

SUMMARY OF PRODUCT CHARACTERISTICS
PYRON IN VIVO KIT FOR LABELLING WITH ^{99m}Tc

Radioactive diagnostic drug product for intravenous administration
Marketing Authorization Number: OGYI-T-9246/01

1 NAME OF THE MEDICINAL PRODUCT

PYRON in vivo kit for preparation of radiopharmaceutical product

By mixing PYRON in vivo kit and (^{99m}Tc)pertechnetate eluate the ^{99m}Tc-PYRON injection for diagnostic use can be prepared in situ on the location of the utilisation (at isotope laboratories of clinics or hospitals). Sterile, pyrogen free solution of [^{99m}Tc]pertechnetate can be obtained by using any kind of authorized ^{99m}Tc/⁹⁹Mo generator.

Specification: Ph. Eu. 4th. 2002. 1 / 2002. 0129

Symbol indicating the strength: + (single cross), strong action

Manufacturer:

Institute of Isotopes Co. Ltd. Budapest, Hungary, H- 1121

Konkoly-Thege Miklós út 29–33.

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

2.1 Composition

2.1.1 Composition of the content of PYRON injection vial

Name of the components	Quantity per dosage form unit	Function
------------------------	-------------------------------	----------

Active ingredient

Sodium pyrophosphate	25.0 mg	Organ-specific chelating agent of ^{99m} Tc radioisotope
----------------------	---------	--

Excipients

Stannous chloride dihydrate	1.0 mg	Reducing agent of [^{99m} Tc]pertechnetate
Sodium chloride	10.0 mg	Filler

2.1.2 Composition of ^{99m}Tc-PYRON radioactive injection

Name of the components	Quantity per volume unit	Function
------------------------	--------------------------	----------

Active ingredient

^{99m} Tc-PYRON	1.3 – 3.0 GBq	Organ-specific diagnostic information
-------------------------	---------------	---------------------------------------

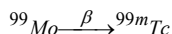
2.2 Radiation physical properties

Cannot be defined for PYRON kit. The radiation physical properties of the labelled product are given below.

Physical half life:	6 hours	
Energy and intensity of the emitted gamma photons	140 keV	100 %
Energy and intensity of the emitted beta particles	-	-

During the decay ⁹⁹Tc is produced.

^{99m}Tc isotope is produced in the ⁹⁹Mo generator by β-decay via the next reaction:



Secondary product of the reaction is ⁹⁹Tc radioisotope, which is produced owing to the short half-life of ^{99m}Tc in quantity less than 0.1%.

3 PHARMACEUTICAL FORM

Pharmaceutical form of PYRON in vivo kit: powder for solution for injection.

Pharmaceutical form of ^{99m}Tc-PYRON: radioactive, sterile injection.

4 CLINICAL PARTICULARS

4.1 Diagnostic indications

INDICATION FIELD: ISOTOPE DIAGNOSTICS

Bone scintigraphy tests

Use of the product especially recommended in the following cases:

- Primer bone tumour
- Bone metastases of other tumours (i.e. prostate cancer, breast cancer, lung cancer)
- Osteomyelitis
- Metabolic bone diseases
- Paget's disease
- **Imaging of acute myocardial infarct**
- **Blood pool scintigraphy**
- **Spleen scintigraphy**

4.2 Posology and method of administration

4.2.1 Posology

For intravenous use. The recommended doses are in the range of 300 – 500 MBq of ^{99m}Tc-PYRON depending on the type of the test.

4.2.2 Method of administration

Three different labelling procedures are available for ^{99m}Tc-PYRON depending on the type of the test.

Bone scintigraphy and acute myocardial infarct

^{99m}Tc-labelled pyrophosphate can be directly used for imaging. Content of Pyron injection vials should be labelled by using 1.3–3.0 GBq of ^{99m}Tc-pertechnetate and the labelled preparation can be divided to 3 – 6 single doses. The recommended individual patient dose of ^{99m}Tc- pyrophosphate is 300 – 500 MBq.

For paediatric examination use Webster's equation, which is given below, to determine the activity to be administered and see Chapter 4.3. (Contraindications).

$$A_{child} = \frac{[(N+1) \cdot A_{adult}]}{N+7}$$

where *N* age of the child [year]
A_{child} activity [MBq]

Blood pool scintigraphy:

Pre-treat red blood cells in vitro as follows. Add 2 – 5 ml sterile 0.9 sodium-chloride solution to the content of Pyron injection vial. After dissolution divide it to 1 – 2 portions and administer intravenously to the patient. Wait 15 – 30 minutes.

After waiting time, administer intravenously to the patient 300 – 400 MBq of ^{99m}Tc-pertechnetate obtained from a generator as eluent. This will label the red blood cells pretreated with pyrophosphate.

Spleen scintigraphy:

Pre-treat red blood cells in vitro as follows. Add 2 – 5 ml sterile 0.9 sodium-chloride solution to the content of Pyron injection vial. After dissolution divide it to 3 – 6 portions and administer intravenously to the patient. Wait 15 – 30 minutes.

After waiting time, take 10 ml blood into a sterile centrifuge tube containing anticoagulant (for example, heparin or sodium-citrate). To separate the red blood cells centrifuge the blood and remove the blood serum. Add 75 -100 MBq ^{99m}Tc-pertechnetate to the suspension in a volume equivalent to the volume of the suspension. Homogenise, then incubate the labelled red blood cells at 49.5°C for 20 minutes (degradation). Allow to cool to room temperature. Now, the labelled red blood cells, which accumulate in the spleen, are ready to be reinjected to the patient.

4.2.3 Method of examination

Recommended times for imaging by using gamma camera or scanner are specified below.

- **Bone scintigraphy:** 3 – 4 hours after administration
- **Acute myocardial infarct:** 30 – 60 minutes after administration
- **Blood pool scintigraphy:** 15 minutes after administration
- **Spleen scintigraphy:** 30 – 60 minutes after reinjection

4.3 Contraindications

RELATIVE CONTRAINDICATIONS:

- below 18 years of age
 - pregnancy or lactation,
- except if the necessity and importance of obtaining the diagnostic information prevails the risk originating from the radiation exposure

ABSOLUTE CONTRAINDICATION:

- if the patient does not provide an oral or written consent of being examined by using radionuclide

4.4 Special warnings and special precautions for use

This drug product contains radioactive isotope. For handling, shipping and storage of this product the rules and regulations referring to the radioactive materials should be observed. This drug product can only be applied by properly qualified and trained personnel within designated clinical settings, which possess the appropriate government authorisation for the use and manipulation of radioisotopes.

4.5 Interaction with other medicinal products and other forms of interaction

None stated.

4.6 Pregnancy, lactation and paediatrics

4.6.1 Pregnancy and lactation

Administration of the product to pregnant or lactating women is contraindicated unless the necessity and importance of acquiring the information prevails the risk originating from the radiation exposure.

The product can be administered to women of childbearing age after the possibility of pregnancy has been precluded. It is recommended to treat these women in the first 10 days after menstruation.

4.6.2 Paediatrics

This medicinal product must not be administered to patients below 18 years of age, unless the necessity and importance of acquiring the information prevails the risk originating from the radiation exposure.

4.7 Effects on ability to drive and use machines

The product has no direct influence on ability of car driving or working in hazardous circumstances. In occurrence of unexpected side effects, the ability to drive and the aptitude to work amidst accident risk are to be reconsidered.

4.8 Undesirable effects

Appearance of undesirable effects or symptoms is not expected.

4.9 Overdose

No case of overdose has been reported. In the unlikely event of overdose the vital functions of the patient should be supported.

The patient and her/his environment receive surplus absorbed radiation dose if higher radioactivity than the prescribed value is administered. This is unnecessary and must be avoided.

In case of incidental overdose, the effectively administered activity of ^{99m}Tc must be determined (in MBq) and the actual absorbed radiation dose must be calculated by using the data of the dosimetric table of Chapter 5.4. On the strength of the results, the necessity and method of further treatment should be concluded.

The table of Chapter 5.4 contains absorbed radiation dose data in µGy in case of intravenous administration of 1 MBq of ^{99m}Tc-PYRON. Multiply these specific absorbed radiation dose data by the effectively administered activity (in MBq) to obtain the required absorbed radiation dose data in µGy.

Quantity of ^{99m}Tc-PYRON introduced to one patient is not less than 4.17 mg and not more than 12.5 mg if administration is complying with the recommendations. If the whole content of the vial containing the labelled substance is administered to one patient by mistake 25 mg of ^{99m}Tc-PYRON is introduced in the body.

Acute toxicity studies on mice showed that there are not any clinical symptoms, if less than 5 mg/kg of bodyweight is administered.

If the whole content of the vial containing the labelled substance is administered to one patient by mistake, it represents 0.357 mg/kg of bodyweight level (calculated on 70 kg average bodyweight). This is equivalent to 7.14 % of the no observed effect level. Thus, no toxic effects are expected in case of overdose.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

After administered intravenously the labelled ^{99m}Tc-pyrophosphate, which behaves similarly to ^{99m}Tc -diphosphonates (e.g. methylene-diphosphonate, 1-hydroxy-ethylidene-1,1-diphosphonate), leaves the blood and concentrates mainly in the skeleton, but it visibly appears in the liver as well. The mechanism of the bone uptake is ion exchange and chemisorption in the inorganic matrix of the bone, in the ionic hydroxy-apatite [Ca₁₀(PO₄)₆(OH)₂]. Phosphate groups on the surface of the bone matrix take part in an ion exchange reaction with the free -PO₃Na₂ groups of pyrophosphate co-ordinated to technetium. This way radioactive ^{99m}Tc is bounded on the bone matrix. This process takes place in case of normal bone function as well a sin case of altered bone function. However, adsorption significantly more extensive at sites where

- the blood supply of the bone is increased,
- the bone formation activity (osteoblast function) is increased.

Therefore, at sites of bone lesions (primer tumours, metastases, splitting and fractions of the bone, inflamed bone) increased radioactivity can be observed, which enables imaging.

A similar uptake mechanism is presumable in case of acute myocardial infarct. Calcium and phosphate build in the necrotic tissues, this offers the possibility of chemisorption of ^{99m}Tc-pyrophosphate. Since the calcium and phosphate infiltration is intensive only in case of infarct not older than 72 hours, positive response can be obtained by imaging exclusively in such cases. To have an appraisable image the mass of the infarct should exceed 5 grams.

The reason of the appearance in the liver is that the enzymes of the liver split the P-O-P bonds in ^{99m}Tc-pyrophosphate and the complex compound transforms into reduced-hydrolysed technetium, which localises in the liver.

Approximately 45% of the intravenously administered ^{99m}Tc-pyrophosphate appears in the bone in the 4th hour after injection while 20% in the liver and 18% in the urine at the same time. Approximately 2% remains in the bloodstream, its 40% is bound to the red blood cells and 60% is present in the plasma.

However, stannous (II) pyrophosphate solution prepared from Pyron kit by dissolving the content of the vial in physiological saline has different pharmacological features. Stannous (II) pyrophosphate forms an adduct in two cases: 1) in vitro with the red blood cells separated from the blood 2) in vivo in case of intravenous administration. The ^{99m}Tc-pyrophosphate complex forms in vivo in the red blood cell – stannous (II) pyrophosphate adduct, therefore, more than 90% of the intravenously administered ^{99m}Tc-pertechnetate is localised in the red blood cells. ^{99m}Tc-pyrophosphate-labelled and heat-treated red blood cells are accumulated in the liver after reinjection.

5.2 Pharmacokinetic properties

50% of ^{99m}Tc-pyrophosphate administered intravenously leaves the bloodstream in 38 minutes, 83% in 4 hours. Meanwhile, 45% of the activity appears in the bones, 20% in the liver and 18% is excreted via the kidneys.

In case of myocardial infarct not older than 72 h, ^{99m}Tc-pyrophosphate localises in the necrotic tissues in 30-60 minutes, depending on the quantity and size of the necrotic tissues

Intravenously administered stannous (II) pyrophosphate not labelled with radioisotope is localised in the red blood cells in 10-15 minutes. 96% of ^{99m}Tc-pertechnetate injected thereafter appears in the red blood cells in 5 minutes and is still in bound state after 1 hour.

Red blood cells, which were previously labelled *in vitro* and degraded, are almost exclusively present in the spleen 30 minutes after reinjection.

5.3 Preclinical safety

Acute toxicity study on mice showed that no clinical symptoms can be observed up to 5 mg/ kg of bodyweight. Quantity of ^{99m}Tc-PYRON, if administration is complying with the recommendations, is not less than 4.17 mg and not more than 12.5 mg . If the whole content of the vial containing the labelled substance is administered to one patient by mistake, it represents 0.357 mg/kg of bodyweight level (calculated on 70 kg average bodyweight). This is equivalent to 7.14 % of the no observed effect level. Thus, there is no special hazard for humans and the use of the product is safe.

Further advantage of the product is that the activity of [^{99m}Tc]pertechnetate, which is in the range of 1.3 – 3.0 GBq, does not affect the radiochemical purity of the preparation. Quantity of radiochemical impurities is always less than 10 %, therefore the kit is safe from the point of view of labelling.

5.4 Radiation dosimetry

Individual patient dose 300 – 500 MBq. Estimated absorbed dose values of 1 MBq of the injection for an average body weight of 70 kg are given in the table below.

Organ	Absorbed dose [µGy / MBq]
Skeleton	12.2
Kidneys	1.6
Urinary bladder	13.3
Liver	3.3
Spleen (at spleen scintigraphy only)	5.4
Whole body	2.7

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Stannous chloride dihydrate, sodium chloride.

6.2 Incompatibilities

One component of PYRON kit is stannous chloride, which is a reducing agent. It reduces free pertechnetate, which is in +7 oxidation state, to +4 oxidation state, in which technetium readily forms complex with PYRON. It is important to keep away the content of the vials from moisture and oxidising agents, for example chemical oxidation agents or oxygen of the air. Alkaline media facilitate the oxidation of Sn(II) before the labelling reaction this is why the product is incompatible with bases.

As a result of these incompatibilities it is recommended to remove the closure of the closed injection vials just before the labelling reaction. Perform the labelling by observing the instructions of Chapter 6.6.

6.3 Shelf life

PYRON kit consists of freeze-dried, non-radioactive components in injection vials, which are closed with rubber stopper and aluminium cap. Shelf life of PYRON kit is 12 month from the date of the manufacture. One paper box contains 6 of injection vials, which can be labelled at different times within the expiry time. ^{99m}Tc-labelled PYRON is the ^{99m}Tc-PYRON injection, which has a shelf life of 3 hours.

6.4 Special precautions for storage

Store PYRON kit in its own paper box at room temperature, protected from light and oxidising agents.

Store ^{99m}Tc-PYRON injection at room temperature. Comply with the regulations for radiation safety.

6.5 Nature and contents of container

6.5.1 Packaging material

PYRON kit is composed of injection vials, which contain the sterile, pyrogen-free and freeze-dried components (See Composition). The BEKA type 6 ml injection vials are closed with rubber stopper and tear-off aluminium cap. The labelled vials are supplied in a white, 150 x 100 x 60 mm carton box. Position of the vials inside the box is fixed by a carton insert, which prevents the moving of the vials. One box contains six pieces of vials. Labelling of the content of the individual vials can be performed at different times. The white paper box is packed in foil.

6.5.2 Pack size

6 of injection vials in one paper box

6.5.3 Content of the packaging

6 pieces of injection vials

1 piece of Summary of Product Characteristics

6.6 Instruction for use and handling

Remove the protective foil and lift up the upper part of the paper box to access the vials.

Bone scintigraphy and acute myocardial infarct tests

Only ^{99m}Tc-labelled pyrophosphate can be administered to the patient. ^{99m}Tc- Pyron is a solution containing radioactive isotope. For handling, shipping and storage of this product the rules and regulations referring to the radioactive materials should be observed. Radioactive labelling reaction is to be carried out as follows.

Place one vial containing the freeze-dried powder in a small lead pot of 3 mm wall thickness . Inject 2 - 5 ml of sterile ^{99m}Tc - pertechnetate (1.3 - 3.0 GBq) into the vial through the rubber stopper with a sterile single-use

syringe under aseptic circumstances. Mix and allow standing at room temperature for 15 minutes. The obtained ^{99m}Tc-labelled pyrophosphate can be administered intravenously. pH of the labelled preparation is in the range of pH = 5.0 – 7.0. The solution should be used within 3 hours from labelling. Within this period the quantity of the radiochemical impurities does not exceed 10%.

Blood pool scintigraphy

For blood pool scintigraphy content of PYRON vial is dissolved in physiological saline and administered to patient directly.

red blood cells should be pretreated in vivo as follows. Dissolve the content of PYRON injection vial in 2 – 5 ml of 0.9% sodium chloride solution, divide it 1 – 2 single dose and administer intravenously to the patient. After 15 – 30 minutes, administer intravenously 300 – 400 MBq ^{99m}Tc – pertechnetate obtained as generator eluate to the patient. This labels the red blood cells pretreated with pyrophosphate.

Spleen scintigraphy

For spleen scintigraphy content of PYRON vial is dissolved in physiological saline and administered to patient directly.

Pretreat red blood cells in vitro as follows. Add 2 – 5 ml sterile 0.9 sodium-chloride solution to the content of Pyron injection vial. After dissolution divide it to 3 – 6 portion and administer intravenously to the patient. Wait 15 – 30 minutes.

After waiting time, take 10 ml blood into a sterile centrifuge tube containing anticoagulant (for example, heparin or sodium-citrate). To separate the red blood cells centrifuge the blood and remove the blood serum. Add -100 MBq ^{99m}Tc-pertechnetate to the suspension in a volume equivalent to the volume of the suspension. Homogenise, then incubate the labelled red blood cells at 49.5°C for 20 minutes (degradation). Allow to cool to room temperature. Now, the labelled red blood cells, which accumulate in the spleen, are ready to be reinjected to the patient.

The labelled preparation should be used within 3 hours from labelling. Within this period the quantity of the radiochemical impurities does not exceed 10%. If there are quality problems or side effects, these should be reported to the National Institute of Pharmacy by using the documents, which were established for this purpose (Registration of non-expected side effect, Registration of quality problem).

6.6.1 Control of the drug product

6.6.1.1 Principle

Radiochemical purity of ^{99m}Tc-PYRON is tested by using paper chromatography and thin layer chromatography.

6.6.1.2 Method

Stationary phases

Whatman 3MM (catalogue code: 3030 917) 1.5 x 20cm paper strips.

ITLC SG (Gelman Sciences, catalogue code: 61886) 1.5 x 20 strips.

Mobile phases

Acetone

0.9% sodium-chloride solution

Temperature

Room temperature (20–25 °C)

Test solution

Fresh prepared ^{99m}Tc- PYRON injection is tested by two chromatographic processes.

6.6.1.3 Test

- Determination of free ^{99m}TcO₄⁻ by paper chromatography

Use 3 pieces of 1.5 x 20 cm paper strips. Apply to the strips 5 – 5 µl (approximately 1 MBq/µl) of the solution to be tested at 1.5 cm from the end of the paper. Develop the strips over a 15 cm path in acetone.

Evaluation

Dry the strips and impregnate them with 5% polystyrene solution. Determine the radioactivity by using a scanner. Radiochemical purity is calculated by using the data of three replicates.

Information on R_r values:

Labelled ^{99m}Tc-PYRON complex + reduced ^{99m}Tc + hydrolysed ^{99m}Tc : 0-0.3

Free ^{99m}TcO₄⁻ : 0.8-1

- Determination of reduced and hydrolysed ^{99m}Tc by thin layer chromatograph

Use 3 pieces of 1.5 x 20 cm ITLC SG strips. Apply to the strips 5 – 5 µl (approximately 1 MBq/µl) of the solution to be tested at 1.5 cm from the end of the paper. Develop the strips over a 15 cm path in 0.9% sodium-chloride solution.

Evaluation

Dry the strips and impregnate it with 5 % polystyrene solution. Determine the radioactivity by using a scanner. Radiochemical purity is calculated by using the data of three replicates.

Information on R_r values:

Reduced ^{99m}Tc + hydrolysed ^{99m}Tc 0.3- 0.4

Labelled complex + free ^{99m}TcO₄⁻ 0.7-1.0

- Calculate the radiochemical purity (H) by using the following equation:

$$H = 100 \cdot \left(1 - \frac{A'_{PK}}{A_{PK}} - \frac{A'_{VRK}}{A_{VRK}} \right)$$

where

H radiochemical purity [%]

A'_{PK} peak area of the impurity - free ^{99m}TcO₄⁻ on the paper chromatogram

A_{PK} total peak area on the paper chromatogram

A'_{VRK} peak area of the impurity – reduced and hydrolysed ^{99m}Tc – on the thin layer chromatogram

A_{VRK} total peak area on the thin layer chromatogram

Radiochemical purity at expiry date is not less than 90%

6.6.2 Handling of radioactive waste

The remainder of the solution and strips should be stored as radioactive waste according to the regulations for radiation safety.

7 MARKETING AUTHORIZATION HOLDER

 **Institute of Isotopes Co. Ltd.**

121 Budapest, Konkoly Thege Miklós str. 29-33.

 1536 Budapest, P.O.B. 851.

Tel.: 36 1 392 2577; 395 9081

Fax: 36 1 395 9247; 392 2575

E-mail: commerce@izotop.hu

Home page: www.isotope-inst.com

8 MARKETING AUTHORIZATION NUMBER

OGYI-T- 9246/01

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

a.) Renewal: 11.03.2004.

b.) First authorisation: 22.01.1982.

10 DATE OF REVISION OF THE TEXT

17.04.2003.

Authorization number of the original Hungarian SmPC: 6553/40/04

This SmPC was translated by the manufacturer based on the original Hungarian document.

Patient information leaflet

Read all of this leaflet carefully because it contains important information for you about your medicine.

Ask your doctor if you need more information or advice. Keep this leaflet. You may need to read it again.

In this leaflet:

- What TECHNETIUM-PYRON INJECTION is and what it is used for
- Before you are given TECHNETIUM-PYRON INJECTION
- How is TECHNETIUM-PYRON INJECTION used
- Possible side effects
- Storing TECHNETIUM-PYRON INJECTION

TECHNETIUM-PYRON INJECTION, which is an injectable solution for intravenous use, contains ^{99m}Tc-technetium radioisotope. In case of certain test PYRON INJECTION is administered in non-radioactive form, and labelling with radioactive isotope is performed later. Active ingredient of this medicine is ^{99m}Tc-technetium-pyrophosphate. Other ingredients are stannous chloride and sodium chloride.

Marketing Authorisation Holder of TECHNETIUM-PYRON INJECTION:

Institute of Isotopes Co. Ltd.

H-1121 Budapest, Konkoly Thege Miklós út 29–33. Hungary

Manufacturer of TECHNETIUM-PYRON INJECTION:

Institute of Isotopes Co. Ltd.

H-1121 Budapest, Konkoly Thege Miklós út 29–33. Hungary

1 WHAT TECHNETIUM-PYRON INJECTION IS AND WHAT IT IS USED FOR

TECHNETIUM-PYRON INJECTION is a radiopharmaceutical preparation which can be used for diagnostic purposes only. This product can be utilized only at the departments of nuclear medicine. TECHNETIUM-PYRON INJECTION is a colourless solution. This medicine is administered to the human body intravenously.

The active substance contains a small amount of radioactive material, which can be detected outside the body by using special cameras. These devices can take pictures (scan) of the distribution and moving of the radioactive isotope in the body (imaging), whereby organs become visible on the scans. This provides valuable information to your doctor about the structure and function of the organs.

What TECHNETIUM-PYRON INJECTION is used for?

After TECHNETIUM-PYRON INJECTION was intravenously administered to you, it is spread in you body and accumulates in certain organs. This happens in case of bone scintigraphy and test of acute myocardial infarct. During blood pool test, first Pyron injection is administered to you and after that the radioactive injection. During spleen test, first Pyron injection is administered to you, after that a blood sample is taken from you. The red blood cells in the blood sample are labelled in vitro with the radioactive isotope and then the labelled red blood cells are administered to you.

These make possible nuclear imaging which helps your doctor to find the best treatment for you.

This medicinal product is for diagnostic use only.

2 BEFORE YOU ARE GIVEN TECHNETIUM-PYRON INJECTION

2.1 Special warnings and special precautions

Comply with the instructions of your physician both before and after the examination to avoid radiation exposure of other people and radioactive contamination of the environment. The radioactive isotope is excreted in the urine, faeces and other secretion and it can temporarily pollute the environment.

2.2 Pregnancy and breast-feeding

Please inform your doctor if you are pregnant or are breast-feeding an infant.

In these cases your doctor will consider the necessity and importance of the radioisotope diagnostics. The radioisotope can be dangerous to the foetus and the infant, and it is excreted in mother's milk. Therefore, it is possible that your doctor will choose other, non-radioactive method. Trust your doctor, because the decision will be made in accordance with strict regulations.

If you are breast-feeding and it was decided that you will be examined with this product, you should stop breast-feeding for a period, which is recommended by your doctor. During this time the radioactive isotope will disappear from your body. The infant should receive artificial nutrition but the breast milk should be expressed and collected. A person, who was trained for this purpose, will manage it and the mother's milk will be handled and annihilated as radioactive waste.

You can restart breast-feeding when the radiation dose for the child is less than 1 mSv. You doctor will decide about the restarting.

2.3 Paediatrics

TECHNETIUM-PYRON INJECTION should not be used in patients below 18 years of age. Your doctor will consider the necessity and importance of the radioisotope diagnostics.

2.4 Driving and using machines

TECHNETIUM-PYRON INJECTION has no influence on the ability to drive and use machines.

2.5 Important information about TECHNETIUM-PYRON INJECTION

When you are given TECHNETIUM-PYRON INJECTION you receive a small amount of radiation. The absorbed dose in this case is usually smaller than those of certain X-ray examinations. Your doctor will always consider the possible risks and advantages.

YOU SHOULD CHECK WITH YOUR DOCTOR BEFORE THE ADMINISTRATION OF THIS PRODUCT IF YOU ARE UNSURE.

Taking other medicines:

TO AVOID DRUG INTERACTIONS YOU SHOULD TELL YOUR DOCTOR ABOUT ALL OTHER MEDICINE THAT YOU ARE TAKING OR PLAN TO TAKE, INCLUDING THOSE OBTAINED WITHOUT A PRESCRIPTION.

3 HOW IS TECHNETIUM-PYRON INJECTION GIVEN?

This medicinal product is administered intravenously. The dose, technique and time of imaging are functions of the severity of your disease and the purpose of the examination; therefore, your physician determines them.

What to do in case of overdose?

Use of TECHNETIUM-PYRON INJECTION is strictly controlled, thus; the probability of overdose is low. In the unlikely event of overdose, your doctor will advise you to drink lots of liquid, which will accelerate the elimination of the drug from your body. You should take all necessary precautions against the contamination of your environment with radioactivity. Comply with the instructions of your physician about the collection of the breast milk, urine and faeces. There are standard regulations for those cases when diagnostic radiopharmaceuticals are used.

TECHNETIUM-PYRON INJECTION, which is temporarily present in the body and the excreted material lose their radioactivity in a natural way.

There are strict rules and regulations referring to the handling, shipping and storage of radioactive materials. Therefore, TECHNETIUM-PYRON INJECTION can only be used in designated clinical settings or institutes. Only people who are specialised to handle, use and annihilate this injection and are properly trained to manage radioactive materials can deal with this medicine. These people instruct you about the precautions and warnings. Comply with their instructions.

4 POSSIBLE SIDE EFFECTS OF TECHNETIUM-PYRON INJECTION

Appearance of side effects and undesirable symptoms are not expected.

Such amount of radioactivity that is administered to you is small and leaves your body in several days without any intervention.

If you have any problem or you are unsure, consult your doctor.

IF YOU NOTICE ANY SIDE EFFECTS, PLEASE INFORM YOUR DOCTOR.

5 STORING TECHNETIUM-PYRON INJECTION

Staff of the hospital is responsible for the storage of the product and for avoidance of administering expired product.

Keep out of the reach and sight of children and people who are not authorized to handle, use or transport this product.

Store at room temperature, at 15 – 25 °C, in its own container. Storage conditions and expiry date is indicated on the label of the vial containing the medicine.

This leaflet was prepared on 10.06.2003.

Additional information

The information given above is a brief summary. For further information about TECHNETIUM-PYRON INJECTION ask your doctor.

For any information about this medicinal product, please contact the local representative of the Marketing Authorisation Holder (Institute of Isotopes Co. Ltd.)

Authorization number of this leaflet: 6553/40/04

Marketing authorization number: **OGYI-T- 9246/01**

This leaflet was translated by the manufacturer based on the original Hungarian document.