THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH

TANZANIA MEDICINES AND MEDICAL DEVICES AUTHORITY

PUBLIC ASSESSMENT REPORT FOR SURYAXONE (CEFTRIAXONE SODIUM 1G/VIAL) STERILE POWDER FOR INJECTION

Version number 1.0
21 August 2023

TMDA Headquarters, Plot No. 56/1, Block E, Kisasa B Centre, Hombolo Road, P. O. Box 1253, Dodoma – Tanzania, Telephone: +255 (26) 2961989/2061990/+255 (22) 2450512/2450751/2452108, Email: info@tmda.og.tz, Website: **www.tmda.go.tz**

Toll free: 0800110084

1. Introduction

SURYAXONE is almost white or yellowish, crystalline powder contains Ceftriaxone sodium equivalent to 1.0 g ceftriaxone per each mL. Xylometazoline is an antibacterials for systemic use, Third-generation cephalosporins. Ceftriaxone inhibits bacterial cell wall synthesis following attachment to penicillin binding proteins (PBPs). This results in the interruption of cell wall (peptidoglycan) biosynthesis, which leads to bacterial cell lysis and death. SURYAXONE is approved in Tanzania for use in adults and pediatric population.

1.1 Product details

Registration number	TAN 23 H 0271
Brand name	SURYAXONE
Generic name, strength, and form	Each vial contains Ceftriaxone sodium equivalent to 1.0 g ceftriaxone
ATC classification	J01DD04– Antibacterials for systemic use, Third-generation cephalosporins
Distribution category	POM
Country of origin	India
Associated product	N/A
Marketing Authorization Holder	Surya Pharma Limited Plot no-598, Swiss Tower, Off UN Road-Kalenga Street, Upanga, P.O Box 21609 Dares Salaam
Local Technical Representative	N/A

1.2 Assessment procedure

The application for registration of SURYAXONE was submitted on 09/09/2022. The product underwent full assessment. Assessment was completed in 3 (three) rounds of evaluation and the product was registered on 01 June 2023.

1.3 Information for users

Visual description of the finished product	Almost white or yellowish, crystalline powder
Primary packing material	10ml USP mould glass vial type II, butyl rubber stopper, non-flip off Aluminium cap
Secondary packing materials	A printed carton box
Shelf-life and storage condition	36 months, do not above 30°C. Protect from light and moisture. Do not freeze.
Route of administration	Intravenous and intramuscular injection.
Therapeutic indications	Ceftriaxone is indicated for the treatment of the following infections in adults and children including term neonates (from birth): • Bacterial Meningitis • Community acquired pneumonia • Hospital acquired pneumonia • Acute otitis media

	• Intra-abdominal infections • Complicated urinary tract infections (including pyelonephritis) • Infections of bones and joints • Complicated skin and soft tissue infections • Gonorrhoea • Syphilis • Bacterial endocarditis Ceftriaxone may be used For treatment of acute exacerbations of chronic obstructive pulmonary disease in adults. For treatment of disseminated Lyme borreliosis (early (stage II) and late (stage III)) in adults and children including neonates from 15 days of age. For pre-operative prophylaxis of surgical site infections. In the management of neutropenic patients with fever that is suspected to be due to a bacterial infection.

2. Labelling and product information

Summary of product characteristics
The SmPC included all the relevant information to ensure correct and safe use of the medicine by healthcare providers. The complete SmPC can be accessed here.

Package insert/leaflet
The package insert is confirmed to be derived from the SmPC and contains sufficient data for the end user. Since the product is POM, the package insert contains full prescribing information as per SmPC.

Container labels
The product label information is presented in English. Details in the secondary pack label include:
Brand name: SURYAXONE

Composition: Each vial contains Ceftriaxone sodium equivalent to 1.0 g ceftriaxone

Pack size: 1 Vial

Manufacturing details: batch number, manufacturing date, and expiry date

Storage conditions: Do not above 30°C. Protect from light and moisture. Do not freeze.

Manufacturer address: physical address of release site

Unique identifier: Not applicable

Special warnings/precautions or instructions for use: See enclosed leaflet

The details of the primary pack include:

Brand name and strength: SURYAXONE

Manufacturing details: batch number, manufacturing date and expiry date

Name of manufacturer: Reyoung Pharmaceutical Co., Ltd

The content of the primary and secondary labels was aligned to the requirements of the Part V of the Compendium: Guidelines on Format and Content of Product Labels for Medicinal products. The label contains sufficient information for proper identification of the medicine and post marketing follow up of the product.

Mock labels are appended as annex I.

3. Scientific discussion

Quality of Active Pharmaceutical Ingredient

Information on the quality of the API was submitted in form of DMF.

<u>Ceftriaxone sodium</u>

General Information

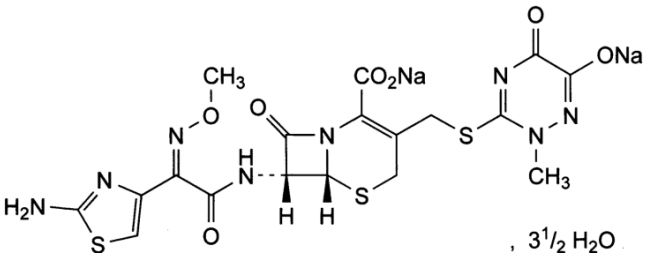
Ceftriaxone sodium API is compendia in USP, Ph.Eur., and BP.

Molecular formula: $C_{18}H_{16}N_8Na_2O_7S_3,3½H_2O$

Chemical name:

Disodium (6R,7R)-7-[[(Z)-(2-aminothiazol-4-yl)(methoxyimino)acetyl]amino]-3-[[(2- methyl-6-oxido-5-oxo-2,5-dihydro-1,2,4-triazin-3-yl)sulphanyl]methyl]-8-oxo-5-thia- 1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate

Structure:



General properties

Ceftriaxone sodium is a white to yellowish crystalline powder, which is freely soluble in water, sparingly soluble in methanol and very slightly soluble in ethanol.

The polymorphism is not reported for this API so far. Nonetheless, this is not considered important as the active substance is present in solution in the finished product. The active is present in the drug product dissolved in water, hence the polymorphic form and particle size distribution are not considered as critical quality aspects.

Manufacture

Ceftriaxone sodium API manufacturer is Reyoung Pharmaceutical Co., Ltd., No. 1 Ruiyang Road, Yiyuan County, Shandong Province, P.R. China. The manufacturing complies with GMP requirements as evidenced by the GMP certificate issued by the Shandong Food and Drug Administration. Ceftriaxone sodium is semi-synthetic product derived from a fermentation product. Sufficient controls of quality of materials and in-process checks were employed throughout the manufacturing process.

Specifications

The API specifications were set as per USP standards and ICHQ3A. The parameters monitored during quality control are: description, identification (HPLC, chemical reaction and IR), related substance (HPLC), assay, crystallinity, pH, bacterial endotoxins, particulate matter, visible particles, sterility Compliance to these specifications were established via batch analysis data and stability studies.

Stability and container closure system

The re-test period of Ceftriaxone sodium API is 36 months when packed in Aluminium bottle with storage condition ‘Should be stored Below 30ºC’.

Quality of the Finished Pharmaceutical Product

Formulation

SURYAXONE is almost white or yellowish, crystalline powder

SURYAXONE contains the Ceftriaxone sodium with no other ingredients.

Manufacture

The finished product manufacturers are Reyoung Pharmaceutical Co., Ltd, No. 1 Ruiyang Road, Yiyuan County, Shandong Province China. The compliance of the sites to TMDA GMP standards was confirmed through site inspection on 14, February, 2018.

Specifications

The FPP is compendia. The manufacturer controls the quality of the finished product as per USP and ICH requirements. The parameters monitored during quality control are: Description, identification, pH, crystallinity, water, uniformity of dosage unit, constituted solution, visible foreign matter, related substance, particulate matter, bacterial endotoxin, sterility, assay. Compliance to the standard was established using batch analysis data and stability data.

Stability and container closure system

Stability studies were conducted on three (3) batches of the finished product stored at 30±2℃ R.H. 75±5% for 36 months and 40±2℃R.H. 75±5% for 6 months. Based on the stability data presented, the approved shelf-life is 36 months when stored in 10ml USP mould glass vial type II, butyl rubber stopper, non-flip off Aluminium cap with storage condition 'Do not above 30°C. Protect from light and moisture. Do not freeze'.

Safety and efficacy information

SURYAXONE sterile powder for injection is a parenteral formulation and therefore fulfils the exemption mentioned in the part III: guidelines on therapeutic equivalence requirements, which states that a bioequivalence study is not required if the solutions for injection that contain the same active ingredients and excipients in the same concentrations as currently registered products and which are administered by the same route(s). The quantitative composition of SURYAXONE sterile powder for injection is entirely the same as the reference products in the market. Therefore, it may be considered as therapeutic equivalent, with the same efficacy/safety profile as known for the active substance of the reference medicinal product. The current product can be used instead of its reference product

4. Benefit-Risk Assessment and Conclusion

On basis of the data submitted, the current state of knowledge and compliance to Good Manufacturing Practice, the benefit of the product outweighs the risks associated with its use when used in accordance to the summary of product characteristics. SURYAXONE sterile powder for injection is recommended for registration.

5. Post-approval updates

Variation applications

Reference number	Date submitted	Change requested	Recommendation	Granting date

Feedback from pharmacovigilance, post marketing surveillance and enforcement activities

Type of feedback	Impact	Response

Re-registration applications

Application for renewal of registration was submitted on <DDMMYYYY>. The application was finalized in <number> rounds of evaluation. The product was confirmed to still be compliant to the standards of quality, safety and efficacy, hence registration was renewed on <DDMMYYYY>.

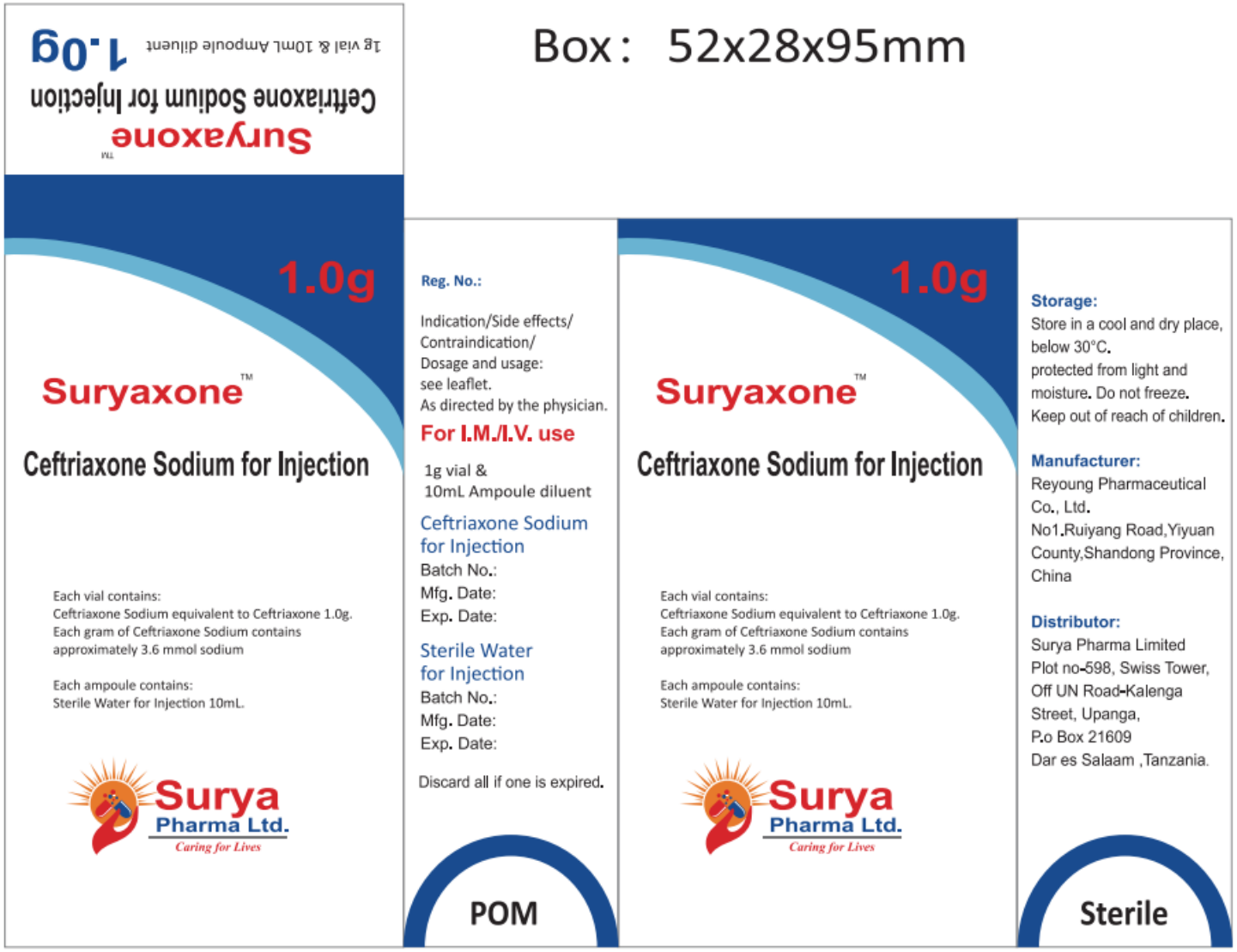
PART 5: CHANGE HISTORY

Version number	Date	Description of update	Section(s) Modified	Approval date

Annex I: Mock up labels;

Primary pack label;

Secondary pack label;



Effective date: 03/10/2022