[Version 9,03/2022]

ANNEX I

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Dormostart 1 mg/ml solution for injection for dogs and cats (AT, BE, BG, CY, CZ, DE, EL, ES, HU, HR, IE, IT, LT, LU, LV, NL, PL, PT, RO, SI, SK, UK(NI))
Dormostart Vet 1 mg/ml solution for injection for dogs and cats (DK, FI, IS, NO, SE)
Dormostart solution for injection for dogs and cats (FR)
Dormostart, 1 mg/ml solution for injection for dogs and cats (EE)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

Active substances:
Medetomidine hydrochloride 1.0 mg
(equivalent to 0.85 mg of medetomidine)

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)	1.0 mg
Propyl parahydroxybenzoate	0.2 mg
Sodium chloride	
Hydrochloric acid, diluted (for pH-adjustment)	
Sodium hydroxide (for pH-adjustment)	
Water for injections	

Clear, colourless and practically free from particles solution for injection.

3. CLINICAL INFORMATION

3.1 Target species

Dogs and cats

3.2 Indications for use for each target species

Dogs and cats:
Sedation in order to facilitate examination and treatment.

Dogs:
As premedication before general anaesthesia.
Sedation for minor surgeries.

Cats:
In combination with ketamine for general anaesthesia for minor surgical procedures of short duration.

3.3 Contraindications

Do not use in animals with serious cardiovascular disease, respiratory disease or hepatic or renal disorders.

Do not use in cases of obstructive disorders of the gastrointestinal tract (such as torsion of the stomach, blockage, obstruction of the oesophagus).
Do not use in cases of hypersensitivity to the active substance or to any of the excipients.
Do not use in animals with diabetes mellitus.
Do not use in animals in a state of shock, emaciation or serious debilitation.
Do not use in animals with ocular problems where an increase in intraocular pressure would be detrimental.
Do not administer concomitantly with sympathomimetics.
Do not use during pregnancy. See also section 3.7. Use during pregnancy, lactation or lay.

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.

3.5 Special precautions for use

Special precautions for safe use in the target species:
Due to the pharmacological effects of alpha-2 agonists such as medetomidine, care should be taken when using the veterinary medicinal product in animals with mild cardiovascular, respiratory, hepatic or renal disorders (see section 3.3 contraindications) or in animals which are otherwise debilitated.

Care should be taken when combining medetomidine with other anaesthetics or sedatives because of its marked anaesthetic sparing effects. The dose of the anaesthetic should be reduced accordingly and titrated to response due to considerable variability in requirements between patients.

Animals should be fasted before anaesthesia as medetomidine may cause vomiting shortly after injection.

Nervous, aggressive or excited animals should be given the possibility to calm down before initiation of treatment.

The animal should be placed in a calm and quiet surrounding to let the sedation gain its maximum effect. This takes about 10 – 20 minutes. One should not start any procedure or give other medicines before maximum sedation is reached.

Treated animals should be kept warm and at a constant temperature, both during the procedure and recovery.

Due to decreased tear flow, the eyes should be protected by a suitable lubricant.

Medetomidine may cause respiratory depression and under these circumstances, manual ventilation and oxygen may be administered.

In order to reduce the recovery time after anaesthesia or sedation, the effect of the veterinary medicinal product can be reversed by the administration of an alpha-2-antagonist such as atipamezole.

After treatment, the animal should not be given water or food before it is able to swallow properly.

Special precautions to be taken by the person administering the veterinary medicinal product to animals:
This veterinary medicinal product is a sedative. Care should be taken to avoid skin, eye, mucosal contact and self-injection.
In the case of accidental contact of the veterinary medicinal product with the skin or eyes, rinse with large amounts of fresh water. Remove contaminated clothes that are in direct contact with skin. If symptoms occur, seek medical advice. In the case of accidental oral exposure 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.

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

People with known hypersensitivity to parabens should administer the veterinary medicinal product with caution.

Advice to physicians: The veterinary medicinal product is an alpha2-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.

Special precautions for the protection of the environment:

Not applicable.

3.6 Adverse events

Dogs and cats:

Very common (>1 animal / 10 animals treated):	Cardiovascular effects (e.g increase of blood pressure[1], hypotension[1]). Hyperglycaemia[2].
Common (1 animal to 10 animals / 100 animals treated):	Vomiting[3]. Cyanosis. Muscle tremor.
Rare (1 to 10 animals / 10,000 animals treated):	Injection site pain.
Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Cardiovascular effects[4] (e.g. bradycardia, heart block 1st degree, heart block 2nd degree). Pulmonary oedema, respiratory depression[4]. Hypersensitivity reaction. Hypothermia. Excitation[5]. Lack of efficacy. Recovery prolonged. Death[6]. Circulatory collapse[6]. Generalised congestion[6]
Undetermined frequency (cannot be estimated from the available data):	Cardiovascular effects[4] (e.g., extrasystole, vasoconstriction of coronary artery, decreased cardiac output[1]). Increased urine volume. Sensitivity to loud noises.

[1] Shortly after the administration of product followed by a return to the normal value or slightly below.
[2] Reversible hyperglycaemia due to a depression of insulin secretion
[3] Some dogs and most cats will vomit within 5-10 minutes of injection. Cats may also vomit on recovery.
[4] In cases of cardiovascular and respiratory depression, assisted ventilation and administration of oxygen may be indicated. Atropine can increase the cardiac rate.
[5] Paradoxical response
[6] Death from circulatory failure with severe congestion of the lungs, liver, or kidney.

Dogs with a body weight of less than 10 kg may show the undesirable effects mentioned above more often.

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

The safety of the veterinary medicinal product has not been established during pregnancy and lactation.

Pregnancy and lactation
Do not use during pregnancy. The use is not recommended during lactation.

3.8 Interaction with other medicinal products and other forms of interaction

The concomitant administration of other central nervous system depressants should be expected to potentiate the effect of either veterinary medicinal product and appropriate dose adjustment should be made. Medetomidine has marked anaesthetic sparing effects (see section 3.5 Special precautions for safe use in the target species).

The dose of compounds such as propofol and volatile anaesthetics should be reduced accordingly.
The effects of medetomidine can be antagonised by the administration of atipamezole.
Bradycardia may be partially prevented by prior administration (at least 5 minutes before) of an anticholinergic agent; however 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

Dogs: Intramuscular or intravenous use.
Cats: Intramuscular use.

To ensure a correct dosage, body weight should be determined as accurately as possible.

Dogs:
For sedation the veterinary medicinal product should be administered at the rate of 750 µg medetomidine hydrochloride i.v. or 1000 µg medetomidine hydrochloride i.m. per square meter of body surface, corresponding to dose of 10 - 80 µg medetomidine hydrochloride per kg body weight.

Use the table below to determine the correct dosage on the basis of body weight:
Maximal effect is obtained within 10 - 20 minutes. Clinical effect is dose-dependent, lasting from 30 – 180 minutes.
Medetomidine dosages for sedation in ml and corresponding amount of medetomidine hydrochloride in µg /kg bw. For pre-medication use 50% of the dose indicated in the table:

Body weight [kg]	i.v. – Injection [ml]	corresponding to [µg/kg bw]	i.m. – Injection [ml]	corresponding to [µg/kg bw]
2	0.12	60.0	0.16	80.0
3	0.16	53.3	0.21	70.0
4	0.19	47.5	0.25	62.5
5	0.22	44.0	0.30	60.0
6	0.25	41.7	0.33	55.0
7	0.28	40.0	0.37	52.9
8	0.30	37.5	0.40	50.0
9	0.33	36.7	0.44	48.9
10	0.35	35.0	0.47	47.0
12	0.40	33.3	0.53	44.2
14	0.44	31.4	0.59	42.1
16	0.48	30.0	0.64	40.0
18	0.52	28.9	0.69	38.3
20	0.56	28.0	0.74	37.0
25	0.65	26.0	0.86	34.4
30	0.73	24.3	0.98	32.7
35	0.81	23.1	1.08	30.9
40	0.89	22.2	1.18	29.5
50	1.03	20.6	1.37	27.4
60	1.16	19.3	1.55	25.8
70	1.29	18.4	1.72	24.6
80	1.41	17.6	1.88	23.5

For premedication, the veterinary medicinal product should be administered at a dosage of 10-40 µg medetomidine hydrochloride per kg body weight, corresponding to 0.1 – 0.4 ml product per 10 kg body weight. The exact dose depends on the combination of drugs used and the dosage(s) of the other drug(s). The dose should furthermore be adjusted to the type of surgery, length of procedure and patient temperament and weight. Premedication with medetomidine will significantly reduce the dosage of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect. Before using any combinations, product literature for the other products should be observed. See also section 3.5 Special precautions for safe use in the target species.

Cats:
For moderate-deep sedation and restraint of cats the veterinary medicinal product should be administered at a dosage of 50 – 150 µg medetomidine hydrochloride / kg bw (corresponding to 0.05 – 0.15 ml product / kg bw).

For anaesthesia the veterinary medicinal product should be administered at a dosage up to 80 µg medetomidine hydrochloride / kg bw (corresponding to 0.08 ml product / kg bw) and 2.5 to 7.5 mg ketamine / kg bw. Using this dosage anaesthesia occurs within 3 – 4 minutes and is apparent for 20 – 50 minutes. For longer lasting procedures administration has to be repeated by using ½ of the initial dose (i.e. 40 µg medetomidine hydrochloride (corresponding to 0.04 ml product / kg bw) and 2.5 – 3.75 mg ketamine / kg bw) or 3.0 mg ketamine / kg bw alone. Alternatively, for longer lasting procedures anaesthesia may be extended by use of the inhalation agents, with oxygen or oxygen/nitrous oxide. See section 3.5 Special precautions for safe use in the target species.

The stoppers should not broached more than 30 times.

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

In the case of overdose the main signs are prolonged anaesthesia or sedation. In some cases cardio-respiratory effects may occur. For treatment of these cardio-respiratory effects of an overdose it is recommended to administer an alpha-2 antagonist e.g. atipamezole or yohimbine, provided that reversal of sedation is not dangerous to the animal (atipamezole does not reverse the effects of ketamine which may cause seizures in dogs and elicit cramps in cats when used alone).
Use atipamezole hydrochloride 5 mg/ml intramuscularly in the dog in the same volume as medetomidine hydrochloride 1 mg/ml, in the cat use half the volume.
The required dose of atipamezole hydrochloride corresponds in dogs to the 5-fold dose of the medetomidine hydrochloride dose in mg administered before and in cats to the 2.5- fold dose. Alpha-2 antagonists should not be administered until 30-40 min. after ketamine.
If it is imperative to reverse bradycardia but maintain sedation, atropine may be used.

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

3.12 Withdrawal periods

Not applicable.

4. PHARMACOLOGICAL INFORMATION

4.1 ATC vet code: QN05CM91.

4.2 Pharmacodynamics

The active ingredient of the veterinary medicinal product is (R,S)-4-[1-(2,3- dimethylphenyl)-ethyl)]-imidazole-hydrochloride (INN: Medetomidine), a sedative compound with analgesic and myorelaxing properties. Medetomidine is a selective agonist specific for, and binding with high affinity to, the alpha-2-adrenergics receptors. The activation of alpha-2 receptors leads to a decrease in release and turnover of norepinephrine in the central nervous system, leading to sedation, analgesia and bradycardia. In the periphery medetomidine causes vasoconstriction via stimulation of postsynaptic alpha-2 adrenoceptors, leading to a transient arterial hypertension. Within 1-2 hours arterial blood pressure falls back to normotension or slight hypotension. The respiratory rate may be transiently decreased. Depth and duration of sedation and analgesia are dose related. Profound sedation and recumbency, with reduced sensitivity to environmental stimuli (sounds, etc.), are seen with medetomidine. Medetomidine acts synergistically with ketamine and opiates, such as fentanyl, leading to better anaesthesia. The amount of volatile anaesthetics required will be reduced by medetomidine. Besides its sedative, analgesic and myo-relaxing properties, medetomidine also exerts hypothermic and mydriatic effects, inhibits salivation and decreases intestinal motility.

4.3 Pharmacokinetics

After intramuscular administration medetomidine is rapidly and nearly completely absorbed from the injection site and pharmacokinetics are very similar to intravenous administration. Plasma half-life is considered to be 1.2 hours in the dog and 1.5 hours in the cat.
Medetomidine is mainly oxidised in the liver, a smaller amount undergoes methylation in the kidneys. Metabolites are excreted mainly via urine.

5. PHARMACEUTICAL PARTICULARS

5.1 Major incompatibilities

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

5.2 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 3 years
Shelf life after first opening the immediate packaging: 28 days

5.3 Special precautions for storage

This veterinary medicinal product does not require any special storage conditions.

5.4 Nature and composition of immediate packaging

Cardboard box with one clear Type I glass vial of 10 ml or 20 ml with grey fluorinated coated bromobutyl rubber stopper and aluminium cap.

Pack sizes:
5 ml (in a 10 ml sized vial)
10 ml
20 ml

Not all pack sizes may be marketed.

5.5 Special precautions for the disposal of unused veterinary medicinal product 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

Alfasan Nederland B.V.

7. MARKETING AUTHORISATION NUMBER(S)

8. DATE OF FIRST AUTHORISATION

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

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).