

WHO-PQ RECOMMENDED PATIENT INFORMATION LEAFLET

*This patient information leaflet 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

Information for the patient

[TB179 trade name][†]

Isoniazid

If you are a carer or parent looking after the person who takes this medicine, use this leaflet to give the medicine correctly and take note of the warnings and side effects.

Read all of this leaflet carefully before you start taking this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have questions about the medicine, ask your health care provider.
- This medicine is for you only. Do not pass it on to others. It may harm them, even if their illness seems to be the same as yours.
- If you are concerned about any side effects, talk to your health care provider. This includes unwanted effects not listed in this leaflet. See section 4.

What is in this leaflet

1. What [TB179 trade name] is and what it is used for
2. What you need to know before you take [TB179 trade name]
3. How to take [TB179 trade name]
4. Possible side effects
5. How to store [TB179 trade name]
6. Contents of the pack and other information

1. What [TB179 trade name] is and what it is used for

[TB179 trade name] is a medicine used to treat tuberculosis (TB), an infection caused by bacteria called *Mycobacterium tuberculosis*. It is always given together with other medicines to treat tuberculosis. Your health care provider has chosen the combination that is right for your condition.

[TB179 trade name] is also used on its own or with other medicines to *prevent* TB if there is a high chance you could catch it.

[TB179 trade name] contains the active substance isoniazid, which is an antibiotic that kills the bacteria responsible for TB by preventing them from making their protective cell wall.

2. What you need to know before you take [TB179 trade name]

Do not take [TB179 trade name]:

- if you are allergic (hypersensitive) to isoniazid or any of the other ingredients of [TB179 trade name] listed at the end of this leaflet
- if you have any sort of liver disease
- if you have ever had liver problems after taking isoniazid or any other medicine
- if you have ever had severe side effects with isoniazid, including fever, chills or inflammation of the joints.

Speak with your health care provider if you think you should not take this medicine.

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

Warnings and precautions

Talk to your health care provider before taking [TB179 trade name]. Tell your health care provider before starting the medicine if you have:

- liver problems such as long-term liver disease
- kidney problems
- diabetes
- epilepsy
- mental problems (psychosis)
- damage to your nerves (peripheral neuropathy) that causes a sensation of tingling in the hands or feet
- HIV infection
- malnutrition
- been told you are a ‘slow acetylator’ (your body breaks down certain medicines more slowly than usual)

Also tell your health care provider if you are allergic to the medicines ethionamide, pyrazinamide, or niacin (nicotinic acid) – this may make it more likely that you will also be allergic to [TB179 trade name].

It is also important to tell your health care provider if you are pregnant or have just given birth, or if you drink alcohol regularly or use injection drugs like heroin.

If any of these apply, your health care provider will discuss your treatment with you, and explain whether you will need additional checks in case you get side effects.

While taking [TB179 trade name] your health care provider will regularly check for any problems with your liver. Speak with your health care provider straightaway if you get **symptoms that might suggest liver damage**, especially if you:

- lose your appetite, or get nausea (feel sick), or feel tired all the time, or you have a rash

and you have any of the following

- belly pain, usually on the right side and near the chest
- unexplained itching
- yellowing of the white parts of your eyes, your nails or your skin
- passing dark urine
- passing stools that are very pale.

You may be at higher risk of liver problems if:

- you are older than 35 years
- you drink alcohol daily (see “Taking [TB179 trade name] with food and drink”)
- you have a long-term liver disease
- you use recreational drugs by injection (e.g. heroin).

If any of these apply to you, your health care provider will test for liver problems more often. If serious liver problems develop your health care provider may change your treatment and ask you to stop taking [TB179 trade name].

Peripheral neuropathy (tingling, pricking or numbness, especially of hands and feet) is the most common side effect of isoniazid (see ‘Possible side effects’). If you have kidney or liver problems, you may be at higher risk of isoniazid side effects including peripheral neuropathy. You are also more likely to get peripheral neuropathy if you are malnourished, have diabetes, are dependent on alcohol, have HIV infection, or are pregnant or breastfeeding. Your health care provider will check on you regularly if any of these apply. Speak with your health care provider right away if you get tingling in your hands and feet.

Your health care provider may recommend that you take vitamin B6 (pyridoxine) if you are more likely to develop peripheral neuropathy or if you are taking a high dose of isoniazid.

Tell your health care provider about any illness you get, even if you think it is not related to tuberculosis infection or your medicine.

Resistance

When it is used to treat TB, this medicine must always be taken with other TB medicines as your health care provider recommends. Using the medicine alone or not taking the recommended doses can make the disease resistant to the medicine, so your treatment may no longer work to cure your TB.

Other medicines and [TB179 trade name]

Tell your health care provider if you are taking or have recently taken any other medicines, including medicines obtained without a prescription. Make sure you mention herbal medicines you might have been taking. These may affect the action of [TB179 trade name], or [TB179 trade name] may affect their action. Side effects of either medicine may become worse or the medicines may become less effective.

Where possible, [TB179 trade name] should not be used with other medicines that can damage the liver or the nerves, since their side effects may add up and increase the risks. Your health care provider will be able to tell you if changes are needed to your treatment.

You should not be take antacids (medicines for indigestion) with [TB179 trade name], especially antacids that contain aluminium hydroxide, as they lower the dose of isoniazid that your body absorbs.

It is not known whether isoniazid interacts with medicines to treat hepatitis C infection (such as daclatasvir, dasabuvir, elbasvir, glecaprevir, grazoprevir, ledipasvir, ombitasvir, paritaprevir, pibrentasvir, simeprevir, sofosbuvir, velpatasvir or voxilaprevir). However, since hepatitis C causes chronic liver disease, you will need to be carefully monitored during treatment with isoniazid if you are also being treated with these medicines.

Taking [TB179 trade name] with other medicines

The active substance in [TB179 trade name] may also interact with the following medicines:

- medicines to treat epileptic seizures (e.g. phenytoin, carbamazepine, primidone)
- warfarin (to prevent blood clots)
- benzodiazepine medicines used to treat anxiety or help you sleep (e.g. chlorzoxazone, diazepam, flurazepam, midazolam, triazolam)
- medicines for fungal infections (itraconazole, ketoconazole)
- medicines used in surgery (strong painkillers, e.g. alfentanil; anaesthetics e.g. enflurane)
- levodopa (medicine for the treatment of Parkinson's disease)
- theophylline (medicine for the treatment of asthma)
- procainamide (medicine for the treatment of cardiac arrhythmias)
- corticosteroids (e.g. prednisolone, medicines for the treatment of inflammation and other diseases, such as asthma or rheumatoid arthritis)
- disulfiram (medicine to treat dependence on alcohol).

Taking [TB179 trade name] with food and drink

Take [TB179 trade name] on an empty stomach (at least one hour before or two hours after a meal). This helps your body absorb isoniazid better.

Taking isoniazid with foods and drinks such as matured cheeses, cured meat, some oily fish like tuna, salmon or mackerel, wine and beer (all of which contain histamine or tyramine) may cause effects such as headache, sweating, flushing, heartbeat becoming fast, uneven or forceful (palpitations), dizziness, feeling lightheaded or faint (due to low blood pressure). Avoid these foods if you are receiving isoniazid.

Do not drink alcohol regularly or excessively while taking [TB179 trade name]. This increases your risk of liver damage.

Pregnancy and breast-feeding

This medicine can be used during pregnancy. However, you may need to be carefully monitored for side effects. If you become pregnant, think you might be, or are planning a pregnancy, tell your health care provider right away, so you can discuss your treatment.

Isoniazid passes into breast milk in small amounts, but no harmful effects have been reported in breast-fed infants whose mothers were receiving isoniazid. However, your health care provider may recommend that you and your baby take vitamin B6 (pyridoxine) to reduce any risks. Not enough isoniazid passes into the milk to protect your baby from TB or to treat any TB infection your baby may get.

Driving and using machines

[TB179 trade name] is not likely to affect your ability to drive or operate machinery.

However, make sure you feel well enough to take on any skilled tasks.

3. How to take [TB179 trade name]

Your health care provider will decide on the right doses and combination of medicines to treat your TB, based on your age, weight and condition, including whether your TB is resistant to standard treatments.

For the treatment of TB, [TB179 trade name] must be used with other medicines.

Always take [TB179 trade name] exactly as your health care provider has told you. Check with your health care provider if you are not sure.

Do not change the dose unless your health care provider tells you to. Your treatment may need to go on for many months, but it is important to take the full course of treatment recommended by your health care provider, even if you feel better.

Swallow [TB179 trade name] whole with water or another drink.

The tablets should be taken on an empty stomach (at least one hour before or two hours after a meal).

For information on how to take the other medicines you need for your TB treatment, discuss with your health care provider and see the leaflets that come with those medicines as well.

Treatment of tuberculosis

The dose of [TB179 trade name] needed to treat TB depends on your weight, and whether your TB responds to standard medicines or is resistant to standard medicines.

For **TB that responds to standard medicines** (drug-susceptible TB), the usual dose is 1 tablet daily in patients weighing 30 kg or more.

If you weigh more than 65 kg your health care provider may adjust your medicines to ensure you get enough isoniazid.

Always take the medicine as recommended by your health care provider.

Treatment of drug-resistant TB

If [TB179 trade name] is added to other TB medicines to manage **TB resistant to standard medicines**, the usual recommended dose of the medicine based on weight is as follows:

Patient's weight	Dose of [TB179 trade name] tablets
16 to less than 24 kg	1 tablet once daily
24 to less than 46 kg	<i>You will be given a different medicine to get the right dose</i>
46 kg and above	2 tablets once daily

Prevention of tuberculosis

When isoniazid is used to prevent tuberculosis, it can be used alone or with another TB medicine (usually rifampicin or rifapentine). The dose of [TB179 trade name] depends on whether you take it alone or with another medicine, and on your weight. Your health care provider will choose suitable medicines and tell you the right doses to take.

If you are given [TB179 trade name] on its own

If [TB179 trade name] is **used on its own**, then the usual dose in people weighing 30 to 65 kg is 1 tablet of [TB179 trade name] once daily for 6 or 9 months.

If you weigh more than 65 kg your health care provider may adjust your medicines to ensure you get enough isoniazid.

If you are given [TB179 trade name] with the medicine rifampicin

When you take [TB179 trade name] with rifampicin, you should take it **once a day for 3 months**. The dose of [TB179 trade name] is the same as if you take it alone (see above). For the dose of rifampicin, see the patient information leaflet that comes with the rifampicin medicine.

If you are given [TB179 trade name] with the medicine rifapentine

If your health care provider decides that [TB179 trade name] given with the medicine rifapentine is the right treatment for you, then they may recommend taking it, weekly or daily. Ask your health care provider if you are not sure how to take the medicine.

If your health care provider recommends taking the medicine **once a week for 3 months**, then the usual doses of [TB179 trade name] are as follows:

Person's weight	Number of tablets of [TB179 trade name]
15 to less than 20 kg	1 tablet once a week
20 to less than 30 kg	<i>You will be given a different medicine to get the right dose</i>
30 to less than 40 kg	2 tablets once a week
40 to less than 50 kg	<i>You will be given a different medicine to get the right dose</i>
50 kg or more	3 tablets once a week

For the dose of rifapentine, ask your health care provider or see the leaflet that comes with that medicine.

Adults and teenagers aged 13 years or older and weighing at least 25 kg may be given a daily course of the medicine **for 4 weeks**. The recommended dose in this case is 1 tablet of [TB179 trade name] daily, together with the appropriate dose of rifapentine.

Taking pyridoxine with [TB179 trade name]

Your health care provider may recommend that you also take pyridoxine (vitamin B6). Pyridoxine can help reduce the chance of getting peripheral neuropathy, a side effect of [TB179 trade name] that can affect the nerves and cause tingling, pricking or numbness, especially of your hands and feet.

Taking pyridoxine is especially important if you are pregnant or breastfeeding, have HIV infection, malnutrition, alcohol dependence, kidney problems or diabetes. It is also recommended if you are taking high doses of isoniazid.

Your health care provider will tell you how much pyridoxine to take – you should also read the patient information leaflet supplied with any pyridoxine tablets you are given.

If you take more [TB179 trade name] than you should

If you accidentally take too many [TB179 trade name], contact your health care provider or nearest emergency department for advice. Take the tablet container with you so that you can easily describe what you have taken.

If you forget to take [TB179 trade name]

It is important not to miss a dose of [TB179 trade name]. If you have missed doses of this medicine, contact your health care provider to ask what to do, as your treatment may need to be adjusted.

If you vomit less than 1 hour after taking [TB179 trade name], take another tablet. You do not need to take another tablet if you vomited more than 1 hour after taking this medicine.

If you stop taking [TB179 trade name]

Don't stop taking [TB179 trade name] without checking with your health care provider. Talk to your health care provider before you stop taking [TB179 trade name] for any reason, particularly if you get any side effects or have another illness.

If you have stopped your treatment with [TB179 trade name] for any reason, speak to your health care provider before you start taking [TB179 trade name] again.

If you have any questions on the use of this medicine, ask your health care provider.

4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them. When treating tuberculosis, it is not always possible to distinguish between unwanted effects of [TB179 trade name] and those caused by any other medicines you may be taking at the same time.

For this reason, it is important that you tell your health care provider of any change in your health.

If you get any of the following side effects, contact your health care giver as soon as possible:

- signs of liver damage (see Warnings and Precautions, above)
- signs of nerve damage (peripheral neuropathy, see Warnings and Precautions above)
- severe pain in the belly and back which can be signs of inflammation of the pancreas
- severe extensive skin damage and blistering, often with flu-like symptoms (toxic epidermal necrolysis or TEN)
- a drug reaction that causes rash, fever, inflammation of internal organs, blood abnormalities and general illness (DRESS syndrome).

The following side effects have been reported in patients treated with isoniazid.

Very common side effects (may affect more than 1 in 10 people)

- sensations of tingling, pricking, or numbness of the skin, especially in the feet and hands (peripheral neuropathy).
- increases of liver enzymes measured in blood samples. Usually, these enzyme increases return to normal within 3 months despite continued treatment. When the values rise above a certain level your health care provider may decide to stop treatment with [TB179 trade name].

Uncommon side effects (may affect up to 1 in 100 people)

- inflammation of the liver (hepatitis), which can cause yellowing of the skin or whites of the eyes, or urine getting darker and stools paler, fatigue, weakness
- epileptic fits (seizures)
- inflammation of the brain (encephalopathy)
- mental disturbances including psychotic reactions such as hallucinations and delusions
- memory problems.
- eye problems such as visual disturbances and eye pain

Rare side effects (*may affect up to 1 in 1 000 people*)

- A drug reaction that causes rash, fever, inflammation of internal organs, blood abnormalities and illness affecting the whole body (DRESS syndrome)
- Severe extensive skin damage (blistering on the skin and in body openings such as the mouth and nose): toxic epidermal necrolysis (life-threatening reaction with flu-like effects and blistering in the skin, mouth, eyes and genitals)

The frequency of the following side effects is **not known**.

- allergic reactions, including:
 - skin reactions, such as rash (exanthema, erythema) and itching (pruritus), but also severe forms with fever, blisters and involvement of the mucous membranes (e.g. erythema multiforme, Stevens-Johnson syndrome)
 - inflammation of blood vessels (vasculitis)
 - swollen or painful lymph nodes (lymphadenopathy)
 - painful disorder affecting joints, muscles, tendons (rheumatic syndrome)
 - connective tissue disorders such as lupus syndrome which can affect the skin and kidneys (symptoms may include a butterfly-shaped rash over the cheeks and nose, tiredness, a high temperature, feeling or being sick, joint pain and weight loss)
 - fever
- vertigo (spinning sensation and loss of balance)
- elevated mood, personality changes
- inflammation of the lungs (pneumonitis), scarring of the lungs (interstitial lung disease)
- build-up of acid in the body (metabolic acidosis); increased blood levels of glucose; a vitamin B3 deficiency syndrome called pellagra (with symptoms such as dementia, loose stools and skin inflammation); vitamin B6 deficiency (irritability, difficulty sleeping, weak muscles, cracks at the corner of the mouth and weight loss)
- nausea, vomiting, loss of appetite, dry mouth, constipation, belly pain
- difficulty in passing urine
- changes in the white blood cell counts (leucopenia, neutropenia, eosinophilia, agranulocytosis), possibly resulting in an increased risk of infection
- decreased red blood cell counts (anaemia), possibly leading to tiredness, weakness and shortness of breath
- decreased platelet count, possibly resulting in an increased risk of bruising and bleeding
- inflammation of the joints (arthritis)
- muscle weakness, overactive reflexes
- increased size of breasts in men (gynaecomastia)
- loss of hearing and ringing in your ears may occur if you have severe problems with your kidneys
- inflammation of the pancreas, which causes severe pain in the abdomen and back
- a positive test result for antibodies against your body's tissues
- withdrawal symptoms, which may occur after you stop taking [TB179 trade name], include headache, insomnia, excessive dreaming, irritability and nervousness.

Side effects with this medicine are more common in people aged over 35 years and in people who break down isoniazid more slowly. The risk of side effects increases with high doses of [TB179 trade name].

If you notice any of the side effects listed above or if any of the side effects get serious, talk to your health care provider.

Reporting of side effects

If you get a side effect, talk to your health care provider. This includes side effects not listed in this leaflet. You may also be able to report such effects directly to your national reporting system if one is available. By reporting side effects, you can help to improve the available information on this medicine.

5. How to store [TB179 trade name]

Keep this medicine out of the sight and reach of children.

Do not store above 30°C. Store in the original container.

Do not use this medicine after the expiry date stated on the label, carton or bottle after 'EXP'. The expiry date refers to the last day of that month.

Do not use this medicine if you notice description of the visible signs of deterioration that it is different from the description below.

Do not throw away any medicines in wastewater or household waste. Ask your health care provider how to throw away medicines you no longer use. These measures will help protect the environment.

6. Contents of the pack and other information

What [TB179 trade name] contains

- The active ingredient is isoniazid 300 mg.
- The other ingredients of [TB179 trade name] are calcium hydrogen phosphate, maize starch, disodium edetate, purified talc, colloidal anhydrous silica, and magnesium stearate.

There is too little sodium in this medicine to have any effect, even if you are on a low-sodium diet.

What [TB179 trade name] looks like and contents of the pack

White to off white, round, uncoated tablets. They are biconvex (rounded on top and bottom) with a flat edge. The tablets are plain on both sides.

The tablets should not be divided or crushed.

HDPE bottle

Plastic (HDPE) bottle containing 1000 tablets. The tablets are packed in a sealed semi-transparent (polyethylene) bag inside the bottle. The bottle has aluminium seal and a plastic screw cap.

Round, opaque white plastic (HDPE) bottle containing 30 tablets. The bottle has a sealing liner and a childproof plastic (polyethylene) screw cap.

Blister pack

Clear colourless plastic (PVC/PVDC) on aluminium foil blister cards, each containing 10 tablets. Available in boxes of 3 x 10, 9 x 10 or 10 x 10 tablets.

Clear colourless plastic (PVC/PVDC) on aluminium foil blister cards, each containing 28 tablets. Available in boxes of 3 x 28 or 24 x 28 tablets.

Clear colourless plastic (PVC/PVDC) on aluminium foil blister cards, each containing 7 tablets. Available in boxes of 6 x 7 tablets.

Strip pack

Aluminium foil strip packs, each containing 10 tablets. Available in boxes of 3 x 10, 9 x 10 or 10 x 10 tablets

Aluminium foil strip packs, each containing 28 tablets. Available in boxes of 3 x 28 or 24 x 28 tablets

Aluminium foil strip packs, each containing 7 tablets. Available in boxes of 6 x 7 tablets

Supplier and Manufacturer

Supplier

Macleods Pharmaceuticals Limited
304, Atlanta Arcade
Marol Church Road
Andheri (East)
Mumbai – 400 059
India

Manufacturer

Macleods Pharmaceuticals Limited
Phases II/III/IV, Unit II, Plot No. 25-27
Survey No. 366
Premier Industrial Estate
Kachigam
Daman – 396 210

Tel: + 91 22 6676 2800
Fax: + 91 22 2821 6599
Email: vijay@macleodspharma.com
sjadhav@macleodspharma.com

India
Tel: + 91 260 2241565, + 91 22 28216599
Fax: + 91 260 2241565
Email: nishata@macleodspharma.com

Oxalis Labs
Village Theda
P.O. Lodhimajra, Baddi
Baddi, Dist: Solan
Himachal Pradesh – 174101
India
Tel: + 91-1795 661400
Fax: + 91-1795 661452
Email: nishata@macleodspharma.com

Macleods Pharmaceuticals Limited
Block No.: N-2, Village Theda
P.O. Lodhi Majra
Tehsil Baddi, Dist: Solan
Himachal Pradesh – 174101
India
Tel: + 91-1795 661400
Fax: + 91-1795 661452
Email: nishata@macleodspharma.com

For any information about this medicine, contact the local representative of the supplier.

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