भारतीय भेषज संहिता आयोग
स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार
सैक्टर - २३, राज नगर,
गाज़ियाबाद - २०१ ००२, उत्तर प्रदेश, भारत

सत्यमेव जयते
IPC

INDIAN PHARMACOPOEIA COMMISSION
Ministry of Health & Family Welfare, Government of India
Sector - 23, Raj Nagar
Ghaziabad-201 002 (U.P.), INDIA

डॉ.राजीव सिंह रघुवंशी
सचिव-सह-वैज्ञानिक निदेशक

Dr. Rajeev Singh Raghuvanshi
Secretary-cum-Scientific Director

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

Date: March 15, 2023

Subject: Amendment List 03 to IP 2022

The 9th Edition of Indian Pharmacopoeia (IP) 2022 has become effective from 1st December, 2022. Based on scientific inputs, some monographs of IP 2022 need amendments for their effective implementation. Accordingly, Amendment List 03 to IP 2022 is being issued containing such amendments and this will become effective with immediate effect except for amendment in Diclofenac Gastro-resistant Tablets for which effective date is mentioned along with the amendment issued.

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 03 to IP 2022

To,

1. The Drugs Controller General (India)
2. CDSCO Zonal Offices
3. All State Drug Controllers
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

General Notices

Production. Page 13, 1287, 3001, 4795

Last para, line 6

Change **from**: Drugs and Cosmetics Rules, 1945

to: Drugs Rules, 1945

Storage. Page 16, 1290, 3004, 4798

Last para, line 2

Change **from**: D&C rules 1945

to: Drugs Rules, 1945

Labelling. Page 17, 1291, 3005, 4799

Line 2

Change **from**: Drugs and Cosmetics Rules, 1945

to: Drugs Rules, 1945

2.4.1. Appearance of Solution. Page 211

Clarity of Solution

Method. Line 4 and 5

Change **from**: Into another matched test-tube add the same volume of the freshly prepared *opalescence standard*.

to: Into another matched test-tube add the same volume of water or the solvent used for preparing the solution being examined or the freshly prepared *opalescence standard*.

2.4.24. pH Values. Page 260

Insert before **Method**

NOTE — Commercially available buffer solutions for pH measurement system, calibrated by methods traceable to NIST/ concerned regulatory authority, labeled with a pH value accurate to 0.02 pH units may be used. Buffer solutions that are equal to or more than 12 should be used immediately or should be prepared using freshly boiled water, and stored under conditions to minimize carbon dioxide absorption and ingress.

2.4.26. Solubility

Page 271

Chlorhexidine Gluconate Solution.

Change **to**: Miscible with *glacial acetic acid* and with *water*; miscible with three times its volume of *acetone* and with five times its volume of *ethanol*; further addition of *acetone* or *ethanol* gives a white turbidity.

Ciclesonide. Line 2

Change **from**: *methanol*

to: *ethanol*

Page 289

Prasugrel Hydrochloride.

Change **to**: Freely soluble in *methanol*; slightly soluble in *water* and acetonitrile and practically insoluble in *heptane*.

5.6. Water for Pharmaceutical Use. Page 1183

Drinking Water. Para 2, line 7 and 8

Change **from**: Drugs & Cosmetics Rules, 1945.

to: Drugs Rules, 1945

6.2. CONTAINERS. Page 1228

6.2.1. Plastic Containers. Table 1, Column 3, para 3

Change **from**: The Drugs and Cosmetics Rules, 1945

to: Drugs Rules, 1945

6.4. Labels on Container. Page 1267

6.4.1. Basic Statutes Governing Labelling. Line 4

Change **from**: Drugs & Cosmetics Rules, 1945.

to: Drugs Rules, 1945

Pessaries. Page 1341

Suppositories. Para 3, line 3 and 4

Change **from**: Drugs and Cosmetics Rules, 1945.

to: Drugs Rules, 1945.

Amlodipine and Atenolol Tablets. Page 1448

Related substances. *For Amlodipine* — Line 2 and 3

Change **from**: amlodipine impurity D

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

Arterolane Maleate. Page 1508

Related substances. Inset at the end

Ignore the peak due to maleic acid and peak with an area less than 0.1 times the area of the principal peak in the chromatogram obtained with the reference solution (0.05 per cent).

Atenolol and Chlorthalidone Tablets. Page 1531

Uniformity of content. *Test solution*

Change **to**: *Test solution.* Disperse one tablet in 15 ml of the mobile phase with the aid of ultrasound for about 30 minutes, allow to cool and dilute with the mobile phase to obtain a solution containing 0.025 per cent w/v of chlorthalidone.

Atomoxetine Capsules. Page 1534

Add synonym

"Atomoxetine Hydrochloride Capsules"

Insert at the end

Labelling. The label states the strength in terms of the equivalent amount of atomoxetine.

Azelnidipine. Page 1553

Related substances. Chromatographic system, lines 4 to 8

Change **to**: mobile phase: a mixture of 65 volumes of a solution containing 70 volumes of *acetonitrile* and 30 volumes of *methanol* and 35 volumes of 0.3 per cent w/v solution of *potassium dihydrogen phosphate* in *water* and adjust mobile phase pH to 5.5 with *dilute orthophosphoric acid*.

Ceftazidime for Injection. Page 1797

Insert after para 1

The injection is constituted by dissolving the contents of the sealed container in the requisite amount of sterile Water for Injections, immediately before use.

Identification. B

Change **to**: B. In the test for arginine, the principal peak in the chromatogram obtained with the test solution corresponds to the arginine peak in the chromatogram obtained with the reference solution or gives the reactions of sodium salts and reaction A of carbonates (2.3.1).

Sodium carbonate. Change **to**:

Sodium carbonate *(if present)*

Insert before **Assay**

Other tests. Comply with the tests stated under Parenteral Preparations (Powders for Injection)

Labelling. Change **to**:

Labelling. (1) The label states the strength in terms of the equivalent amount of ceftazidime; (2) the label should state whether it contains sodium carbonate or arginine.

Hard Cellulose Capsule Shells. Page 1812

Para 2, Last line

Change **from**: Drugs and Cosmetics Rules, 1945

to: Drugs Rules, 1945

Chlorothiazide Tablets. Page 1855

Assay. After chromatographic system, para 1, line 4

Change **from**: less than 2.0

to: more than 2.0

Diclofenac Gastro-resistant Tablets. Page 2084 ***(Effective from 15/09/2023)***

Insert before **Related substances**

Dissolution (2.5.2)

Apparatus No. 2 (Paddle),
Medium. 900 ml of *0.1 M hydrochloric acid,*
Speed and time. 50 rpm and 120 minutes.

At the end of 120 minutes, remove each tablet or the major portion thereof if the tablet is not intact, from the individual vessels, and subject them to the test under buffer stage.

To *0.1 M hydrochloric acid* remaining in each vessel, add 20.0 ml of *5 M sodium hydroxide*, and stir for 5 minutes, filter. Dilute the filtrate, if necessary, with the dissolution medium and measure the absorbance of the filtrate at the maximum about 276 nm (2.4.7). Calculate the content of $C_{14}H_{10}Cl_2NNaO_2$ in the medium from the absorbance obtained from a solution of known concentration of *diclofenac sodium IPRS* prepared

by dissolving 68 mg of *diclofenac sodium IPRS* in 10.0 ml of *0.1M sodium hydroxide* and dilute to 100.0 ml with *water.* Dilute 2.0 ml of the solution to 100.0 ml with a mixture of 90 volumes of *0.1M hydrochloric acid* and 2 volumes of *5M sodium hydroxide*.

Complies with the acceptance criteria given under acid stage.

B. Apparatus No. 2 (Paddle),
Medium. 900 ml of phosphate buffer pH 6.8 prepared by mixing 75 volumes of *0.1M hydrochloric acid* and 25 volumes of 7.6 per cent w/v of *tribasic sodium phosphate* in *water*, adjusted to pH 6.8 with *2M hydrochloric acid* or *2M sodium hydroxide*,
Speed and time. 50 rpm and 45 minutes.

Withdraw a suitable volume of the medium and filter. Dilute the filtrate, if necessary, with the dissolution medium and measure the absorbance of the resulting solution at the maximum at about 276 nm (2.4.7). Calculate the content of $C_{14}H_{10}Cl_2NNaO_2$ in the medium from the absorbance obtained from a solution of known concentration of *diclofenac sodium IPRS* prepared by dissolving 68 mg of *diclofenac sodium IPRS* in 10.0 ml of *0.1M sodium hydroxide* and dilute to 100.0 ml with *water*. Dilute 3.0 ml of the solution to 100.0 ml with the dissolution medium.

Q. Not less than 75 per cent of the stated amount of $C_{14}H_{10}Cl_2NNaO_2$ in the medium.

Divalproex Gastro-resistant Tablets. Page 2144

Dissolution. B. Chromatographic system, line 4

Change **from**: *potassium phosphate buffer*

to: *phosphate buffer pH 7.4*

Hard Gelatin Capsule Shells. Page 2456

Para 1, line 9 and 10

Change **from**: Drugs and Cosmetics Rules, 1945.

to: Drugs Rules, 1945.

Ketoprofen. Page 2669

Related substances.

Insert before *Test solution*

Buffer solution. Dissolve 68 g of *potassium dihydrogen orthophosphate* in 950 ml of *water*, adjusted to pH 3.5 with *orthophosphoric acid* and dilute to 1000 ml with *water*.

Chromatographic system, line 4

Change **from**: *phosphate buffer pH 3.5*

to: buffer solution

Ketoprofen Capsules. Page 2670

Related substances.

Insert before *Solvent mixture*

Buffer solution. Dissolve 68 g of *potassium dihydrogen orthophosphate* in 950 ml of *water*, adjusted to pH 3.5 with *orthophosphoric acid* and dilute to 1000 ml with *water*.

Chromatographic system, line 4

Change **from**: *phosphate buffer pH 3.5*

to: buffer solution

Luliconazole. Page 2798

Related substances. A. *For Luliconazole S-E form —*

Chromatographic system, line 1and 2

Change **from**: packed with OD-H (5 µm)

to: packed with cellulose tris-3,5-dimethylphenylcarbamate bonded to porous silica (5 µm)

Assay. Chromatographic system, line 1 and 2

Change **from**: packed with OD-H (5 µm)

to: packed with cellulose tris-3,5-dimethylphenylcarbamate bonded to porous silica (5 µm)

Luliconazole Cream. Page 2800

Related substances. A. *For Luliconazole S-E form —*

Chromatographic system, line 1and 2

Change **from**: packed with OD-H (5 µm)

to: packed with cellulose tris-3,5-dimethylphenylcarbamate bonded to porous silica (5 µm)

Assay. Chromatographic system, line 1and 2

Change **from**: packed with OD-H (5 µm)

to: packed with cellulose tris-3,5-dimethylphenylcarbamate bonded to porous silica (5 µm)

Luliconazole Lotion. Page 2801

Related substances. A. *For Luliconazole S-E form —*

Chromatographic system, line 1and 2

Change **from**: packed with OD-H (5 µm)

to: packed with cellulose tris-3,5-dimethylphenylcarbamate bonded to porous silica (5 µm)

Assay. Chromatographic system, line 1and 2

Change **from**: packed with OD-H (5 µm)

to: packed with cellulose tris-3,5-dimethylphenylcarbamate bonded to porous silica (5 µm)

Naloxone Hydrochloride. Page 3020

Assay. Line 4

Change **from**: Carry out a blank titration.

to: Read the volume added between the 2 points of inflection.

Omeprazole and Domperidone Capsules. Page 3119

Uniformity of content. Line 3 and 4

Change **to**: Determine by liquid chromatography (2.4.14), as described under Assay with the following modifications.

Test solution. Line 2 and 3

Change **from**: the mobile phase.

to: the solvent mixture.

Reference solution (a). Change **to**:

Reference solution. A 0.01 per cent w/v solution of *domperidone IPRS* in the solvent mixture.

Assay. *Reference solution*, line 4

Change **from**: the mobile phase.

to: the solvent mixture.

Teneligliptin and Metformin Hydrochloride Prolonged-release Tablets. Page 3738

Assay. *For Metformin hydrochloride —*

Test solution. Line 3

Change **from**: 80 ml

to: 800 ml

Terazosin Hydrochloride. Page 3753

Assay. Line 4

Change **from**: Carry out a blank titration.

to: Read the volume added between the 2 points of inflection.

BIOTECHNOLOGY DERIVED THERAPEUTIC PRODUCTS

Rituximab. Page 4669

Identification

Change **from**: A. Bioassay

to: A. It complies with the biological activity as described under Assay.

E. Deterimine by isoelectric focussing (2.4.33) Capillary Electrophoresis

Last Para

Delete following:

It complies with the biological activity as described under Assay.

Tests

Charged variants. Determine by ion-exchange liquid chromatography (2.4.14) using method A or method B

Method B

Last Para

Change **from**: Integrate all rituximab…….and basic peak 1 should not less than 1.0.

Acidic variants. Acidic variants ≤ 30 per cent

Main peak. Main peak ≥ 40 per cent

to: Integrate all rituximab…….and basic peak should not be less than 1.0.

Acidic variants ≤ 30 per cent

Main peak ≥ 40 per cent

Glycan Distribution. Determine by capillary electrophoresis with fluorescence detection (2.4.32). Determine by method A or method B.

Method A

Last Para

Change **from**: The percent area of the peaks corresponding to galactosylatedglycan is not more than 35.0 per cent.

to: The percent area of the peaks corresponding to galactosylatedglycan should be between 35 and 65 per cent.

Method B

Last Para

Change **from**: The percent area of the peaks corresponding to galactosylatedglycan is not more than 35.0 per cent.

to: The percent area of the peaks corresponding to galactosylatedglycan should be between 35 and 65 per cent.

Rituximab Injection. Page 4676

Tests

Glycan Distribution. Determine by capillary electrophoresis with fluorescence detection (2.4.32). Determine by method A or method B.

Method A

Last Para

Change **from**: The percent area of the peaks corresponding to galactosylatedglycan is not more than 35.0 per cent.

to: The percent area of the peaks corresponding to galactosylatedglycan should be between 35 and 65 per cent.

Method B

Last Para

Change **from**: The percent area of the peaks corresponding to galactosylatedglycan is not more than 35.0 per cent.

to: The percent area of the peaks corresponding to galactosylatedglycan should be between 35 and 65 per cent.