भारतीय भेषज संहिता आयोग
स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार
सैक्टर २३, राज नगर
गाज़ियाबाद २०१००२ (उ. प्र.), भारत

INDIAN PHARMACOPOEIA COMMISSION
Ministry of Health & Family Welfare, Government of India
Sector 23, Raj Nagar
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डा. राजीव सिंह रघुवंशी
सचिव-सह-वैज्ञानिक निदेशक

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Secretary-cum-Scientific Director

F. No. T.11015/01/2020-AR&D

Date: January 11, 2024

Subject: Amendment List 05 to IP 2022

The 9th Edition of Indian Pharmacopoeia (IP) 2022 has become effective from 1st December, 2022. Based on the scientific inputs, some monographs of the IP 2022 need amendments for their effective implementation. Accordingly, Amendment List 05 to IP 2022 is being issued containing such amendments and this shall become effective with immediate effect.

All concerned are requested to bring it to the notice of all authorities under their control for compliance with the IP 2022.

(Dr. Rajeev Singh Raghuvanshi)

Encl. Amendment List 05 to IP 2022

To,

1. The Drugs Controller General (India)
2. All State Drug Controllers
3. CDSCO Zonal Offices
4. Members of the Scientific Body of IPC
5. Directors of the Drugs Testing Laboratories
6. IDMA/OPPI/BDMA/FOPE/FSSAI/Small Scale Industry Associations

5.5. Impurities. Page 1174

Page 1178

Para 1, line 13 and 14

Change **from**: In all the cases "Any secondary peak" and "Any other secondary peak"

to: In all the cases "Any other secondary peak"

Adefovir Dipivoxil. Page 1383

Insert before **Loss on drying**

Sulphated ash (2.3.18). Not more than 0.2 per cent.

Adrenaline Injection. Page 1390

pH

Change **from**: 2.8 to 3.6

to: 2.8 to 4.0

Alprazolam Prolonged-release Tablets. Page 1403

Uniformity of content. Line 4

Change **from**: following solution as the test solution.

to: following modifications.

Assay. Chromatographic system, line 7

Change **from**: *potassium hydroxide*

to: *potassium hydroxide solution*

Alprazolam Tablets. Page 1404

Dissolution. Line 5

Change **from**: *orthophosphoric acid*,

to: *dilute orthophosphoric acid or potassium hydroxide solution*,

Chromatographic system, line 3

Change **from**: 60 volumes of buffer solution,

to: 60 volumes of buffer solution (dissolution medium),

Amlodipine and Benazepril Hydrochloride Capsules. Page 1450

Related substances.

Reference solution (a). Line 2 and 3

Change **from**: *amlodipine impurity A IPRS*

to: *amlodipine impurity D IPRS*

Reference solution (b). Line 2 and 3

Change **from**: *amlodipine impurity A IPRS*

to: *amlodipine impurity D IPRS*

RRT table. Line 2

Change **from**: Amlodipine impurity A[2]

to: Amlodipine impurity D[2]

Line 7 and 8

Change **from**: [2]3-ethyl 5-methyl[2-(2-aminoethoxymethyl)-4-(2-chlorophenyl)-6- methyl-3,5-pyridinedicarboxylate].

to: [2](3-ethyl 5-methyl 2-[(2-aminoethoxy) methyl]-4-(2-chlorophenyl)-6-methylpyridine-3,5-dicarboxylate).

Last para, line 6

Change **from**: amlodipine impurity A

to: amlodipine impurity D

Amlodipine and Valsartan Tablets. Page 1454

Related substances.

Test solution (a). Line 5

Change **from**: 0.02 per cent w/v

to: 0.01 per cent w/v

Reference solution (d). Line 2

Change **from**: *amlodipine related compound A IPRS* (as free base)

to: *amlodipine impurity D IPRS*

RRT table. Line 2

Change **from**: Amlodipine impurity A[2]

to: Amlodipine impurity D[2]

Line 11, last para

Change **from**: not more than 1.25 times the area

to: not more than the area

Line 12 and 13

Change **from**: [2]3-Ethyl 5-methyl [2-(2-aminoethoxymethyl)-4-(2-chlorophenyl)-6- methyl-3,5-pyridinedicarboxylate],

to: [2](3-ethyl 5-methyl 2-[(2-aminoethoxy) methyl]-4-(2-chlorophenyl)-6-methylpyridine-3,5-dicarboxylate),

After RRT table. Para 1, line 6 and 7

Change **from**: amlodipine related compound A,

to: amlodipine impurity D,

Last para, line 10 and 11

Change **from**: amlodipine related compound A (free base),

to: amlodipine impurity D

Line 12 and 20

Change **from**: amlodipine related compound A,

to: amlodipine impurity D

Atazanavir Capsules. Page 1527

Identification. B, line 2

Change **from**: a 0.012 per cent w/v solution…….

to: a 0.0024 per cent w/v solution of atazanavir…….

Azelnidipine Tablets. Page 1554

Assay. Last line

Change **from**: Calculate the content of $C_{33}H_{34}N_4O_6$ in the tablets.

to: Calculate the content of $C_{33}H_{34}N_4O_6$ using ratio of the peak area of azelnidipine to that of peak area of the internal standard.

Butylated Hydroxytoluene. Page 1698

Identification. A, line 4

Change **from**: butylated hydrochloride.

to: butylated hydroxytoluene.

Carbimazole. Page 1739

Identification. B

Change **to**: B. In the Assay, the principal peak in chromatogram obtained with the test solution corresponds to the peak in the chromatogram obtained with the reference solution.

Carboplatin. Page 1743

Silver. Line 1

Change **from**: 10 ppm

to: 20 ppm

Clopidogrel Tablets. Page 1932

Related substances.

Reference solution (b). Line 3 to 5

Change **from**: *[methyl(±)-(o)-chlorophenyl)-4,5 dihydrothieno(2,3-c)pyridine-6(7H)-acetate, hydrogen sulphate] IPRS (clopidogrel impurity B IPRS)*

to: *clopidogrel impurity B IPRS (methyl(±)-(o)-chlorophenyl)-4,5 dihydrothieno(2,3-c)pyridine-6(7H)-acetate, hydrochloride)*

Cyclophosphamide Injection. Page 1980

Assay. Chromatographic system, line 2

Change **from**: (5 µm),

to: (1.5-10 µm),

Cyclophosphamide Tablets. Page 1981

Dissolution. Chromatographic system, line 2

Change **from**: (3 µm),

to: (1.5-10 µm),

Desogestrel. Page 2040

Loss on drying. Change **to**:

Loss on drying (2.4.19). Not more than 0.5 per cent, determined on 1.0 g by drying at room temperature under vacuum at a pressure not exceeding 15 mm of mercury.

Dihydroergotamine Mesylate. Page 2114

Identification

Change **from**: *Tests A and C may be omitted if tests B, C and D are carried out. Tests B, C and D may be omitted if tests A and C are carried out.*

to: *Test A may be omitted if tests B, C and D are carried out. Tests B and C may be omitted if tests A and D are carried out.*

Disodium Edetate. Page 2135

Assay. Line 5

Change **from**: brick red.

to: violet pink.

Disodium Edetate Injection. Page 2136

Assay. Line 6

Change **from**: brick red.

to: violet pink.

Dorzolamide Hydrochloride. Page 2173

Identification

Change **to**: *Test A may be omitted if tests B and C are carried out and test B may be omitted if tests A and C are carried out.*

Doxycycline Hydrochloride. Page 2188

Para 2, line 1

Change **from**: Doxocycline Hydrochloride

to: Doxycycline Hydrochloride

Enalapril Maleate. Page 2226

Identification. B

Change **to**: B. In the Assay, the principal peak in the chromatogram obtained with the test solution corresponds to the peak in the chromatogram obtained with the reference solution.

Entecavir Tablets. Page 2239

Related substances. *Reference solution*

Change **from**: A 0.0001 per cent w/v solution of *entecavir monohydrate IPRS* in the solvent mixture.

to: A solution of *entecavir monohydrate IPRS* containing 0.0001 per cent w/v of entecavir in the solvent mixture.

Erythromycin Stearate. Page 2263

Identification. A

Change **to**: A. Determine by infrared absorption spectrophotometry (2.4.6). Compare the spectrum with that obtained with *erythromycin stearate IPRS* or with the reference spectrum of erythromycin stearate.

Fludarabine Phosphate. Page 2372

Ethanol. Insert after chromatographic system

Head-space conditions:
- equilibration temperature: 80°,
- equilibration time: 60 minutes,
- injection volume: 1 ml.

NOTE—Transfer 2.0 ml each of the test solution, the reference solution and the blank in a separate headspace vial, then seal the vials using a flanged cap so that the cap can no longer be turned.

Gabapentin Capsules. Page 2446

Identification. A

Change **to** : A. Mix a quantity of powdered content of capsules containing 2 mg of Gabapentin with 200 mg of *potassium bromide IR*. Determine by infrared absorption spectrophotometry (2.4.6). Compare the spectrum with that obtained with *gabapentin IPRS* or with the reference spectrum of gabapentin.

Gabapentin Tablets. Page 2447

Identification. A

Change **to** : A. Mix a quantity of powdered tablets containing 2 mg of Gabapentin with 200 mg of *potassium bromide IR*. Determine by infrared absorption spectrophotometry (2.4.6). Compare the spectrum with that obtained with *gabapentin IPRS* or with the reference spectrum of gabapentin.

Ganciclovir Oral Suspension. Page 2453

Assay. Insert before last para

"Repeat the procedure using a portion of the constituted suspension that has been stored at the temperature and for the period stated on the label."

Labelling. Change **to**:

Labelling . The label states the temperature of storage and the period during which the constituted suspension may be expected to be satisfactory for use.

Gentamicin Sulphate. Page 2464

Add synonym

Gentamycin Sulphate

Gentamicin Cream. Page 2466

Synonym

Change **to** : Gentamicin Sulphate Cream; Gentamycin Sulphate Cream

Gentamicin Eye Drops. Page 2467

Synonym

Change **to** : Gentamicin Sulphate Eye Drops; Gentamycin Sulphate Eye Drops

Gentamicin Injection. Page 2468

Synonym

Change **to** : Gentamicin Sulphate Injection; Gentamycin Sulphate Injection

Gentamicin Ointment. Page 2469

Synonym

Change **to** : Gentamicin Sulphate Ointment; Gentamycin Sulphate Ointment

Glutaraldehyde Solution. Page 2485

Para 2

Change **to** : Glutaraldehyde Solution contains not less than 92.0 per cent and not more than 105.0 per cent of the stated amount of glutaraldehyde, $C_5H_8O_2$.

Glycerin. Page 2485

Ethylene glycol, diethylene glycol and related substances.

After chromatographic system, para 3, line 5 and 6

Change **from**: (0.1 per cent).

to: (0.10 per cent).

Imatinib Mesylate. Page 2586

Impurity F. Chromatographic system, gradient program

Change **to** :

Time (in min)	Mobile phase A (per cent v/v)	Mobile phase B (per cent v/v)
0	80	20
6	80	20
10	20	80
15	20	80
15.1	80	20
20	80	20

Indapamide. Page 2594

Assay.

Reference solution. Change **to**:

Reference solution. Dissolve an accurately weighed quantity of *indapamide IPRS* in internal standard solution and dilute with the mobile phase to obtain a solution having a concentration of 0.1 per cent w/v of indapamide and 0.025 per cent w/v of the internal standard.

After chromatographic system. Para 2, line 4 and 5

Change **to**:

the relative standard deviation of peak area ratio due to indapamide and the internal standard for replicate injections is not more than 2.0 per cent.

Last line

Change **to**:

Calculate the content of $C_6H_{16}ClN_3O_3S$ using ratio of the peak area of indapamide to that of peak area of the internal standard.

Lapatinib Ditosylate. Page 2710

p-Toluenesulphonic acid. Para 2

Insert at the end

Carry out a blank titration.

Lincomycin Capsules. Page 2766

Identification. A. Last line

Change **from**: lincomycin.

to: lincomycin hydrochloride.

Luliconazole Cream. Page 2800

Related substances. A. *For Luliconazole S-E form — Reference solution*. Line 1

Change **from**: 0.001 per cent

to: 0.004 per cent

After chromatographic system, para 3, line 3

Change **from**: 0.25 times

to: 0.0625 times

B. *For Luliconazole Z form* and other related substances

Reference solution. Line 1

Change **from**: 0.001 per cent

to: 0.004 per cent

After chromatographic system, para 3, line 3

Change **from**: 0.03 times

to: 0.0075 times

Line 6

Change **from**: 0.03 times

to: 0.0075 times

Mefloquine Hydrochloride. Page 2840

Identification. Para 1

Change **to**: *Test A may be omitted if tests B, C, D and E are carried out. Tests B, C and D may be omitted if tests A and E are carried out.*

Methyl Salicylate Ointment. Page 2907

Assay.

Insert after chromatographic system

'Inject test solution (a) to identify the peak due to methyl salicylate.'

Metoprolol Succinate Prolonged-release Tablets. Page 2914

Assay. *Test solution*. Line 1

Change **to** : Weigh and powder 20 tablets. Transfer a quantity equivalent to 10 tablets into a 1000-ml volumetric flask.

Mitomycin. Page 2951

Insert before **Identification**

Description. A blue-violet crystalline powder.

Mupirocin. Page 2981

Specific optical rotation.

Insert at the end ", at 20°."

Pilocarpine Eye Drops. Page 3272

Pilocarpic acid. Last para

Inject reference solution (a) and the test solution. In the chromatogram obtained with the test solution the area of any peak corresponding to pilocarpic acid is not more than 1.5 times the area of the principal peak in the chromatogram obtained with reference solution (a) (6.0 per cent).

Povidone. Page 3315

Identification. A

Change **to** : A. Dry the sample and standard at 105° for 6 hours and determine by infrared absorption spectrophotometry (2.4.6). Compare the spectrum with that obtained with *povidone IPRS* or with reference spectrum of povidone.

Procaine Penicillin. Page 3355

Assay. After chromatographic system, para 1

Change **to** : The relative retention time with reference to procaine for benzyl penicillin is about 2.2.

Inject reference solution (b). The resolution between benzyl penicillin potassium and phenoxymethylpenicillin potassium is not less than 2.

Fortified Procaine Penicillin Injection. Page 3356

Assay. After chromatographic system, para 1

Change **to** : The relative retention time with reference to procaine for benzyl penicillin is about 2.2.

Inject reference solution (b). The resolution between benzyl penicillin potassium and phenoxymethylpenicillin potassium is not less than 2.

Ropivacaine Injection. Page 3527 and Amendment list-04, page 6

Limit of Ropivacaine related compound A.

Test solution. Line 2

Change **from**: 0.25 per cent

to: 0.2 per cent

Assay. *Reference solution*, line 2

Change **from**: 0.000025

to: 0.00002

Sodium Chloride. Page 3599

Assay. Change **to**:

Assay. Dissolve 50 mg of the substance under examination in 50 ml of *water*. Titrate with *0.1 M silver nitrate*, determining the end-point potentiometrically (2.4.25). Carry out a blank titration.

1 ml of *0.1 M silver nitrate* is equivalent to 0.005844 g of NaCl.

Sorbitol Solution (70 Per cent) (Crystallising). Page 3649 and Amendment list-04. page 6

Identification. C, line 1

Change **from**: 4 g

to: 1.4 g

Diethylene glycol and Ethylene glycol. Last para, line 4

Change **from**: principal peak

to: corresponding peaks

Sorbitol Solution (70 Per cent) (Non-Crystallising). Page 3650 and Amendment List-04. page 7

Identification. C, line 1

Change **from**: 4 g

to: 1.4 g

Diethylene glycol and Ethylene glycol. Last para, line 4

Change **from**: principal peak

to: corresponding peaks

Temozolomide. Page 3732

Related substances. Chromatographic system, lines 3 to 6

Change **to**: – mobile phase: 0.094 per cent w/v solution of *sodium 1-hexanesulphonate* in a mixture of 96 volumes of 0.5 per cent v/v solution of *glacial acetic acid* in *water* and 4 volumes of *methanol*,

Temozolomide Injection. Page 3734

Related substances. Chromatographic system, lines 4 to 7

Change **to**: – mobile phase: 0.094 per cent w/v solution of *sodium 1-hexanesulphonate* in a mixture of 96 volumes of 0.5 per cent v/v solution of *glacial acetic acid* in *water* and 4 volumes of *methanol*,

Thyroxine Tablets. Page 3788, Amendment List-04

Assay. *Test solution*, line 1

Change **from**: Transfer 20 intact tablets

to: Transfer 20 or more intact tablets

Tobramycin. Page 3812

2-Methyl-1-propanol. Chromatographic system

Insert at the end

- inlet port and detector at 190°,
- flow rate: 30 ml per minute, using nitrogen as the carrier gas,
- injection volume 2 µl.

Torsemide. Page 3837

Related substances. Last para

Change **to**: The area of any other secondary peak is not more than 0.1 per cent, the sum of the areas of all the secondary peaks, excluding torsemide related compound A, B and C is not more than 0.2 per cent calculated by area normalization method.

The sum of the areas of all the secondary peaks is not more than 1.0 per cent.

Vaccines and Immunosera for Human Use

General Requirements. Page 4327

Antisera. Page 4329

PLASMA OR POOLED PLASMA

pH.

Change **from**: 6.0 to 7.0.

to: 5.0 to 8.0