

**ANNEX I**  
**SUMMARY OF PRODUCT CHARACTERISTICS**

## **1. NAME OF THE MEDICINAL PRODUCT**

Striascan 74 MBq/mL solution for injection

## **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Each mL of solution contains 74 MBq of ioflupane (<sup>123</sup>I) at reference time (0.07 to 0.13 µg/mL of ioflupane).

Each 2.5 mL single dose vial contains 185 MBq ioflupane (<sup>123</sup>I) (specific activity range 2.5 to 4.5 x 10<sup>14</sup> Bq/mmol) at reference time.

Each 5 mL single dose vial contains 370 MBq ioflupane (<sup>123</sup>I) (specific activity range 2.5 to 4.5 x 10<sup>14</sup> Bq/mmol) at reference time.

Iodine-123 has a physical half-life of 13.2 hours. It decays emitting gamma radiation with a predominant energy of 159 keV and X-rays of 27 keV.

For the full list of excipients see section 6.1.

## **3. PHARMACEUTICAL FORM**

Solution for injection.

Clear colourless solution.

## **4. CLINICAL PARTICULARS**

### **4.1 Therapeutic indications**

This medicinal product is for diagnostic use only.

Striascan is indicated for detecting loss of functional dopaminergic neuron terminals in the striatum:

- In adult patients with clinically uncertain parkinsonian syndromes, for example those with early symptoms, in order to help differentiate essential tremor from parkinsonian syndromes related to idiopathic Parkinson's disease, multiple system atrophy and progressive supranuclear palsy. Striascan is unable to discriminate between Parkinson's disease, multiple system atrophy and progressive supranuclear palsy.
- In adult patients, to help differentiate probable dementia with Lewy bodies from Alzheimer's disease. Striascan is unable to discriminate between dementia with Lewy bodies and Parkinson's disease dementia.

### **4.2 Posology and method of administration**

Striascan should only be used in adult patients referred by physicians experienced in the management of movement disorders and/or dementia.

This medical product is for use in hospitals or in designated nuclear medicine facilities only.

### Posology

Clinical efficacy has been demonstrated across the range 110 to 185 MBq. Do not exceed 185 MBq and do not use when the activity is below 110 MBq.

Patients must undergo appropriate thyroid blocking treatment prior to injection to minimise thyroid uptake of radioactive iodine, for example by oral administration of approximately 120 mg potassium iodide 1 to 4 hours prior to injection of Striascan.

### Special populations

#### *Renal and hepatic impairment*

Formal studies have not been carried out in patients with significant renal or hepatic impairment. No data are available (see section 4.4).

Careful consideration of the activity to be administered is required since an increased radiation exposure is possible in these patients.

#### *Paediatric population*

The safety and efficacy of Striascan in children and adolescents aged 0 to 18 years has not been established. No data are available.

### Method of administration

Striascan is for intravenous use.

For patient preparation, see section 4.4.

### Precautions to be taken before handling or administering the medicinal product

Striascan should be used without dilution. To minimise the potential for pain at the injection site during administration, a slow intravenous injection (not less than 15 to 20 seconds) via an arm vein is recommended.

### Image acquisition

SPECT imaging should take place between three and six hours post-injection.

Images should be acquired using a gamma camera fitted with a high-resolution collimator and calibrated using the 159 keV photopeak and a  $\pm 10\%$  energy window. Angular sampling should preferably be not less than 120 views over 360 degrees.

For high resolution collimators the radius of rotation should be consistent and set as small as possible (typically 11-15 cm). Experimental studies with a striatal phantom, suggest that optimal images are obtained with matrix size and zoom factors selected to give a pixel size of 3.5-4.5 mm for those systems currently in use. A minimum of 500 k counts should be collected for optimal images.

## **4.3 Contraindications**

- Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.
- Pregnancy (see section 4.6).

## **4.4 Special warnings and precautions for use**

### Potential for hypersensitivity or anaphylactic reactions

If hypersensitivity or anaphylactic reactions occur, the administration of the medicinal product must be discontinued immediately and intravenous treatment initiated, if necessary. To enable immediate action in emergencies, the necessary medicinal products and equipment such as endotracheal tube and ventilator must be immediately available.

### Individual benefit/risk justification

For each patient, the radiation exposure must be justifiable by the likely benefit. The activity administered should in every case be as low as reasonably achievable to obtain the required diagnostic information.

### Renal impairment / Hepatic impairment

Formal studies have not been carried out in patients with significant renal or hepatic impairment. In the absence of data, Striascan is not recommended in cases of moderate to severe renal or hepatic impairment.

Careful consideration of the benefit risk ratio in these patients is required since an increased radiation exposure is possible.

### Patient preparation

The patient should be well hydrated before the start of the examination and urged to void as often as possible during the first hours after the examination in order to reduce radiation.

### Interpretation of Striascan Images

Striascan images are interpreted visually, based upon the appearance of the striata.

Optimum presentation of the reconstructed images for visual interpretation is transaxial slices parallel to the anterior commissure-posterior commissure (AC-PC) line. Determination of whether an image is normal or abnormal is made by assessing the extent (as indicated by shape) and intensity (in relation to the background) of the striatal signal.

Normal images are characterised by two symmetrical crescent-shaped areas of equal intensity. Abnormal images are either asymmetric or symmetric with unequal or reduced intensity and/or loss of crescent.

As an adjunct, visual interpretation may be assisted by semi-quantitative assessment using CE-marked software, where Striascan uptake in the striatum is compared with uptake in a reference region and ratios are compared against an age adjusted healthy subjects' database. The evaluation of ratios, such as the left/right striatum Striascan uptake (symmetry) or caudate/putamen uptake, may further help with the image assessment.

The following precautions should be taken when using semi-quantitative methods:

- Semi-quantification should only be used as an adjunct to visual assessment
- Only CE marked software should be used
- Users should be trained in the use of CE marked software by the manufacturer and follow EANM practice guidelines for image acquisition, reconstruction and assessment
- Readers should interpret the scan visually and then perform the semi-quantitative analysis according to manufacturer's instructions including quality checks for the quantitation process
  - ROI /VOI techniques should be used to compare uptake in the striatum with uptake in a reference region
  - Comparison against an age adjusted healthy subjects database is recommended to account for age-expected decrease in striatal binding
  - The reconstruction and filter settings (including attenuation correction) used can affect the semi-quantitative values. The reconstruction and filter settings recommended by the manufacturer of the CE marked software should be followed and should match those used for semi-quantification of the healthy subjects database.
  - The intensity of the striatal signal as measured by SBR (striatal binding ratio) and asymmetry and caudate to putamen ratio provide objective numerical values corresponding to the visual assessment parameters and can be helpful in difficult to read cases
  - If the semi-quantitative values are inconsistent with the visual interpretation, the scan should be evaluated for appropriate placement of the ROIs /VOIs, correct image orientation and appropriate parameters for image acquisition and attenuation correction should be verified. Some software packages can support these processes to reduce operator-dependent variability
  - Final assessment should always consider both visual appearance and semi-quantitative results

### Specific warnings

This medicinal product contains up to 197 mg of alcohol (ethanol) in each dose which is equivalent to 39.5 mg/mL (5% by volume). The amount in 5 mL of this medicinal product is equivalent to 5 mL beer or 2 mL wine. The small amount of alcohol in this medicinal product will not have any noticeable effects. This medicinal product contains less than 1 mmol sodium (23 mg) per vial, that is to say essentially 'sodium-free'.

Precautions with respect to environmental hazard see section 6.6.

## **4.5 Interaction with other medicinal products and other forms of interaction**

No interaction studies have been performed in humans.

Ioflupane binds to the dopamine transporter. Active substances that bind to the dopamine transporter with high affinity may therefore interfere with Striascan diagnosis. These include:

- amfetamine,
- benztropine,
- bupropion,
- cocaine,
- mazindol,
- methylphenidate,
- phentermine and
- sertraline.

Active substances shown during clinical trials not to interfere with Striascan imaging include:

- amantadine,
- trihexyphenidyl,
- budipine,
- levodopa,
- metoprolol,
- primidone,
- propranolol and
- selegiline.

Dopamine agonists and antagonists acting on the postsynaptic dopamine receptors are not expected to interfere with Striascan imaging and can therefore be continued if desired. Medicinal products shown in animal studies not to interfere with Striascan imaging include pergolide.

## **4.6 Fertility, pregnancy and lactation**

### Women of childbearing potential

When an administration of radiopharmaceuticals to a woman of childbearing potential is intended, it is important to determine whether or not she is pregnant. Any woman who has missed a period should be assumed to be pregnant until proven otherwise.

If in doubt about her potential pregnancy (if the woman has missed a period, if the period is very irregular, etc.), alternative techniques not using ionising radiation (if there are any) should be offered to the patient.

### Pregnancy

Animal reproductive toxicity studies have not been performed with this product.

Radionuclide procedures carried out on pregnant women also involve radiation dose to the foetus.

Administration of 185 MBq of ioflupane (<sup>123</sup>I) results in an absorbed dose to the uterus of 2.6 mGy. Striascan is contraindicated in pregnancy (see section 4.3).

### Breastfeeding

It is not known whether ioflupane ( $^{123}\text{I}$ ) is excreted in human milk. Before administering radiopharmaceuticals to a mother who is breast-feeding, consideration should be given to the possibility of delaying the administration of radionuclide until the mother has ceased breastfeeding, and to what is the most appropriate choice of radiopharmaceuticals, bearing in mind the secretion of activity in breast milk.

If administration is considered necessary, breast-feeding should be interrupted for 3 days and substituted by formula feeding. During this time, breast milk should be expressed at regular intervals and the expressed feeds should be discarded.

### Fertility

No fertility studies have been performed. No data are available.

## **4.7 Effects on ability to drive and use machines**

Striascan has no known influence on the ability to drive and use machines.

## **4.8 Undesirable effects**

The following undesirable effects are recognised for ioflupane ( $^{123}\text{I}$ ).

Very common	( $\geq 1/10$ )
Common	( $\geq 1/100$ to $< 1/10$ )
Uncommon	( $\geq 1/1,000$ to $< 1/100$ )
Rare	( $\geq 1/10,000$ to $< 1/1,000$ )
Very rare	( $< 1/10,000$ )
Not known	(cannot be estimated from the available data)

Within each frequency grouping, undesirable effects are presented in order of decreasing seriousness.

<b>MedDRA Body system SOCs</b>	<b>Adverse reaction Preferred term</b>	<b>Frequency</b>
<b>Immune system disorders</b>	Hypersensitivity	Not known
<b>Metabolism and nutrition disorders</b>	Appetite increased	Uncommon
<b>Nervous system disorders</b>	Headache	Common
	Dizziness, formication (paraesthesia), dysgeusia	Uncommon
<b>Ear and labyrinth disorders</b>	Vertigo	Uncommon
<b>Vascular disorders</b>	Blood pressure decreased	Not known
<b>Respiratory, thoracic and mediastinal disorders</b>	Dyspnea	Not known
<b>Gastrointestinal disorders</b>	Nausea, dry mouth	Uncommon
	Vomiting	Not known
<b>Skin and subcutaneous tissue disorders</b>	Erythema, pruritus, rash, urticaria, hyperhidrosis	Not known
<b>General disorders and administration site conditions</b>	Injection site pain (intense pain or burning sensation following administration into small veins)	Uncommon
	Feeling hot	Not known

Exposure to ionising radiation is linked with cancer induction and a potential for development of hereditary defects. As the effective dose is 4.6 mSv when the maximal recommended activity of 185 MBq is administered these adverse events are expected to occur with a low probability.

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the national reporting system listed in [Appendix V](#).

## **4.9 Overdose**

In the event of administration of a radiation overdose, frequent micturition and defaecation should be encouraged in order to minimise radiation dose to the patient. Care should be taken to avoid contamination from the radioactivity eliminated by the patient using such methods.

## **5. PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic properties**

Pharmacotherapeutic group: Diagnostic radiopharmaceutical central nervous system, ATC code: V09AB03.

At the chemical concentrations used for diagnostic examinations, Striascan does not appear to have any pharmacodynamic activity.

### Mechanism of action

Ioflupane is a cocaine analogue. Studies in animals have shown that ioflupane binds with high affinity to the presynaptic dopamine transporter and so radiolabelled ioflupane ( $^{123}\text{I}$ ) can be used as a surrogate marker to examine the integrity of the dopaminergic nigrostriatal neurons. Ioflupane also binds to the serotonin transporter on 5-HT neurons but with lower (approximately 10-fold) binding affinity. There is no experience in types of tremor other than essential tremor.

### Clinical efficacy

Clinical studies in patients with dementia with Lewy bodies.

In a clinical trial including evaluation of 288 subjects with dementia with Lewy bodies (DLB) (144 subjects), Alzheimer's disease (124 subjects), vascular dementia (9 subjects) or other (11 subjects), the results of an independent, blinded visual assessment of the ioflupane ( $^{123}\text{I}$ ) images were compared to the clinical diagnosis as determined by physicians experienced in the management and diagnosis of dementias. Clinical categorisation into the respective dementia group was based on a standardised and comprehensive clinical and neuropsychiatric evaluation. The values for the sensitivity of ioflupane ( $^{123}\text{I}$ ) in determining probable DLB from non-DLB ranged from 75.0% to 80.2% and specificity from 88.6% to 91.4%. The positive predictive value ranged from 78.9% to 84.4% and the negative predictive value from 86.1% to 88.7%. Analyses in which both possible and probable DLB patients were compared with non-DLB dementia patients demonstrated values for the sensitivity of ioflupane ( $^{123}\text{I}$ ) ranging from 75.0% to 80.2% and specificity from 81.3% to 83.9% when the possible DLB patients were included as non-DLB patients. The sensitivity ranged from 60.6% to 63.4% and specificity from 88.6% to 91.4% when the possible DLB patients were included as DLB patients.

Clinical studies demonstrating adjunctive use of semi-quantitative information for image interpretation  
The reliability of using semi-quantitative information as an adjunct to visual inspection was analysed in four clinical studies where sensitivity, specificity or overall accuracy between the two methods of image interpretation were compared. In the four studies (total n=578), CE-marked DaTSCAN semi-quantitation software was used. The differences (i.e., improvements when adding semi-quantitative information to visual inspection) in sensitivity ranged between 0.1% and 5.5%, in specificity between 0.0% and 2.0%, and in overall accuracy between 0.0% and 12.0%.

The biggest of these four studies retrospectively assessed a total of 304 DaTSCAN exams from previously conducted Phase 3 or 4 studies, which included subjects with a clinical diagnosis of PS, non-PS (mainly ET), probable DLB, and non-DLB (mainly AD). Five nuclear medicine physicians who had limited prior experience with DaTSCAN interpretation assessed the images in 2 readings (alone and combined with semi-quantitative data provided by DaTQUANT 4.0 software) at least 1 month apart. These results were compared with the subject's 1-to 3-year follow-up diagnosis to determine diagnostic accuracy. The improvements in sensitivity and specificity [with 95% confidence intervals] were 0.1% [-6.2%,6.4%] and 2.0% [-3.0%,7.0%]. Also, the results of the combined reading were associated with an increase in reader confidence.

## **5.2 Pharmacokinetic properties**

### Distribution

Ioflupane ( $^{123}\text{I}$ ) is cleared rapidly from the blood after intravenous injection; only 5% of the administered activity remains in whole blood at 5 minutes post-injection.

### Organ uptake

Uptake in the brain is rapid, reaching about 7% of injected activity at 10 minutes post-injection and decreasing to 3% after 5 hours. About 30% of the whole brain activity is attributed to striatal uptake.

### Elimination

At 48 hours post-injection, approximately 60% of the injected radioactivity is excreted in the urine, with faecal excretion calculated at approximately 14%.



### **5.3 Preclinical safety data**

Non-clinical data for ioflupane reveal no special hazard for humans based on conventional studies of safety pharmacology, single and repeated dose toxicity and genotoxicity. Studies on reproductive toxicity and to assess the carcinogenic potential of ioflupane have not been performed.

#### Environmental Risk Assessment (ERA)

After use, all materials associated with the preparation and administration of radiopharmaceuticals, including any unused product and its container, should be decontaminated or treated as radioactive waste and disposed of in accordance with the conditions specified by the local competent authority. Contaminated material must be disposed of as radioactive waste via an authorised route.

## **6. PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Acetic acid, glacial (E 260)  
Sodium acetate, trihydrate (E 262)  
Ethanol, anhydrous (E 1510)  
Phosphoric acid, concentrated (E 338)  
Water for injections

### **6.2 Incompatibilities**

In the absence of compatibility studies, this medicinal product must not be mixed with other medicinal products.

### **6.3 Shelf life**

#### 2.5 mL vial

35 hours from the end of synthesis (7 hours from the activity reference time stated on the label)

#### 5 mL vial

48 hours from the end of synthesis (20 hours from the activity reference time stated on the label)

### **6.4 Special precautions for storage**

Do not store above 25°C. Do not freeze.  
Store in the original lead shielding.

Storage of radiopharmaceuticals should be in accordance with national regulation on radioactive materials.

### **6.5 Nature and contents of container**

15 mL amber glass vial sealed with a rubber closure and metal overseal.  
The vial is placed into a lead container for protective shielding and packed in a metal box.

Pack size: 1 vial containing 2.5 mL or 5 mL of solution.

Not all pack sizes may be marketed.

## **6.6 Special precautions for disposal and other handling**

### General warning

Radiopharmaceuticals should be received, used and administered only by authorised persons in designated clinical settings. Their receipt, storage, use, transfer and disposal are subject to the regulations and/or appropriate licences of the competent official organisation.

Radiopharmaceuticals should be prepared in a manner which satisfies both radiation safety and pharmaceutical quality requirements. Appropriate aseptic precautions should be taken.

If at any time in the preparation of this product the integrity of this vial is compromised it should not be used.

Administration procedures should be carried out in a way to minimise risk of contamination of the medicinal product and irradiation of the operators. Adequate shielding is mandatory.

The administration of radiopharmaceuticals creates risks for other persons from external radiation or contamination from spill of urine, vomiting etc. Radiation protection precautions in accordance with national regulations must therefore be taken.

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

## **7. MARKETING AUTHORISATION HOLDER**

CIS bio international  
RN 306 – Saclay  
B.P. 32  
F-91192 Gif-sur-Yvette Cedex

## **8. MARKETING AUTHORISATION NUMBER(S)**

EU/1/19/1372/001 (2.5 mL)  
EU/1/19/1372/002 (5 mL)

## **9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorisation: 25 June 2019

## **10. DATE OF REVISION OF THE TEXT**

## **11. DOSIMETRY**

The biokinetic model for ioflupane ( $^{123}\text{I}$ ) adopted by ICRP 128 ((International Commission on Radiological Protection, 2015) assumes initial uptake of 31% of the administered activity in the liver, 11% in the lungs, and 4% in the brain. The rest is assumed to be distributed uniformly in the remaining organs and tissues. For all organs and tissues, 80% is assumed to be excreted with a biological half-time of 58 h, and 20% with a half-time of 1.6 h. It is further assumed that 60% of the injected activity is excreted to the urine, and 40% is excreted to the gastrointestinal tract for all organs and tissues. Activity in the liver is excreted according to the Publication 53 gallbladder model (ICRP, 1987), where 30% is eliminated via the gallbladder and the remainder passes directly into the small intestine.

The estimated absorbed radiation doses to an average adult patient (70 kg) from intravenous injection of ioflupane ( $^{123}\text{I}$ ) are listed below according to ICRP 128.

The values are calculated assuming urinary bladder emptying at 4.8-hour intervals and appropriate thyroid blocking (Iodine-123 is a known Auger electron emitter)

<b>Organ</b>	<b>Absorbed radiation dose <math>\mu</math> Gy/MBq</b>
Adrenals	17
Bone surfaces	15
Brain	16
Breasts	7.3
Gallbladder wall	44
Gastrointestinal tract	
Stomach wall	12
Small intestine wall	26
Colon wall	59
(Upper large intestine wall )	57
(Lower large intestine wall)	62
Heart wall	32
Kidneys	13
Liver	85
Lungs	42
Muscle	8.9
Oesophagus	9.4
Ovaries	18.0
Pancreas	17.0
Red marrow	9.3
Salivary glands	41.0
Skin	5.2
Spleen	26.0
Testes	6.3
Thymus	9.4
Thyroid	6.7
Urinary bladder wall	35.0
Uterus	14.0
Remaining organs	10.0
<b>Effective Dose</b>	<b>25.0 <math>\mu</math> Sv/MBq</b>

The effective dose (E) resulting from administration of 185 MBq of Striascan injection is 4.6 mSv (per 70 kg individual). The above data are valid in normal pharmacokinetic behaviour. When renal or hepatic function is impaired, the effective dose and the radiation dose delivered to organs might be increased. For an administered activity of 185 MBq the typical radiation dose to the target organ (brain) is 3 mGy and the typical radiation doses to the critical organs: liver and colon wall are 16 mGy and 11 mGy, respectively.

## 12. INSTRUCTIONS FOR PREPARATION OF RADIOPHARMACEUTICALS

Not relevant.

Detailed information on this medicinal product is available on the website of the European Medicines Agency <http://www.ema.europa.eu>.

## **ANNEX II**

- A. MANUFACTURER(S) RESPONSIBLE FOR BATCH RELEASE**
- B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE**
- C. OTHER CONDITIONS AND REQUIREMENTS OF THE MARKETING AUTHORISATION**
- D. CONDITIONS OR RESTRICTIONS WITH REGARD TO THE SAFE AND EFFECTIVE USE OF THE MEDICINAL PRODUCT**

## **A. MANUFACTURER(S) RESPONSIBLE FOR BATCH RELEASE**

### Name and address of the manufacturer(s) responsible for batch release

CIS BIO International  
Route Nationale 306  
Saclay BP 32  
91192 Gif-Sur-Yvette  
FRANCE

## **B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE**

Medicinal product subject to restricted medical prescription (see Annex I: Summary of Product Characteristics, section 4.2).

## **C. OTHER CONDITIONS AND REQUIREMENTS OF THE MARKETING AUTHORISATION**

### **• Periodic safety update reports**

The requirements for submission of periodic safety update reports for this medicinal product are set out in the list of Union reference dates (EURD list) provided for under Article 107c (7) of Directive 2001/83/EC and any subsequent updates published on the European medicines web-portal.

## **D. CONDITIONS OR RESTRICTIONS WITH REGARD TO THE SAFE AND EFFECTIVE USE OF THE MEDICINAL PRODUCT**

### **• Risk Management Plan (RMP)**

The MAH shall perform the required pharmacovigilance activities and interventions detailed in the agreed RMP presented in Module 1.8.2 of the marketing authorisation and any agreed subsequent updates of the RMP.

An updated RMP should be submitted:

- At the request of the European Medicines Agency;
- Whenever the risk management system is modified, especially as the result of new information being received that may lead to a significant change to the benefit/risk profile or as the result of an important (pharmacovigilance or risk minimisation) milestone being reached.

**ANNEX III**  
**LABELLING AND PACKAGE LEAFLET**

## **A. LABELLING**

**PARTICULARS TO APPEAR ON THE OUTER PACKAGING**

**Metal Box / Lead Pot - 5 mL presentation**

**1. NAME OF THE MEDICINAL PRODUCT**

Striascan 74 MBq /mL solution for injection.  
ioflupane (<sup>123</sup>I)

**2. STATEMENT OF ACTIVE SUBSTANCE(S)**

Ioflupane (<sup>123</sup>I): 74 MBq/mL at reference time

**3. LIST OF EXCIPIENTS**

E 1510, E 260, E 262, E 338, water for injections.

**4. PHARMACEUTICAL FORM AND CONTENTS**

Solution for injection  
1 vial

Volume: 5 mL

370 MBq / vial DD/MM/YYYY      xx h xx CET

74 MBq / mL DD/MM/YYYY      xx h xx CET

**5. METHOD AND ROUTE(S) OF ADMINISTRATION**

Read the package leaflet before use.  
Intravenous use.

**6. SPECIAL WARNING THAT THE MEDICINAL PRODUCT MUST BE STORED OUT OF THE SIGHT AND REACH OF CHILDREN**

**7. OTHER SPECIAL WARNING(S), IF NECESSARY**

Radioactive medicine.  
Symbol of radioactivity

**8. EXPIRY DATE**

EXP: DD/MM/YYYY      xx h xx CET



**9. SPECIAL STORAGE CONDITIONS**

Do not store above 25° C.  
Do not freeze. Store in the original lead shielding.

**10. SPECIAL PRECAUTIONS FOR DISPOSAL OF UNUSED MEDICINAL PRODUCTS OR WASTE MATERIALS DERIVED FROM SUCH MEDICINAL PRODUCTS, IF APPROPRIATE**

Handling and disposal – see package leaflet.

**11. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER**

Marketing authorisation holder and manufacturer:  
CIS bio international  
BP 32  
F-91192 GIF-SUR-YVETTE CEDEX

**12. MARKETING AUTHORISATION NUMBER(S)**

5 mL EU/1/19/1372/002

**13. BATCH NUMBER**

Lot

**14. GENERAL CLASSIFICATION FOR SUPPLY**

Medicinal product subject to medical prescription.

**15. INSTRUCTIONS ON USE****16. INFORMATION IN BRAILLE**

Justification for not including Braille accepted.

**17. UNIQUE IDENTIFIER – 2D BARCODE**

Not applicable.

**18. UNIQUE IDENTIFIER - HUMAN READABLE DATA**

Not applicable.

**MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS**

**Vial – 5 mL presentation**

**1. NAME OF THE MEDICINAL PRODUCT AND ROUTE(S) OF ADMINISTRATION**

Striascan 74 MBq/mL solution for injection.  
ioflupane (<sup>123</sup>I)

I.V.

**2. METHOD OF ADMINISTRATION**

**3. EXPIRY DATE**

EXP: 20 h post-ref.

**4. BATCH NUMBER**

Lot

**5. CONTENTS BY WEIGHT, BY VOLUME OR BY UNIT**

Volume: 5 mL  
370 MBq / vial at ref. (see outer label)  
74 MBq / mL

**6. OTHER**

Symbol of radioactivity

Manufacturer name address

**CIS bio international**  
F-91192 GIF-SUR-YVETTE CEDEX

**PARTICULARS TO APPEAR ON THE OUTER PACKAGING**

**Metal Box / Lead Pot – 2.5 mL presentation**

**1. NAME OF THE MEDICINAL PRODUCT**

Striascan 74 MBq /mL solution for injection.  
ioflupane (<sup>123</sup>I)

**2. STATEMENT OF ACTIVE SUBSTANCE(S)**

Ioflupane (<sup>123</sup>I): 74 MBq/mL at reference time

**3. LIST OF EXCIPIENTS**

E 1510, E 260, E 262, E 338, water for injections.

**4. PHARMACEUTICAL FORM AND CONTENTS**

Solution for injection  
1 vial

Volume: 2.5 mL

185 MBq / vial DD/MM/YYYY      xx h xx CET

74 MBq / mL DD/MM/YYYY      xx h xx CET

**5. METHOD AND ROUTE(S) OF ADMINISTRATION**

Read the package leaflet before use.  
Intravenous use.

**6. SPECIAL WARNING THAT THE MEDICINAL PRODUCT MUST BE STORED OUT OF THE SIGHT AND REACH OF CHILDREN**

**7. OTHER SPECIAL WARNING(S), IF NECESSARY**

Radioactive medicine.  
Symbol of radioactivity

**8. EXPIRY DATE**

EXP: DD/MM/YYYY      xx h xx CET

**9. SPECIAL STORAGE CONDITIONS**

Do not store above 25° C.  
Do not freeze. Store in the original lead shielding.

**10. SPECIAL PRECAUTIONS FOR DISPOSAL OF UNUSED MEDICINAL PRODUCTS OR WASTE MATERIALS DERIVED FROM SUCH MEDICINAL PRODUCTS, IF APPROPRIATE**

Handling and disposal – see package leaflet.

**11. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER**

Marketing authorisation holder and manufacturer:  
CIS bio international  
BP 32  
F-91192 GIF-SUR-YVETTE CEDEX

**12. MARKETING AUTHORISATION NUMBER(S)**

2.5 mL EU/1/19/1372/001

**13. BATCH NUMBER**

Lot

**14. GENERAL CLASSIFICATION FOR SUPPLY**

Medicinal product subject to medical prescription.

**15. INSTRUCTIONS ON USE****16. INFORMATION IN BRAILLE**

Justification for not including Braille accepted.

**17. UNIQUE IDENTIFIER – 2D BARCODE**

Not applicable.

**18. UNIQUE IDENTIFIER - HUMAN READABLE DATA**

Not applicable.

**MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS**

**Vial – 2.5 mL presentation**

**1. NAME OF THE MEDICINAL PRODUCT AND ROUTE(S) OF ADMINISTRATION**

Striascan 74 MBq/mL solution for injection.  
ioflupane (<sup>123</sup>I)

I.V.

**2. METHOD OF ADMINISTRATION**

**3. EXPIRY DATE**

EXP: 7 h post-ref.

**4. BATCH NUMBER**

Lot

**5. CONTENTS BY WEIGHT, BY VOLUME OR BY UNIT**

Volume: 2.5 mL  
185 MBq / vial at ref. (see outer label)  
74 MBq / mL

**6. OTHER**

Symbol of radioactivity

Manufacturer name address

**CIS bio international**  
F-91192 GIF-SUR-YVETTE CEDEX

**B. PACKAGE LEAFLET**

## Package leaflet: Information for the patient

### Striascan 74 MBq/mL solution for injection ioflupane (<sup>123</sup>I)

**Read all of this leaflet carefully before you are given this medicine because it contains important information for you.**

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your nuclear medicine doctor who will supervise the procedure.
- If you get any side effects, talk to your nuclear medicine doctor. This includes any possible side effects not listed in this leaflet. See section 4.

#### What is in this leaflet

1. What Striascan is and what it is used for
2. What you need to know before Striascan is used
3. How Striascan is used
4. Possible side effects
5. How Striascan is stored
6. Contents of the pack and other information

#### 1. What Striascan is and what it is used for

This medicine is a radiopharmaceutical product for diagnostic use only.

Striascan contains the active substance ioflupane (<sup>123</sup>I) which is used to help identify (diagnose) conditions in the brain. It belongs to a group of medicines called “radiopharmaceuticals”, which contain a small amount of radioactivity.

- When a radiopharmaceutical is injected, it collects in a specific organ or area of the body for a short time.
- Because it contains a small amount of radioactivity it can be detected from outside the body using special cameras.
- A picture, known as a scan, can be taken. This scan will show exactly where the radioactivity is inside the organ and the body. This can give the doctor valuable information about how that organ is working.

Striascan is used only to identify illness. When this medicine is injected into a patient, it is carried around the body in the blood and collects in a small area of your brain. Changes in this area of the brain occur in:

- parkinsonism (including Parkinson’s disease) and
- dementia with Lewy bodies.

A scan will give your doctor information about any changes in this area of your brain. Your doctor may feel that the scan would help in finding out more about your condition and deciding on possible treatment.

When Striascan is used, you are exposed to small amounts of radioactivity. This exposure is less than in some types of X-ray investigation. Your doctor and the nuclear medicine doctor have considered that the clinical benefit of this procedure with the radiopharmaceutical outweighs the risk of being exposed to these small amounts of radiation.

## 2. What you need to know before Striascan is used

### Striascan must not be used

- if you are allergic to ioflupane or any of the other ingredients of this medicine (listed in section 6)
- if you are pregnant.

### Warnings and precautions

Talk to your nuclear medicine doctor before using this medicine if you have **moderate or severe problems** with your kidneys or liver.

**Before administration of Striascan you should drink** plenty of water before the start of the examination in order to urinate as often as possible during the first hours after the study.

### Children and adolescents

Striascan is not recommended for children and adolescents aged 0 to 18 years.

### Other medicines and Striascan

Tell your nuclear medicine doctor if you are taking or have recently taken any other medicines. Some medicines or substances can affect the way that this medicine works. These include:

- bupropion (used to treat depression (sadness))
- benztropine (used to treat Parkinson's disease)
- mazindol (reduces appetite, as a means to treat obesity)
- sertraline (used to treat depression (sadness))
- methylphenidate (used to treat hyperactivity in children and narcolepsy (excessive sleepiness))
- phentermine (reduces appetite, as a means to treat obesity)
- amfetamine (used to treat hyperactivity in children and narcolepsy (excessive sleepiness); also a drug of abuse)
- cocaine (sometimes used as an anaesthetic for nose surgery; also a drug of abuse)

Some medicines may reduce the quality of the picture obtained. The doctor may ask you to stop taking them for a short time before you receive Striascan.

### Pregnancy and breast-feeding

If you are pregnant or breast-feeding, think you may be pregnant or are planning to have a baby, ask your nuclear medicine doctor for advice before you are given this medicine.

You must inform the nuclear medicine doctor before the administration of Striascan if there is a possibility you might be pregnant, if you have missed your period or if you are breast-feeding. When in doubt, it is important to consult your nuclear medicine doctor who will supervise the procedure.

**If you are pregnant**, do not use Striascan. This is because the child may receive some of the radioactivity. Alternative techniques which do not involve radioactivity should be considered.

**If you are breast-feeding**, your nuclear medicine doctor may delay the use of this product or ask you to stop breast-feeding. It is not known whether ioflupane (<sup>123</sup>I) you are given is passed into breast milk.

- You should not breast-feed your child for 3 days after this product is given.
- Instead use formula feed for your child. Express your breast milk regularly and throw away any breast milk you have expressed.
- You will need to continue to do this for 3 days, until the radioactivity is no longer in your body.

### Driving and using machines

It is considered unlikely that Striascan will affect your ability to drive or to use machines.



**Striascan contains alcohol (ethanol):** up to 197 mg of alcohol in each dose which is equivalent to 39.5 mg/mL (5% by volume). The amount in 5 mL of this medicine is equivalent to 5 mL beer or 2 mL wine. The small amount of alcohol in this medicine will not have any noticeable effects.

This medicine contains less than 1 mmol sodium (23 mg) per vial, that is to say essentially 'sodium-free'.

### **3. How Striascan is used**

There are strict laws on the use, handling and disposal of radioactivity. Striascan will always be used in a hospital or a similar place. It will only be handled and given to you by people who are trained and qualified to use it safely. They should tell you anything you need to do for the safe use of this medicine. The nuclear medicine doctor supervising the procedure will decide on the quantity of Striascan to be used in your case. It will be the smallest quantity necessary to get the desired information.

The quantity to be administered usually recommended for an adult ranges from 110 to 185 MBq (megabecquerel or MBq, the unit used to measure radioactivity).

#### **Administration of Striascan and conduct of the procedure**

Before you receive Striascan, your nuclear medicine doctor will ask you to take some tablets or liquid that contain iodine. These stop the radioactivity building-up in your thyroid gland. It is important that you take the tablets or liquid as the doctor tells you.

Striascan is given to you as an injection, usually into a vein in your arm. A single injection is enough.

#### **Duration of the procedure**

The camera pictures are usually taken 3 to 6 hours after the injection of this product. Your nuclear medicine doctor will inform you about the usual duration of the procedure.

**After administration of Striascan, you should** urinate frequently in order to eliminate the product from your body.

The nuclear medicine doctor will inform you if you need to take any special precautions after receiving this medicine. Contact your nuclear medicine doctor if you have any questions.

#### **If you are given more Striascan than you should**

Since this product is given by a doctor under controlled conditions, it is unlikely that you will get an overdose. Your nuclear medicine doctor will suggest that you drink plenty of fluids to help the body get rid of the medicine. You will need to be careful with the water (urine) that you pass - your doctor will tell you what to do. This is normal practice with medicines like Striascan. Any ioflupane (<sup>123</sup>I) which remains in your body will naturally lose its radioactivity.

If you have any further questions on the use of this medicine, ask your nuclear medicine doctor who supervises the procedure.

#### 4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them. The frequency of side effects is:

Common: may affect up to 1 in 10 people

- Headache

Uncommon: may affect up to 1 in 100 people

- Increased appetite
- Dizziness
- Taste disturbance
- Nausea
- Dry mouth
- Vertigo
- A brief irritating feeling similar to ants crawling over your skin (formication)
- Intense pain (or burning sensation) at the injection site. This has been reported among patients receiving this product into a small vein.

Not known: frequency cannot be estimated from the available data.

- Hypersensitivity (allergic)
- Shortness of breath
- Redness of the skin
- Itching
- Rash
- Hives (urticaria)
- Excessive sweating
- Vomiting
- Low blood pressure
- Feeling hot.

This radiopharmaceutical will deliver low amounts of ionising radiation associated with the least risk of cancer and hereditary abnormalities.

#### Reporting of side effects

If you get any side effects, talk to your nuclear medicine doctor. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via [the national reporting system listed in Appendix V](#).

By reporting side effects you can help provide more information on the safety of this medicine.

#### 5. How Striascan is stored

You will not have to store this medicine. This medicine is stored under the responsibility of the specialist in appropriate premises. Storage of radiopharmaceuticals will be in accordance with national regulation on radioactive materials.

The following information is intended for the specialist only:

- Do not store above 25°C.
- Do not freeze.

Do not use this medicine after the expiry date which is stated on the labels after EXP. Hospital staff will ensure that the product is stored and thrown away correctly and not used after the expiry date stated on the label.

## 6. Contents of the pack and other information

### What Striascan contains

- The active substance is ioflupane (<sup>123</sup>I).  
Each mL of solution contains 74 MBq of ioflupane (<sup>123</sup>I) at reference time.
- The other ingredients are acetic acid, glacial (E 260); sodium acetate trihydrate (E 262); ethanol, anhydrous (E 1510); phosphoric acid, concentrated (E 338) and water for injections.

### What Striascan looks like and contents of the pack

Striascan is a colourless solution for injection, supplied in a single amber 15 mL glass vial sealed with a rubber closure and metal overseal.

Pack size: 1 vial containing 2.5 mL or 5 mL.

### Marketing Authorisation Holder and Manufacturer

CIS bio international  
RN 306 – Saclay  
B.P. 32  
F-91192 Gif-sur-Yvette Cedex  
FRANCE

**This leaflet was last revised in {MM/YYYY}.**

Detailed information on this medicine is available on the European Medicines Agency web site:  
<http://www.ema.europa.eu>

This leaflet is available in all EU/EEA languages on the European Medicines Agency website.

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The following information is intended for healthcare professionals only:

The complete Summary of Product Characteristics (SmPC) of Striascan is provided as a separate document in the product packaging, with the objective to provide healthcare professionals with other additional scientific and practical information about the administration and use of this radiopharmaceutical.  
Please refer to the SmPc.