WHO-PQ RECOMMENDED SUMMARY OF PRODUCT CHARACTERISTICS

This summary of product characteristics focuses on uses of the medicine covered by WHO's Prequalification Team - Medicines. The recommendations for use are based on WHO guidelines and on information from stringent regulatory authorities.[*]

The medicine may be authorised for additional or different uses by national medicines regulatory authorities.

[*]https://extranet.who.int/prequal/sites/default/files/document_files/75%20SRA%20clarification_Feb2017_newtempl.pdf

1. NAME OF THE MEDICINAL PRODUCT

[TB413 trade name]†

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains 10 mg pyridoxine hydrochloride

3. PHARMACEUTICAL FORM

Uncoated tablets

White to off white, round, uncoated tablets. They are biconvex (rounded on top and bottom) with a flat edge. The tablets have a break line on one side and are plain on the other side.

The tablet can be divided into equal doses.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

[TB413 trade name] is indicated for the treatment of peripheral neuropathy induced by tuberculosis medicines, including isoniazid, cycloserine and terizidone.

It is also indicated for the prevention of isoniazid-induced peripheral neuropathy in:

- all patients taking high-dose isoniazid
- pregnant and breastfeeding women taking isoniazid
- breastfed infants taking isoniazid or whose mothers are taking isoniazid
- patients at risk of the condition, including malnourished patients, slow acetylators, patients with HIV, diabetes, chronic alcohol dependence, HIV infection, psychosis, or renal failure.

Its use may also be considered for prophylaxis in at-risk patients taking cycloserine or terizidone.

4.2 Posology and method of administration

Posology

Treatment of drug-induced peripheral neuropathy

Adults and adolescents: Higher-dose formulations should be used in these patients to supply the required amount of pyridoxine, which can range from 50 mg once or twice daily up to 200 mg daily.

Children: Doses are based on body weight as shown below:

Body weight	Number of tablets per day
3 to less than 6 kg	1.5
6 to less than 10 kg	3
10 to less than 15 kg	5
15 kg or more	--*

* Other formulations containing higher amounts of pyridoxine should be used in these patients.

Prevention of isoniazid-induced peripheral neuropathy

Adult and adolescent: the recommended dose is 1 to 2.5 tablets per day (10-25 mg daily).

† Trade names are not prequalified by WHO. This is the national medicines regulatory agency's responsibility.

Children: Doses are based on body weight as shown below:

Body weight	Number of tablets per day
3 to less than 6 kg	0.5
6 to less than 10 kg	1
10 to less than 15 kg	2
15 to less than 20 kg	3
20 to less than 25 kg	4
25 to less than 30 kg	5*

* Other formulations containing 50 mg pyridoxine may be used if available.

Malnourished children and children living with HIV: In these patients, lower doses of pyridoxine should be used, as shown below:

Body weight	Number of tablets per day
3 to less than 10 kg	0.5
10 to less than 15 kg	1
15 to less than 20 kg	1.5
20 to less than 25 kg	2
25 to less than 30 kg	2.5

Similar doses may be considered in patients receiving cycloserine or terizidone.

Missed dose and vomiting after a dose

If the patient misses a dose, the patient should take it as soon as possible. If it is almost time for the next dose then the patient should not take the missed dose and take the next dose at the usual time.

If the patient vomits within 1 hour of taking [TB413 trade name], the patient should take an extra dose. If vomiting occurs more than an hour after taking the dose, the patient does not need to take an extra dose and can take the next dose as usual when it is due.

Method of administration

The recommended dose should be administered orally. Tablets may be divided into two equal halves along the break line for doses requiring half a tablet of [TB413 trade name].

[TB413 trade name] is unaffected by food and may be taken with food or between meals.

For patients unable to swallow tablets, such as small children:

- The required number of tablets as per above dosing of [TB413 trade name] should be disintegrated by adding a small amount of water (about 5 mL) in a small bowl and stirring gently until the tablet breaks up.
- A small amount of semi-solid food should be mixed to improve palatability
- The mixture should be administered immediately.

4.3 Contraindications

Hypersensitivity to pyridoxine or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

Excessive doses of pyridoxine over prolonged periods can cause peripheral neuropathy, with symptoms similar to isoniazid toxicity.

4.5 Interaction with other medicinal products and other forms of interaction

Pyridoxine can reduce the effect of levodopa (used for treating Parkinson's disease) unless a dopa decarboxylase inhibitor is also given. High doses of pyridoxine can also reduce the effects of the epilepsy medicines phenobarbital, phenytoin and primidone.

Combined hormonal contraceptives, hydralazine and penicillamine may increase the metabolism of pyridoxine.

4.6 Fertility, pregnancy and breastfeeding

Data from women taking pyridoxine during pregnancy indicate no adverse effects of pyridoxine in therapeutic doses on pregnancy or the health of the fetus or of the newborn baby. WHO recommends pyridoxine supplementation during pregnancy in women receiving isoniazid.

The therapeutic use of pyridoxine is compatible with breast-feeding.

4.7 Effects on ability to drive and use machines

[TB413 trade name] is unlikely to affect the ability to drive or operate machinery.

However, patients should be advised to consider if their clinical status, including any undesirable effects of the medicine, allows them to perform skilled tasks safely.

4.8 Undesirable effects

Side effects are not expected to occur with recommended doses of pyridoxine. Large doses taken for a prolonged period can cause severe peripheral neuropathy.

Reporting of suspected adverse reactions

Health care providers are asked to report adverse reactions that may be linked to a medicine, to the marketing authorisation holder, or, if available, to the national reporting system. Reports of suspected adverse reactions to a medicine are important for the monitoring of the medicine's benefits and risks.

4.9 Overdose

Single doses of pyridoxine doses of 2–3 g may cause headache but no treatment is necessary.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pyridoxine is one of the vitamin B_6 compounds. It is converted to the co-enzyme pyridoxal 5-phosphate, which is involved in many metabolic processes in the body, including in the nervous system. Isoniazid is thought to cause a deficiency in biologically active B6 through formation of isonicotinic acid hydrazide, which inhibits pyridoxine-dependent enzyme systems; this can be overcome by adequate supplementation with pyridoxine during isoniazid treatment.

5.2 Pharmacokinetic properties

[TB413 trade name] fulfilled all criteria for waiving an in-vivo bioequivalence study as per relevant WHO guidance.

Absorption Pyridoxine is readily absorbed from the gastrointestinal tract after oral administration.	
Distribution Pyridoxine's main active metabolite, pyridoxal 5'-phosphate, is released into the circulation and is highly protein-bound, mainly to albumin. Pyridoxine crosses the placenta and also appears in breast milk.	
Metabolism Pyridoxine is converted to the active forms of pyridoxal 5'-phosphate and pyridoxamine phosphate, which are stored in the liver. Pyridoxine is mainly metabolised to 4-pyridoxic acid, an inactive compound, formed by the action of hepatic aldehyde oxidase on free pyridoxal.	
Elimination The inactive metabolite, 4-pyridoxic acid, is excreted in the urine.	
Elimination half life	Estimated to be 15–20 days

5.3 Preclinical safety data

There are no preclinical data of relevance to the use of pyridoxine for the treatment or prevention of drug-induced peripheral neuropathy. Effects in non-clinical studies occurred at doses that were well in excess of the maximum doses used for therapeutic purposes.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Core tablet:

Microcrystalline cellulose
Colloidal anhydrous silica
Sodium starch glycolate
Magnesium stearate

This medicine is essentially 'sodium-free'. It contains less than 1 mmol sodium (23 mg) per tablet

6.2 Incompatibilities

Not applicable

6.3 Shelf life

24 months

6.4 Special precautions for storage

Do not store above 30°C. Store tablets in strips in the provided carton to protect from light.

6.5 Nature and contents of container

Aluminium foil strip packs, each containing 10 tablets. Available in cartons of 10x10, 50x10 or 100x10 tablets.

6.6 Special precautions for disposal and other handling

No special requirements. Any unused medicinal product or waste material should be disposed of in accordance with local requirements

7. SUPPLIER

S Kant Healthcare Ltd.
3-A, Shiv Sagar Estate, North Wing,
Dr. Annie Besant Road,
Worli, Mumbai – 400018,
India.
Telephone: 91-22-6622 7575
Fax: 91-22-6622 7500 / 6622 7600

8. WHO REFERENCE NUMBER (WHO Prequalification Programme)

TB413

9. DATE OF PREQUALIFICATION

13 March 2025

10. DATE OF REVISION OF THE TEXT

July 2025

References

Pyridoxine 50 mg Tablets (Wockhardt UK Ltd): summary of product characteristics. MHRA; 23 April, 2015 (https://www.medicines.org.uk/emc/product/1208/smpc#gref, accessed March 2025)

WHO operational handbook on tuberculosis. Module 1: prevention – tuberculosis preventive treatment; second edition. Geneva: World Health Organization; 2024: (https://iris.who.int/bitstream/handle/10665/378535/9789240097773-eng.pdf, accessed March 2025)

WHO operational handbook on tuberculosis. Module 4: treatment – drug-resistant tuberculosis treatment; 2022 update. Geneva: World Health Organization; 2022: (https://iris.who.int/bitstream/handle/10665/365333/9789240065116-eng.pdf, accessed March 2025)

Web Annexes in: WHO operational handbook on tuberculosis Module 4: Treatment – drug-susceptible tuberculosis treatment; 2022 update. Geneva: World Health Organization; 2022: https://iris.who.int/bitstream/handle/10665/365309/9789240065352-eng.pdf, accessed March 2025)

WHO operational handbook on tuberculosis. Module 5: management of tuberculosis in children and adolescents. Geneva: World Health Organization; 2022: (https://iris.who.int/bitstream/handle/10665/352523/9789240046832-eng.pdf, accessed March 2025)

Section 5.1

Stettner M, Steinberger D, Hartmann CJ, et al. Isoniazid-induced polyneuropathy in a tuberculosis patient – implication for individual risk stratification with genotyping? *Brain Behav* 2015; **5:** e00326. doi: 10.1002/brb3.326.

Section 5.2

DrugBank (version 5.1.7, released 2020-07-02): Pyridoxine https://go.drugbank.com/drugs/DB00165 [Accessed March 2025]

Detailed information on this medicine is available on the World Health Organization (WHO) website: https://extranet.who.int/prequal/medicines/prequalified/finished-pharmaceutical-products