1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Domitor 1 mg/ml solution for injection

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active substance:
Medetomidine hydrochloride 1 mg/ml
(equivalent to 0.85 mg/ml medetomidine)

Excipients:

Qualitative composition of excipients and other constituents	**Quantitative composition if that information is essential for proper administration of the veterinary medicinal product**
Methyl parahydroxybenzoate (E218)	1 mg/ml
Propyl parahydroxybenzoate	0.2 mg/ml
Sodium chloride	
Water for injection	

A clear, colourless, solution for injection

3. CLINICAL INFORMATION

3.1 Target species

Dogs and cats.

3.2 Indications for use, for each target species

Dogs:
- For restraint, sedation and analgesia associated with clinical examinations and procedures, minor surgery and as premedication before general anaesthesia.
- In combination with butorphanol for sedation and analgesia.

Cats*:*
- For restraint and sedation.
- In combination with ketamine for the induction of general anaesthesia prior to surgical procedures.
- In combination with butorphanol for sedation and analgesia, and combined with both butorphanol and ketamine for general anaesthesia.
- As a premedication before alfaxalone or alfadolone for general anaesthesia.

3.3 Contraindications

Do not use in animals with cardiovascular disease, respiratory disease or impaired liver or kidney function, animals in shock, seriously debilitated animals, or animals that are stressed due to extreme heat, cold or fatigue.

Do not use in conjunction with sympathomimetic amines.

Do not use in cases of hypersensitivity to the active substance or to any of the excipients.

Before using any combinations consult the contraindications and warnings that appear on the other product's data sheet.

3.4 Special warnings

Medetomidine may not provide analgesia throughout the entire sedation period; therefore, the use of additional analgesics should be considered during painful surgical procedures.

When the veterinary medicinal product is administered, the animal should be allowed to rest in a maximally quiet place. Before any procedure is started or other drugs are administered, sedation should be allowed to reach its peak effect, which occurs at about 10 to 30 min., depending on the route of administration.

In extremely nervous, excited or agitated animals, the levels of endogenous catecholamines may be high. The pharmacological response elicited by alpha-2 agonists (e.g. medetomidine) in such animals is often reduced, with depth and duration of sedative and analgesic effects ranging from slightly diminished to non-existent. Highly agitated animals should therefore be put at ease and allowed to rest quietly prior to receiving the veterinary medicinal product. Allowing animals to rest quietly for 10 to 15 minutes after injection may improve the response to the veterinary medicinal product.

3.5 Special precautions for use

Special precautions for safe use in the target species:

A clinical examination should be carried out in all animals before the use of drugs for sedation and/or general anaesthesia.

Care should be taken when using medetomidine with other anaesthetics or sedatives. Medetomidine has marked anaesthetic sparing effects. The dose of the anaesthetic should be reduced accordingly.

Special care is recommended when treating very young animals and older animals. The veterinary medicinal product should not be used in dogs under 12 weeks of age.

Fasting is recommended before administration of the veterinary medicinal product. After treatment, the animal should not be given water or food before it is able to swallow properly.

Treated animals should be kept in a warm and even temperature during the procedure and for 12 hours after sedation.

During prolonged procedures an ophthalmic preparation should be administered at regular intervals to lubricate the cornea especially in cats and sometimes also in dogs if their eyes remain open.

Special precautions to be taken by the person administering the veterinary medicinal product to animals:

In the case of accidental oral intake or self-injection, seek medical advice immediately and show the package leaflet or the label to the physician but DO NOT DRIVE as sedation and changes in blood pressure may occur.

Avoid skin, eye or mucosal contact.

Wash the exposed skin immediately after exposure with large amounts of water.

Remove contaminated clothes that are in direct contact with skin.

In the case of accidental contact of the product with eyes, rinse abundantly with fresh water. If symptoms occur, seek the advice of a physician.

If pregnant women handle the product, special caution should be observed not to self-inject as uterine contractions and decreased foetal blood pressure may occur after accidental systemic exposure.

Advice to physician:

Medetomidine hydrochloride is an alpha-2 adrenoreceptor agonist. Symptoms after absorption may involve clinical effects including dose dependent sedation, respiratory depression, bradycardia, hypotension, a dry mouth, and hyperglycaemia. Ventricular arrhythmias have also been reported. Respiratory and haemodynamic symptoms should be treated symptomatically.

3.6 Adverse events

Dogs:

Very common (>1 animal / 10 animals treated):	Bradycardia[1]
Undetermined frequency (cannot be estimated for the available data)	Vomiting[2] Muscle tremor Decreased respiratory rate[3] Cyanosis Excitation Heart block[1] Cardiac arrest[4] Hypertension[5] Hypotension[5] Hypersensitivity reaction Hyperglycaemia Recovery prolonged[6] Sedation prolonged[7] Increased sensitivity to sound Urination[8] Apnoea[3] Hypoxia[9] Pulmonary oedema Death[10] Decreased body temperature Hypothermia[6] Lack of efficacy

[1]With occasional atrioventricular block.

[2]5 to 15 minutes after injection.

[3]With or without transient apnoea periods.

[4]If the animal has a pre-existing subclinical respiratory disease, administration of the veterinary

medicinal product can cause significant respiratory depression which could predispose to cardiac arrest.

[5]Blood pressure will increase initially and then return to normal or slightly below normal.

[6]Prolonged recovery may lead to hypothermia.
[7]Recurrence of sedation after initial recovery has also been reported.

[8]Typically occurs during recovery at about 90 to 120 minutes post-treatment.

[9]In some cases at higher dosages, a decline in arterial oxygen tension may occur.

[10]Death from circulatory failure with severe congestion of the lungs, liver, or kidney has been reported.

When the veterinary medicinal product is used in combination with propofol, movement of the forelegs may occur during induction of anaesthesia.

Cats:

Common (1 to 10 animals / 100 animals treated):	Vomiting[1]
Undetermined frequency (cannot be estimated for the available data)	Excitation Bradycardia[2] Heart block[2] Cardiac arrest[3] Hypertension[4] Hypotension[4] Hypersensitivity reaction Hyperglycaemia Recovery prolonged[5] Sedation prolonged[6] Muscle tremor Increased sensitivity to sound Urination[7] Apnoea[8] Decreased respiratory rate[9] Pulmonary oedema Death[10] Cyanosis Decreased body temperature Hypothermia[5] Lack of efficacy

[1]5 to 15 minutes after injection, some cats may also vomit upon recovery.

[2]With occasional atrioventricular block.

[3]If the animal has a pre-existing subclinical respiratory disease, administration of the veterinary medicinal product can cause significant respiratory depression which could predispose to cardiac arrest.

[4]Blood pressure will increase initially and then return to normal or slightly below normal.

[5]Prolonged recovery may lead to hypothermia.

[6]Recurrence of sedation after initial recovery has also been reported.

[7]Typically occurs during recovery at about 90 to 120 minutes post-treatment.

[8]With or without transient apnoea periods.

[9]In some cats very slow respiratory rates are observed (4-6 breaths per minute).

[10]Death from circulatory failure with severe congestion of the lungs, liver, or kidney has been reported.

When the veterinary medicinal product is used in combination with ketamine, the combination is reported to elicit a pain response in some cats when administered intramuscularly.

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal product. Reports should be sent, preferably via a veterinarian, to either the marketing authorisation holder or its local representative or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

3.7 Use during pregnancy, lactation or lay

Pregnancy and lactation:
The safety of the veterinary medicinal product has not been established during pregnancy or lactation. The use is not recommended during pregnancy or lactation.

3.8 Interaction with other medicinal products and other forms of interaction

The veterinary medicinal product should not be used in conjunction with sympathomimetic amines. The concomitant use of other central nervous system depressants should be expected to potentiate the effect of either product and appropriate dose adjustment should be made.

The veterinary medicinal product has marked anaesthetic sparing effects. The dose of compounds such as propofol and volatile anaesthetics should be reduced accordingly.

Although bradycardia may be partially prevented by prior administration (at least 5 minutes before the veterinary medicinal product) of an anticholinergic agent, the administration of anticholinergic agents to treat bradycardia either simultaneously with medetomidine or following sedation with medetomidine could lead to adverse cardiovascular effects.

3.9 Administration routes and dosage

Domitor is intended for injection by intramuscular, intravenous and subcutaneous routes in the dog, and by the intramuscular and subcutaneous route in the cat.

Dosage: the following dose ranges are recommended for Domitor

When used alone for sedation and analgesia

Animal	**Dose µg/kg**	**Effect**	**Quantity**
Dogs	10-30 30-80 10-20	Slight sedation Moderate to deep sedation and analgesia Pre-anaesthesia	0.1 - 0.3 ml/10 kg 0.3 - 0.8 ml/10 kg 0.1 - 0.2 ml/10 kg
Cats	50-100 100-150	Moderate sedation Deep sedation	0.25 – 0.5 ml/5 kg 0.50 – 0.75 ml/5 kg

Maximal effect is obtained within 10-15 minutes. The clinically useful effect is dose-related, lasting 30-180 minutes, but injection may be repeated if necessary. Animals should be fasted for 12 hours prior to anaesthesia.

Premedication dosing guide: Domitor has marked anaesthetic-sparing effects. It is essential to reduce appropriately the dose of anaesthetic induction and maintenance agents in animals that have been given Domitor.

Dosing guide:

DOMITOR AS PREMEDICANT BEFORE PROPOFOL IN DOGS
Domitor is administered either intravenously at least 10 minutes before propofol (induction agent) or intramuscularly at least 20 minutes before propofol to allow sedation to develop. Domitor may be administered at a dose rate of 10, 20 or 40 micrograms/kg. The following table is a guideline for doses of Domitor and Propofol:

Domitor		Propofol (Induction) Dose in mg/kg
Dose µg/kg	Quantity ml/10 kg	
10	0.1	1.5
20	0.2	1.1
40	0.4	1.0

Following premedication with Domitor, doses of propofol of up to 4 mg/kg have been safely used when a greater depth of anaesthesia is required.

NB: The induction time is increased following Domitor premedication, propofol should be administered slowly and up to 2.5 minutes should be allowed before a further dose is given.

Once jaw relaxation is adequate, tracheal intubation can be undertaken. It is advisable to administer oxygen during anaesthesia.
For maintenance of anaesthesia the dose of propofol is markedly reduced by medetomidine premedication. Infusion doses of 0.06 to 0.35 mg/kg/minute will provide stable anaesthesia for dogs sedated with between 40 and 10 µg/kg Domitor, respectively.
For intermittent bolus administration, a dose of 1 mg/kg at intervals of between 4 and 12 minutes will provide stable anaesthesia.
Recovery from anaesthesia may take from 20 to > 60 minutes.
Food should be withheld for 12 hours prior to anaesthesia.
Antisedan administered intramuscularly at 50 – 200 µg/kg (0.1 - 0.4 ml per 10 kg) in the post-operative phase will hasten the recovery from anaesthesia.

DOMITOR WITH BUTORPHANOL FOR CANINE SEDATION

Dose rate: by intramuscular or intravenous injection, Domitor 10-25 μg/kg bodyweight, depending on the degree of sedation required, plus 0.1 mg/kg butorphanol. Allow 20 minutes for sedation to develop before commencing the procedure.
Reversal with an equal volume of Antisedan to that of Domitor used results in sternal recumbency approximately 5 minutes later and standing approximately a further 2 minutes later.

DOMITOR WITH KETAMINE IN CATS:
Domitor and Vetalar (ketamine) are administered concomitantly, in the same syringe, by the intramuscular route. To minimise the possibility of cross contamination, the vials of each product should have separate needles inserted for withdrawal. Domitor should be administered at a rate of 80 μg/kg with a concomitant dose of 5 - 7.5 mg/kg of Vetalar.

Using this regime the average onset of anaesthesia is 3 - 4 minutes and surgical anaesthesia can be expected to last between 30 and 50 minutes. If required, anaesthesia may be prolonged with inhalational anaesthetics.

Food should be withheld for 12 hours prior to anaesthesia.

DOMITOR WITH BUTORPHANOL FOR FELINE SEDATION
Dose rate: by intramuscular or subcutaneous injection: Domitor 50 μg/kg, depending on the degree of sedation required, plus 0.4 mg/kg butorphanol. Allow 20 minutes for sedation to develop before commencing the procedure. Local anaesthetic infiltration should be used for wound suturing.
Reversal with half volume of Antisedan to that of Domitor used, results in sternal recumbency approximately 4 minutes later and standing approximately a further 2 minutes later.

Feline doses (ml) for sedation:

Weight (kg)		**1**	**1.5**	**2**	**2.5**	**3**	**3.5**	**4**	**4.5**	**5**
Domitor 1 mg/ml	50 μg/kg	0.05	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.25
butorphanol 10 mg/ml	0.4 mg/kg	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20

DOMITOR, BUTORPHANOL AND KETAMINE FOR FELINE ANAESTHESIA
a) Intramuscular
Dosage: Domitor 80 μg/kg, and ketamine 5mg/kg should be given in a single syringe, and butorphanol 0.4 mg/kg in a separate one.
Cats become recumbent in 2-3 minutes following injection. Loss of pedal reflex occurs 3 minutes post injection.

Reversal by 200 μg/kg Antisedan (0.04 ml/kg i/m) results in return of pedal reflex 2 minutes later, sternal recumbency 6 minutes later and standing 31 minutes later.

Feline doses (ml) for I/M ketamine anaesthesia:

Weight (kg)		**1**	**1.5**	**2**	**2.5**	**3**	**3.5**	**4**	**4.5**	**5**
Domitor 1 mg/ml	80 μg/kg	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.40
butorphanol 10 mg/ml	0.4 mg/kg	0.04	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.20
ketamine 100 mg/ml	5 mg/kg	0.05	0.075	0.1	0.125	0.15	0.175	0.2	0.225	0.25

b) *Intravenous*
Dosage: Domitor 40 μg/kg, butorphanol 0.1 mg/kg and ketamine (depending on depth of anaesthesia required) from 1.25 to 2.5 mg/kg.

Reversal by 100 µg/kg of Antisedan results in return of pedal reflex 4 minutes later, sternal recumbency 7 minutes later and standing 18 minutes later.

Feline doses (ml) for I/V ketamine anaesthesia:

Weight (kg)		**1**	**1.5**	**2**	**2.5**	**3**	**3.5**	**4**	**4.5**	**5**
Domitor 1 mg/ml	40 µg/kg	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20
butorphanol 10 mg/ml	0.1 mg/kg	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05
EITHER										
ketamine 100 mg/ml	1.25 mg/kg	0.01	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.06
OR										
ketamine 100 mg/ml	2.5 mg/kg	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.11	0.13

Approximate time scales in intravenous Domitor/butorphanol/ketamine anaesthesia:

ketamine dose	time to recumbency	time to loss of pedal reflex	time to return of pedal reflex	time to sternal recumbency	time to standing
1.2 mg/kg	32 secs	62 secs	26 mins	54 mins	74 mins
2.5 mg/kg	22 secs	39 secs	28 mins	62 mins	83 mins

DOMITOR FOLLOWED BY ALFAXALONE/ALFADOLONE FOR GENERAL ANAESTHESIA
Dosage: Administer Domitor 80 µg/kg by intramuscular or subcutaneous injection. 15-60 minutes later administer 2.5 – 5.0 mg/kg alfaxalone/alfadolone intravenously. Anaesthesia may be maintained by further intravenous injections of alfaxalone/alfadolone, or by administration of inhalational anaesthetics.

Feline doses (ml) for alfaxalone/alfadolone anaesthesia:

Weight (kg)		**1**	**1.5**	**2**	**2.5**	**3**	**3.5**	**4**	**4.5**	**5**
Domitor 1 mg/ml	80 µg/kg	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.40
alfaxalone 9 mg/ml /alfadolone 3 mg/ml	minimum dose = 2.5 mg/kg	0.21	0.31	0.42	0.52	0.63	0.73	0.83	0.94	1.04
alfaxalone 9 mg/ml /alfadolone 3 mg/ml	maximum dose = 5 mg/kg	0.42	0.63	0.83	1.04	1.25	1.46	1.67	1.88	2.08

3.10 Symptoms of overdose (and where applicable, emergency procedures and antidotes

Overdose is mainly manifested by delayed recovery after sedation or anaesthesia. In a few individuals, circulatory and respiratory depression may occur.

In cases of overdosage, or if the effects of medetomidine become life-threatening, the appropriate dose of atipamezole is recommended provided that reversal of sedation and analgesia is not dangerous to the patient. For example, atipamezole does not reverse the effects of ketamine. In the dog, the atipamezole

dosage calculated in ml is the same as that of medetomidine (expressed in mcg the dosage of atipamezole is 5 times that of medetomidine). In the cat, the atipamezole dosage in ml is half that of medetomidine (expressed in mcg the dosage of atipamezole is 2.5 times that of medetomidine).

If it is imperative to reverse bradycardia but maintain sedation, atropine may be used (see section 4.8).

Considering the seriousness of the situation, the animal can be ventilated with oxygen and given intravenous fluids. Maintaining the normal body temperature both in sedation and recovery is important. If the animal is hypothermic, elevation of the body temperature will speed up the recovery.

3.11 Special restrictions for use and special conditions for use, including restrictions on the use of antimicrobial and antiparasitic veterinary medicinal products in order to limit the risk of development of resistance.

For administration by a veterinarian or under their direct supervision.

3.12 Withdrawal periods

Not applicable.

4. PHARMACOLOGICAL INFORMATION

4.1 ATCvet code:

QN05CM91

4.2 Pharmacodynamics

The active ingredient of the veterinary medicinal product is medetomidine. Medetomidine is an alpha-2 adrenergic agonist with central and peripheral effects inhibiting the transmission of noradrenaline-mediated nerve impulses by activating pre-and post-synaptic alpha-2 adrenoceptors. In the animal, the level of consciousness is lowered and the pain threshold is raised. The action of medetomidine is dose-dependent: small doses cause mild sedation and analgesia, while larger doses produce high levels of sedation and analgesia.

Medetomidine lowers the heart rate and initially elevates the blood pressure; blood pressure returns to baseline or slightly below baseline over fifteen minutes. The cardiovascular changes observed are either centrally mediated (bradycardia, hypotension) or due to direct effects on alpha-2 receptors (vasoconstriction, increased systemic vascular resistance).

The vasoconstriction may turn the mucous membranes pale or slightly bluish. Dogs may develop benign conductivity disturbances (first or second degree AV block). The respiratory rate is lowered. Local muscular twitching may occur in a few individuals. Blood glucose levels are elevated in both animal species. Body temperature is decreased in a dose dependent manner and intestinal motility is also reduced.

4.3 Pharmacokinetics

Medetomidine is rapidly absorbed after intramuscular injection; the tmax varies from 15 to 30 min. Medetomidine is also rapidly distributed. The Vd varies between 2.8 and 3.6 L/kg. Protein binding is 85 to 90%. Medetomidine is oxidised in the liver and a small proportion is methylated in the kidneys. Most metabolites are excreted in the urine. The T½ is 1-2 hours.

5. PHARMACEUTICAL PARTICULARS

5.1 Major incompatibilities

The veterinary medicinal product must not be mixed with other drugs with the exception of Vetalar (ketamine) injection and butorphanol.

5.2 Shelf life

Shelf life of the veterinary medicinal product as packed for sale: 3 years.
Shelf life after opening the immediate packing: 3 months.

5.3 Special precautions for storage

Do not freeze.

5.4 Nature and composition of immediate packaging

The veterinary medicinal product is presented in Type I (Ph. Eur.) clear glass vials of 10 ml capacity. Vials are fitted with a fluoropolymer coated bromobutyl rubber stopper and sealed with an aluminium seal.

5.5 Special precautions for the disposal of unused veterinary medicinal products or waste materials derived from the use of such products

Medicines should not be disposed of via wastewater or household waste.

Use take-back schemes for the disposal of any unused veterinary medicinal product or waste materials derived thereof in accordance with local requirements and with any national collection systems applicable to the veterinary medicinal product concerned.

6. NAME OF THE MARKETING AUTHORISATION HOLDER

Orion Corporation

7. MARKETING AUTHORISATION NUMBER(S)

VPA10664/005/001

8. DATE OF FIRST AUTHORISATION

12/03/2010

9. DATE OF THE LAST REVISION OF THE SUMMARY OF THE PRODUCT CHARACTERISTICS

01/04/2025

10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCTS

Veterinary medicinal product subject to prescription.

Detailed information on this veterinary medicinal product is available in the Union Product Database (https://medicines.health.europa.eu/veterinary).