

International Pharmacopeia

Background

The **World Health Organization (WHO)** as a specialised agency of the United Nations with a primary responsibility for international health matters and public health, is the issuing body of the substances described in the **International Pharmacopoeia**. Progress towards better health requires international cooperation in the establishment of international standards for biological substances and pharmaceuticals. The WHO has therefore authorised the establishment and maintenance of a number of reference collections. Two are of particular interest to analysts involved in pharmaceutical and clinical measurement sciences: the collections of international biological reference substances and international chemical reference substances.

International biological reference substances

The range of biological reference substances was established to provide a means of ensuring International uniformity in the designation of the potency, activity or specificity of preparations that are used in the prevention, treatment or diagnosis of human or animal diseases, and for which chemical and physical assay terms are inappropriate.

WHO biological reference substances are needed for certain antibiotic and hormone assays described in a number of pharmacopoeias. You can order the antibiotic materials conveniently from LGC Standards. The available materials are described in this catalogue in the section of the European Pharmacopoeia, chapter on WHO International Standards for Antibiotics.

International chemical reference substances

International chemical reference substances are established upon the advice of the WHO expert committee on specifications for pharmaceutical preparations. They are intended for use in physical and chemical tests and assays described in the specifications for quality control published in the International Pharmacopoeia (ICRS), or as proposed in draft monographs.

The list in this catalogue is based on the current WHO information.

Proper use

Whilst the primary application of ICRS is in physical and chemical tests and assays as described in the International Pharmacopoeia, ICRS do have applications in other aspects of pharmaceutical analysis where a certificate of purity is required.

Documentation

Directions for use and analytical data are provided in certificates distributed with the ICRS. The certificates show how the identity and purity of the material was confirmed, and in many cases demonstrate traceability to another PRM. This information fulfills most of the requirements of a Certification Report as defined by the ISO Guides on the preparation and use of Certified Reference Materials.

Shelf life and expiry dates

International chemical reference substances are subject to regular inspection and repeated analysis by the WHO Collaborating Centre. Each ICRS is, on receipt by the customer, suitable for the intended use. Shelf life and expiry dates are not given, and the WHO Collaborating Centre advises that once opened, vials should not be stored for long periods of time.

Only current lots are supplied by the WHO Collaborating Centre. For this reason users are advised to order only as required. Once opened the WHO Collaborating Centre can no longer guarantee the stability of the material and any of the CRS not used should be disposed of.

Controlled substances

For information on ordering please contact LGC Standards.

Code	Product	Unit
ICRS1422	Abacavir sulfate	100 mg
ICRS1552	Abacavir sulfate for system suitability	10 mg
ICRS0201	Acetanilide (116°C) Melting Point Standard	1 g
ICRS0202	Acetazolamide	100 mg
ICRS0204	Allopurinol	100 mg
ICRS0206	Amidotrizoic acid	100 mg
ICRS0191	2-Amino-5-nitrothiazole	25 mg
ICRS0194	3-Aminopyrazole-4-carboxamide hemisulfate	100 mg
ICRS0193	3-Amino-2,4,6-triiodobenzoic acid	100 mg
ICRS0208	Amitriptyline hydrochloride	100 mg
ICRS0209	Amodiaquine hydrochloride	200 mg
ICRS1426	Amoxicillin trihydrate	100 mg
ICRS0210	Amphotericin B	400 mg
ICRS0211	Ampicillin (anhydrous)	200 mg
ICRS0212	Ampicillin sodium	200 mg
ICRS0213	Ampicillin trihydrate	200 mg
ICRS0214	Anhydrotetracycline hydrochloride	25 mg
ICRS1408	Artemether	100 mg
ICRS1407	Artemotil	100 mg
ICRS1410	Arteminol	100 mg
ICRS1409	Artesunate	100 mg
ICRS0215	Atropine sulfate	100 mg
ICRS0216	Azathioprine	100 mg
ICRS0218	Bacitracin zinc	200 mg
ICRS0221	Benzanilide (165°C) Melting Point Standard	1 g
ICRS0222	Benzil (96°C) Melting Point Standard	1 g
ICRS0225	Benzylpenicillin potassium	200 mg
ICRS0226	Benzylpenicillin sodium	200 mg
ICRS0227	Bephenium hydroxynaphthoate	100 mg
ICRS0228	Betamethasone	100 mg
ICRS0229	Betamethasone sodium phosphate	100 mg
ICRS0230	Betamethasone valerate	100 mg
ICRS0233	Bupivacaine hydrochloride	100 mg
ICRS0234	Caffeine	100 mg
ICRS0235	Caffeine (237°C) Melting Point Standard	1 g
ICRS0236	Calcium folinate (Leucovorin calcium)	100 mg
ICRS0237	Captopril	100 mg
ICRS0238	Captopril disulfide	25 mg
ICRS0239	Carbamazepine	100 mg
ICRS0240	Carbenicillin monosodium	200 mg
ICRS2132	Carbidopa	100 mg
ICRS0241	Chloramphenicol	200 mg
ICRS0242	Chloramphenicol palmitate	1 g
ICRS0243	Chloramphenicol palmitate (Polymorph A)	200 mg
ICRS0199	5-Chloro-2-methylaminobenzophenone	100 mg
ICRS0245	Chloroquine sulfate	200 mg
ICRS0190	2-(4-Chloro-3-sulfamoylbenzoyl)benzoic acid	50 mg
ICRS0246	Chlorphenamine hydrogen maleate	100 mg
ICRS0247	Chlorpromazine hydrochloride	100 mg
ICRS0248	Chlortalidone	100 mg
ICRS0249	Chlortetracycline hydrochloride	200 mg

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Code	Product	Unit
ICRS0250	Cimetidine	100 mg
ICRS0252	Ciprofloxacin by compound A	20 mg
ICRS0253	Ciprofloxacin desfluoro-compound	20 mg
ICRS0255	Ciprofloxacin fluoroquinolonic acid	20 mg
ICRS0256	Ciprofloxacin hydrochloride	400 mg
ICRS0258	Cisplatin	100 mg
ICRS0259	Clomifene citrate	100 mg
ICRS0260	Zuclomifene (Clomifene citrate Z-isomer)	50 mg
ICRS0261	Cloxacillin sodium	200 mg
ICRS2130	Colchicine	100 mg
ICRS0263	Cortisone acetate	100 mg
ICRS0265	Dapsone	100 mg
ICRS0266	Desoxycortone acetate	100 mg
ICRS0267	Dexamethasone	100 mg
ICRS0268	Dexamethasone acetate	100 mg
ICRS0270	Dexamethasone sodium phosphate	100 mg
ICRS0282	Diazoxide	100 mg
ICRS0283	Dicloxacillin sodium	200 mg
ICRS0285	Dicoumarol	100 mg
ICRS1413	Didanosine	10 mg
ICRS1414	Didanosine for system suitability	10 mg
ICRS0286	Dicyanodiamide (210°C) Melting Point Standard	1 g
ICRS0287	Diethylcarbamazine dihydrogen citrate	100 mg
ICRS0288	Digitoxin	100 mg
ICRS0289	Digoxin	100 mg
ICRS0290	Dopamine hydrochloride	100 mg
ICRS0292	Doxorubicin hydrochloride	100 mg
ICRS1411	Efavirenz	100 mg
ICRS0294	Emetine hydrochloride	100 mg
ICRS0197	4-Epianhydrotetracycline hydrochloride	25 mg
ICRS0198	4-Epitetracycline hydrochloride	25 mg
ICRS0295	Ergocalciferol (Vitamin D2)	500 mg
ICRS0296	Ergometrine hydrogen maleate DRUG PRECURSOR	50 mg
ICRS0297	Ergotamine tartrate DRUG PRECURSOR	50 mg
ICRS0298	Erythromycin	250 mg
ICRS0299	Erythromycin B	25 mg
ICRS0300	Erythromycin C	25 mg
ICRS0301	Estradiol benzoate	100 mg
ICRS0302	Estrone	100 mg
ICRS0304	Ethambutol hydrochloride	100 mg
ICRS0305	Ethinylestradiol	100 mg
ICRS0306	Ethisterone	100 mg
ICRS0307	Ethosuximide	100 mg
ICRS0309	Flucloxacillin sodium	200 mg
ICRS0310	Flucytosine	100 mg
ICRS0311	Fludrocortisone acetate	200 mg
ICRS0312	Fluorouracil	100 mg
ICRS0315	Fluphenazine hydrochloride	100 mg
ICRS0316	Folic acid	100 mg
ICRS0195	3-Formylrifamycin	200 mg
ICRS0355	Framycetin sulfate (Neomycin B sulfate)	200 mg

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Code	Product	Unit
ICRS0318	Furosemide	100 mg
ICRS0319	Gentamicin sulfate	100 mg
ICRS0322	Griseofulvin	200 mg
ICRS0323	Haloperidol	100 mg
ICRS0324	Hydrochlorothiazide	100 mg
ICRS0325	Hydrocortisone	100 mg
ICRS0326	Hydrocortisone acetate	100 mg
ICRS0327	Hydrocortisone sodium succinate	200 mg
ICRS0188	(-)-3-(4-Hydroxy-3-methoxyphenyl)-2-hydrazino-2-methylalanine (3-o-Methylcarbidopa)	25 mg
ICRS0189	(-)-3-(4-Hydroxy-3-methoxyphenyl)-2-methylalanine (3-o-Methylmethyldopa)	25 mg
ICRS0328	Ibuprofen	100 mg
ICRS0329	Imipramine hydrochloride	100 mg
ICRS1415	Indinavir	100 mg
ICRS0330	Indometacin	100 mg
ICRS0331	Isoniazid	100 mg
ICRS1416	Lamivudine	100 mg
ICRS1553	Lamivudine for system suitability	100 mg
ICRS0333	Lanatoside C	100 mg
ICRS0334	Levodopa	100 mg
ICRS0335	Levonorgestrel	200 mg
ICRS0336	Levothyroxine sodium	50 mg
ICRS0337	Lidocaine	100 mg
ICRS0338	Lidocaine hydrochloride	100 mg
ICRS0339	Liothyronine sodium	50 mg
ICRS0340	Loperamide hydrochloride	100 mg
ICRS2125	Lumefantrine	100 mg
ICRS0341	Mebendazole	200 mg
ICRS0454	Medroxyprogesterone acetate	100 mg
ICRS1549	DL-Methionine	100 mg
ICRS0345	Methotrexate	100 mg
ICRS0346	Methyldopa	100 mg
ICRS0347	Methyltestosterone	100 mg
ICRS0348	Meticillin sodium	200 mg
ICRS0350	Metronidazole	100 mg
ICRS0351	Nafcillin sodium	200 mg
ICRS2128	Naloxone hydrochloride	100 mg
ICRS1417	Nelfinavir mesilate	100 mg
ICRS0356	Neostigmine metilsulfate	100 mg
ICRS1412	Nevirapine anhydrous	100 mg
ICRS1423	Nevirapine impurity B	10 mg
ICRS0357	Nicotinamide	100 mg
ICRS0358	Nicotinic acid	100 mg
ICRS0366	Norethisterone	100 mg
ICRS0367	Norethisterone acetate	100 mg
ICRS2123	Norethisterone enantate	50 mg
ICRS0369	Nystatin	200 mg
ICRS0371	Oubain	100 mg
ICRS0372	Oxacillin sodium	200 mg
ICRS0373	Oxytetracycline dihydrate	200 mg
ICRS0374	Oxytetracycline hydrochloride	200 mg
ICRS0376	Papaverine hydrochloride	100 mg

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Code	Product	Unit
ICRS0377	Paracetamol	100 mg
ICRS0378	Paromomycin sulfate	75 mg
ICRS0380	Phenacetin (136°C) Melting Point Standard	1 g
ICRS0382	Phenolphthalein (263°C) Melting Point Standard	1 g
ICRS0383	Phenoxymethylpenicillin	200 mg
ICRS0384	Phenoxymethylpenicillin calcium	200 mg
ICRS0385	Phenoxymethylpenicillin potassium	200 mg
ICRS0387	Phenytoin	100 mg
ICRS0388	Piperazine adipate	100 mg
ICRS0389	Piperazine citrate	100 mg
ICRS0390	Praziquantel	100 mg
ICRS0391	Prednisolone	100 mg
ICRS0392	Prednisolone acetate	100 mg
ICRS0393	Prednisolone hemisuccinate	200 mg
ICRS0394	Prednisolone sodium phosphate	200 mg
ICRS0395	Prednisone	100 mg
ICRS0396	Prednisone acetate	100 mg
ICRS0397	Probenecid	100 mg
ICRS0398	Procaine hydrochloride	100 mg
ICRS0399	Procarbazine hydrochloride	100 mg
ICRS0400	Progesterone	100 mg
ICRS0402	Propranolol hydrochlorid	100 mg
ICRS0403	Propylthiouracil	100 mg
ICRS0404	Pyrantel embonate (Pyrantel pamoate)	500 mg
ICRS1424	Pyrazinamide	100 mg
ICRS0405	Pyridostigmine bromide	100 mg
ICRS0406	Reserpine	100 mg
ICRS0408	Riboflavin	250 mg
ICRS0409	Rifampicin	300 mg
ICRS0410	Rifampicin quinone	200 mg
ICRS1421	Ritonavir	100 mg
ICRS1418	Saquinavir mesilate	100 mg
ICRS0411	Saccharin (229°C) Melting Point Standard	1 g
ICRS0412	Sodium amidotrizoate	100 mg
ICRS0413	Sodium cromoglicate	100 mg
ICRS0415	Spectinomycin hydrochloride	200 mg
ICRS1419	Stavudine	100 mg
ICRS0416	Streptomycin sulfate	100 mg
ICRS0417	Sulfacetamide	100 mg
ICRS0419	Sulfamethoxazole	100 mg
ICRS0420	Sulfamethoxypyridazine	100 mg
ICRS0421	Sulfanilamide	100 mg
ICRS0422	Sulfanilamide (166°C) Melting Point Standard	1 g
ICRS0423	Sulfapyridine (193°C) Melting Point Standard	4 g
ICRS0424	Sulfasalazine	100 mg
ICRS0425	Tamoxifen citrate	100 mg
ICRS0426	Tamoxifen E-isomer	10 mg
ICRS0427	Testosterone enantate	200 mg
ICRS0428	Testosterone propionate	100 mg
ICRS0429	Tetracycline hydrochloride	200 mg
ICRS0430	Thioacetazone	100 mg

Code	Product	Unit
ICRS0196	4,4'-Thiodianiline	50 mg
ICRS0431	Tolbutamide	100 mg
ICRS0432	Tolnaftate	100 mg
ICRS0433	Toluene-2-sulfonamide	100 mg
ICRS0434	Trimethadione	200 mg
ICRS0435	Trimethoprim	100 mg
ICRS0438	Vanillin (83°C) Melting Point Standard	1 g
ICRS0439	Warfarin	100 mg
ICRS1420	Zidovudine	100 mg
ICRS1554	Zidovudine impurity B	10 mg