1%	X							
silver sulfadiazine	cream, 1% in 500-g container								
sodium amidotrizoate	substance injection, 140-420 mg of i/20 ml amp.								
sodium calcium edetate	substance injection, 200 mg/ml in 5-ml amp.	X							
sodium chloride	substance injectable solution, 0.9% isotonic (Na ⁺ 154 mmol/l, Cl ⁻ 154 mmol/l); 0.18%, 4% glucose (Na ⁺ 30 mmol/l, Cl ⁻ 30 mmol/l)	X							
			X						
		X							
sodium cromoglicate	substance capsules for inhalation, 20 mg/dose	X							
		X							
sodium fluoride	substance in any appropriate formulation	X							
		X	X						
sodium folate	substance injection, 1 mg of folic acid in 1-ml amp.								
sodium hydrogen carbonate	substance injectable solution, 1.4%, isotonic, (Na ⁺ 167 mmol/l, HCO ₃ ⁻ 167 mmol)	X							
	solution, 8.4%, in 10 ml amp. (Na ⁺ 1 mol/l, HCO ₃ ⁻ 1 mol/l)	X	X						
sodium lactate	injectable solution, (compound)	X							
sodium nitrite	substance injection, 30 mg/ml in 10-ml amp.	X							
		X	X						
sodium nitroprusside	substance powder for infusion, 50 mg in amp.	X							
		X	X						

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
sodium thiosulfate	substance injection, 250 mg/ml in 50-ml amp.; solution, 15%	X		X					
sodium valproate	substance enteric coated tablet, 200 mg, 500 mg	X X	X	X					
spectinomycin hydrochloride	substance power for injection, 2 g of spectinomycin in vial								
spironolactone	substance tablet, 25 mg	X X		X					
streptokinase	substance powder for injection, 100 000 IU in vial, 750 000 IU in vial								
streptomycin sulfate	substance powder for injection, 1 g of streptomycin in vial	X X	X	X					X
sulfadimidine	substance oral suspension, 500 mg/5 ml; tablet, 500 mg	X X							
sulfadimidine sodium	substance injection, 1 g in 3-ml amp.	X						X	
sulfadoxine	substance tablet, 500 mg+pyrimethamine, 25 mg	X		X	X				
sulfamethoxazole	substance oral suspension 200 mg+trimethoprim, 40 mg/5 ml; tablet, 100 mg+trimethoprim, 20 mg, 400 mg+trimethoprim, 80 mg	X		X	X				
sulfasalazine	substance tablet, 500 mg	X X	X						
suramin sodium	substance powder for injection, 1 g in vial	X							
suxamethonium chloride	substance injection, 50 mg/ml in 2-ml amp.; powder for injection	X							
tamoxifen citrate	substance tablet, 10 mg of tamoxifen, 20 mg of tamoxifen	X							
testosterone enantate	substance injection, 200 mg in 1-ml amp.	X							
tetanus vaccine	injection								
tetracaine hydrochloride	substance solution (eye drops), 0.5%	X							

ESSENTIAL DRUG	SUBSTANCE OR DOSAGE FORM	BT	SNIP	VB	LAYF	PP	LK	Bel	JIC
tetracycline hydrochloride	substance capsule, 250 mg; eye ointment, 1%; tablet, 250 mg	X X X X			X		X X		X
thiamine hydrochloride	substance tablet, 50 mg	X X	X	X					X
thioacetazone	substance tablet, 50 mg + isoniazid, 100 mg, 150 mg + isoniazid, 300 mg	X							
thiopental sodium	substance powder for injection 0.5 g, 1.0 g in amp.	X X							
timolol maleate	substance solution (eye drops), 0.25%, 0.5%								
tolbutamide	substance tablet, 500 mg	X X	X						
trimethoprim	substance oral suspension 40 mg+ sulfamethoxazole, 200 mg/5 ml; tablet 100 mg, 200 mg; tablet, 20 mg + sulfamethoxazole, 100 mg, 80 mg + sulfametho- xazole, 400 mg	X X X X			X				
tropicamide	substance solution (eye drops), 0.5%								
tuberculin, purified protein derivative (PPD)	injection							n.a.	
typhoid vaccine	injection							n.a.	
vecuronium bromide	substance powder for injection, 10 mg in vial								
verapamil hydrochloride	substance injection, 2.5 mg/ml in 2-ml amp.; tablet, 40 mg, 80 mg	X X X		X					
vinblastine sulfate	substance powder for injection, 10 mg in vial	X							
vincristine sulfate	substance powder for injection, 1 mg, 5 mg in vial	X X							
warfarin sodium	substance tablet, 1 mg, 2 mg, 5 mg	X X				X			
water for injection	in 2-ml, 5-ml, 10-ml amp.							n.a.	
yellow fever vaccine	injection							n.a.	
zinc oxide	substance cream; ointment	X							

n.a. = not applicable

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