1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Dexmedocord 0.5 mg/mL solution for Injection (Ireland, Germany, France, Spain, Italy, Belgium, Poland, Netherlands, Bulgaria, Lithuania, Latvia, Romania, Slovakia, United Kingdom (Northern Ireland))
Dexmedocord (Estonia)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

Active substance:
0.42 mg Dexmedetomidine equivalent to 0.5 mg Dexmedetomidine hydrochloride

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 (E 218)	1.6 mg
Propyl parahydroxybenzoate (E 216)	0.2 mg
Sodium chloride	
Water for injection	

Clear colourless solution.

3. CLINICAL INFORMATION

3.1 Target species

Dogs and cats

3.2 Indications for use for each target species

Non-invasive, mildly to moderately painful, procedures and examinations which require restraint, sedation and analgesia in dogs and cats.

Deep sedation and analgesia in dogs in concomitant use with butorphanol for medical and minor surgical procedures.

Premedication in dogs and cats before induction and maintenance of general anaesthesia.

3.3 Contraindications

Do not use in animals with cardiovascular disorders.
Do not use in animals with severe systemic disease or in animals that are moribund.
Do not use in cases of hypersensitivity to the active substance or to any of the excipients.

3.4 Special warnings

The administration of dexmedetomidine to puppies younger than 16 weeks and kittens younger than 12 weeks has not been studied.

3.5 Special precautions for use

Special precautions for safe use in the target species:

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

It is recommended that animals are fasted for 12 hours prior to administration of the veterinary medicinal product. Water may be given.

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

Corneal opacities may occur during sedation. The eyes should be protected by a suitable lubricant.

To be used with precaution in elderly animals.

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

Frequent and regular monitoring of respiratory and cardiac function should be performed. Pulse oximetry may be useful but is not essential for adequate monitoring. Equipment for manual ventilation should be available in case of respiratory depression or apnoea when dexmedetomidine and ketamine are used sequentially to induce anaesthesia in cats. It is also advisable to have oxygen readily available, should hypoxaemia be detected or suspected.

Sick and debilitated dogs and cats should only be premedicated with dexmedetomidine before induction and maintenance of general anaesthesia based on a risk-benefit assessment.

Use of dexmedetomidine as a premedicant in dogs and cats significantly reduces the amount of induction drug required for induction of anaesthesia. Attention should be given during the administration of intravenous induction drugs to effect. Volatile anaesthetic requirements for maintenance anaesthesia are also reduced.

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 oral exposure and self-injection. In 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.

This veterinary medicinal product can cause skin and/or eye irritation. Care should be taken to avoid skin, eye and mucosal contact. The use of impermeable gloves is advisable.
In 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

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 the active substance and/or parabens should administer the veterinary medicinal product with caution.

To the physician:
The veterinary medicinal product is an α2-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. The specific α2-adrenoceptor antagonist, atipamezole, which is approved for use in animals, has been used in humans only experimentally to antagonize dexmedetomidine-induced effects.

Special precautions for the protection of the environment:

Not applicable.

3.6 Adverse events

Dogs:

Very common (> 1 animal / 10 animals treated):	Bradycardia Cyanotic mucous membranes[2] Pale mucous membranes[2]
Common (1 to 10 animals / 100 animals treated):	Arrhythmia[1]
Rare (1 to 10 animals / 10 000 animals treated):	Pulmonary oedema
Undetermined frequency (cannot be estimated from the available data):	Excitation[1] Heart block[1] High blood pressure[3] Low blood pressure[3] Premature ventricular contractions[1] Supraventricular and nodal arrhythmia[1] Hypersalivation[1] Retching[1] Vomiting[4] Corneal opacity Muscle tremor Sedation prolonged[1] Bradypnoea[1,5] Decreased pulse oxygenation[1] Decreased respiratory rate Irregular breathing[1] Tachypnoea[1,5] Erythema[1] Decreased body temperature Urination[1]

[1]When dexmedetomidine and butorphanol are used concomitantly.
[2]Due to peripheral vasoconstriction and venous desaturation in the presence of normal arterial oxygenation.
[3]Blood pressure will increase initially and then return to normal or below normal.
[4]May occur 5–10 minutes after injection. Some dogs may also vomit at the time of recovery.
[5]When dexmedetomidine is used as a premedicant.

When dexmedetomidine and butorphanol are used concomitantly in dogs, brady- and tachyarrhythmias have been reported. These may include profound sinus bradycardia, 1st and 2nd degree AV block, sinus arrest or pause, as well as atrial, supraventricular and ventricular premature complexes.

When dexmedetomidine is used as a premedicant brady- and tachyarrhythmias have been reported and include profound sinus bradycardia, 1st and 2nd degree AV block and sinus arrest. Supraventricular and ventricular premature complexes, sinus pause and 3rd degree AV block may be observed in rare cases.

Cats:

Very common (> 1 animal / 10 animals treated):	Arrhythmia[1] Bradycardia Heart block[2] Vomiting[3] Pale mucous membranes[4] Cyanotic mucous membranes[4]
Common (1 to 10 animals / 100 animals treated):	Supraventricular and nodal arrhythmia[1] Retching[1] Decreased pulse oxygenation[2] Hypothermia[2]
Uncommon (1 to 10 animals / 1 000 animals treated):	Apnoea[2]
Rare (1 to 10 animals / 10 000 animals treated):	Pulmonary oedema
Undetermined frequency (cannot be estimated from the available data):	Extrasystole[2] High blood pressure[5] Low blood pressure[5] Corneal opacity Muscle tremor Bradypnoea[2] Decreased respiratory rate Hypoventilation[2] Irregular breathing[2]

	Agitation[2]

[1]When dexmedetomidine is used as a premedicant.
[2]When dexmedetomidine and ketamine are used sequentially.
[3]May occur 5–10 minutes after injection. Some cats may also vomit at the time of recovery.
[4]Due to peripheral vasoconstriction and venous desaturation in the presence of normal arterial oxygenation.
[5]Blood pressure will increase initially and then return to normal or below normal.

Intramuscular dosing at 40 micrograms/kg (followed by ketamine or propofol) frequently resulted in sinus bradycardia and sinus arrhythmia, occasionally resulted in 1st degree atrioventricular block, and rarely resulted in supraventricular premature depolarizations, atrial bigeminy, sinus pauses, 2nd degree atrioventricular block, or escape beats/rhythms.

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 dexmedetomidine has not been established during pregnancy and lactation.

Pregnancy and lactation

The use is not recommended during pregnancy and lactation.

Fertility

The safety of dexmedetomidine has not been established in males intended for breeding.

3.8 Interaction with other medicinal products and other forms of interaction

The use of other central nervous system depressants is expected to potentiate the effects of dexmedetomidine and therefore an appropriate dose adjustment should be made. Anticholinergics should be used with caution with dexmedetomidine.

Administration of atipamezole after dexmedetomidine rapidly reverses the effects and thus shortens the recovery period. Within 15 minutes dogs and cats are normally awake and standing.

Cats: After administration of 40 micrograms dexmedetomidine/kg bw intramuscularly concurrently with 5 mg ketamine/kg bw to cats, the maximum concentration of dexmedetomidine increased twofold but there was no effect on T max. The mean half-life of elimination of dexmedetomidine increased to 1.6 h and the total exposure (AUC) increased by 50%.

A dose of 10 mg ketamine/ kg used concurrently with 40 micrograms dexmedetomidine/ kg may cause tachycardia.

For information on adverse reactions, see section 3.6. Adverse events.

For information on target animal safety in cases of overdosing, see section 3.10. Symptoms of overdose.

3.9 Administration routes and dosage

- Dogs: intravenous or intramuscular use
- Cats: intramuscular use

The product is not intended for repeat injections.

The stopper may be safely punctured up to 24 times.

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

Dosage: the following doses are recommended:

DOGS:

Dexmedetomidine doses are based on body surface area:

Intravenously: up to 375 micrograms/square metre body surface area
Intramuscularly: up to 500 micrograms/square metre body surface area

When administering in conjunction with butorphanol (0.1 mg/kg) for deep sedation and analgesia, the intramuscular dose of dexmedetomidine is 300 micrograms/square metre body surface area. The premedication dose of dexmedetomidine is 125–375 micrograms/square metre body surface area, administered 20 minutes prior to induction for procedures requiring anaesthesia. The dose should be adjusted to the type of surgery, length of procedure and patient temperament.

Concomitant use of dexmedetomidine and butorphanol produces sedative and analgesic effects beginning no later than 15 minutes. The peak sedative and analgesic effects are reached within 30 minutes after administration. Sedation lasts for at least 120 minutes post administration and analgesia lasts for at least 90 minutes. Spontaneous recovery occurs within 3 hours.

Premedication with dexmedetomidine will significantly reduce the dosage of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. In a clinical study, the requirement for propofol and thiopental was reduced by 30% and 60% respectively. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect. In a clinical study, dexmedetomidine contributed to postoperative analgesia for 0.5–4 hours. However this duration is dependent on a number of variables and further analgesia should be administered in accordance with clinical judgement.

The corresponding doses based on body weight are presented in the following tables. Use of an appropriately graduated syringe is recommended to ensure accurate dosing when administering small volumes.

Dog weight (kg)	**Dexmedetomidine 125 mcg/m²**		**Dexmedetomidine 375 mcg/m²**		**Dexmedetomidine 500 mcg/m²**	
	(mcg/kg)	**(mL)**	**(mcg/kg)**	**(mL)**	**(mcg/kg)**	**(mL)**
2-3	9.4	0.04	28.1	0.12	40	0.15
3-4	8.3	0.05	25	0.17	35	0.2
4-5	7.7	0.07	23	0.2	30	0.3
5-10	6.5	0.1	19.6	0.29	25	0.4
10-13	5.6	0.13	16.8	0.38	23	0.5

13-15	5.2	0.15	15.7	0.44	21	0.6
15-20	4.9	0.17	14.6	0.51	20	0.7
20-25	4.5	0.2	13.4	0.6	18	0.8
25-30	4.2	0.23	12.6	0.69	17	0.9
30-33	4	0.25	12	0.75	16	1.0
33-37	3.9	0.27	11.6	0.81	15	1.1
37-45	3.7	0.3	11	0.9	14.5	1.2
45-50	3.5	0.33	10.5	0.99	14	1.3
50-55	3.4	0.35	10.1	1.06	13.5	1.4
55-60	3.3	0.38	9.8	1.13	13	1.5
60-65	3.2	0.4	9.5	1.19	12.8	1.6
65-70	3.1	0.42	9.3	1.26	12.5	1.7
70-80	3	0.45	9	1.35	12.3	1.8
>80	2.9	0.47	8.7	1.42	12	1.9

For deep sedation and analgesia with butorphanol		
Dog weight	**Dexmedetomidine**	
	300 mcg/m^2 intramuscularly	
(kg)	**(mcg/kg)**	**(mL)**
2-3	24	0.12
3-4	23	0.16
4-5	22.2	0.2
5-10	16.7	0.25
10-13	13	0.3
13-15	12.5	0.35
15-20	11.4	0.4
20-25	11.1	0.5
25-30	10	0.55
30-33	9.5	0.6
33-37	9.3	0.65
37-45	8.5	0.7
45-50	8.4	0.8
50-55	8.1	0.85
55-60	7.8	0.9
60-65	7.6	0.95
65-70	7.4	1
70-80	7.3	1.1
>80	7	1.2

CATS:

The dosage for cats is 40 micrograms dexmedetomidine hydrochloride/kg bw, equal to a dose volume of 0.08 mL of the veterinary medicinal product/kg bw when used for non-invasive, mildly to moderately painful procedures requiring restraint, sedation and analgesia.
When dexmedetomidine is used for premedication in cats, the same dose is used. Premedication with dexmedetomidine will significantly reduce the dosage of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. In a clinical study, the requirement for propofol was reduced by 50%. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect.
Anaesthesia can be induced 10 minutes after premedication by intramuscular administration of a target dose of 5 mg ketamine/ kg bw or by intravenous administration of propofol to effect. Dosing for cats is presented in the following table.

Cat weight	**Dexmedetomidine 40 mcg/kg intramuscularly**	
(kg)	**(mcg/kg)**	**(mL)**

1-2	40	0.1
2-3	40	0.2
3-4	40	0.3
4-6	40	0.4
6-7	40	0.5
7-8	40	0.6
8-10	40	0.7

The expected sedative and analgesic effects are reached within 15 minutes after administration and are maintained up to 60 minutes after administration. Sedation may be reversed with atipamezole. Atipamezole should not be administered prior to 30 minutes following ketamine administration.

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

Dogs: In cases of overdosage, or if the effects of dexmedetomidine become potentially life-threatening, the appropriate dose of atipamezole is 10 times the initial dose of dexmedetomidine (micrograms/ kg bw or micrograms/ square meter body surface area). The dose volume of atipamezole at the concentration of 5 mg/mL equals the dose volume of the veterinary medicinal product that was given to the dog, regardless of route of administration of the veterinary medicinal product
Cats: In cases of overdosage, or if the effects of dexmedetomidine become potentially life-threatening, the appropriate antagonist is atipamezole, administered by intramuscular injection, at the following dose: 5 times the initial dose dexmedetomidine in micrograms/kg bw.
After concurrent exposure to a triple (3X) overdose of dexmedetomidine and 15 mg ketamine/ kg, atipamezole can be administered at the recommended dose level for reversal of effects induced by dexmedetomidine. At high serum concentrations of dexmedetomidine sedation is not increased although the level of analgesia does increase with further dose increases. The dose volume of atipamezole at the concentration of 5 mg/mL equals one-half the volume of the veterinary medicinal product that was given to the cat.

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 ATCvet code: QN05CM18

4.2 Pharmacodynamics

The veterinary medicinal product contains dexmedetomidine as the active substance, which produces sedation and analgesia in dogs and cats. The duration and depth of the sedation and analgesia are dose-dependent. At maximal effect, the animal is relaxed, recumbent and does not respond to external stimulus.

Dexmedetomidine is a potent and selective α_2-adrenoceptor agonist that inhibits the release of noradrenaline from noradrenergic neurons. Sympathetic neurotransmission is prevented and the level of consciousness decreases. Reduced heart rate and temporary AV-block can be seen after administration of dexmedetomidine. Blood pressure decreases to normal or below normal levels after an initial increase. Respiration rate can occasionally decrease. Dexmedetomidine also induces a

number of other α_2-adrenoceptor mediated effects, which include piloerection, depression of motor and secretory functions of the gastrointestinal tract, diuresis and hyperglycaemia.

A slight decrease in temperature may be observed.

4.3 Pharmacokinetics

As a lipophilic compound, dexmedetomidine is well absorbed after intramuscular administration. Dexmedetomidine is also rapidly distributed in the body and penetrates the blood-brain barrier readily. According to studies in rats, the maximum concentration in the central nervous system is several times that of the corresponding concentration in plasma. In the circulation, dexmedetomidine is largely bound to plasma proteins (>90%).

Dogs: After an intramuscular dose of 50 micrograms/kg a maximum concentration in plasma of about 12 ng/mL is reached after 0.6 hours. The bioavailability of dexmedetomidine is 60% and the apparent volume of distribution (Vd) is 0.9 l/kg. The elimination half-life (t½) is 40-50 minutes.

Major biotransformations in the dog include hydroxylation, glucuronic acid conjugation and N-methylation in the liver. All known metabolites lack pharmacological activity. Metabolites are excreted mainly in the urine and to a lesser extent in the faeces. Dexmedetomidine has a high clearance and its elimination depends on the hepatic blood flow. A prolonged elimination half-life is therefore expected with overdoses or when dexmedetomidine is coadministered with other substances, which affect hepatic circulation.

Cats: The maximum plasma concentration is reached about 0.24 h after intramuscular administration. After a 40 micrograms/kg bw intramuscular dose the Cmax is 17 ng/mL. The apparent volume of distribution (Vd) is 2.2 l/kg and the elimination half-life (t½) is one hour.

Biotransformations in the cat occur by hydroxylation in the liver. Metabolites are excreted mainly in the urine (51% of the dose), and to a lesser extent in the faeces. As in dogs dexmedetomidine has a high clearance in cats and its elimination depends on the hepatic blood flow. A prolonged elimination half-life is therefore expected with overdoses or when dexmedetomidine is coadministered with other substances, which affect hepatic circulation.

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: 2 years

Shelf life after first opening the immediate packaging: 3 months.

5.3 Special precautions for storage

This medicinal product does not require any special storage conditions. After first opening the immediate packaging store the product at 20°C - 25°C.

5.4 Nature and composition of immediate packaging

Type I clear glass vial with a fluoropolymer coated chlorobutyl rubber stopper and an aluminium overseal.

Pack sizes:
Cardboard box containing one 10 mL vial
Cardboard box containing ten 10 mL vials

Not all pack sizes may be marketed.

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

Accord Healthcare B.V.

7. MARKETING AUTHORISATION NUMBER(S)

To be completed nationally

8. DATE OF FIRST AUTHORISATION

Date of first authorisation: To be completed nationally

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

To be completed nationally

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).

ANNEX II

LABELLING AND PACKAGE LEAFLET

A. LABELLING

PARTICULARS TO APPEAR ON THE OUTER PACKAGE

BOX

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Dexmedocord 0.5 mg/mL solution for Injection (Ireland, Germany, France, Spain, Italy, Belgium, Poland, Netherlands, Bulgaria, Lithuania, Latvia, Romania, Slovakia, United Kingdom (Northern Ireland))
Dexmedocord (Estonia)

2. STATEMENT OF ACTIVE SUBSTANCES

Each ml contains:

Active substance:
0.42 mg Dexmedetomidine equivalent to 0.5 mg Dexmedetomidine hydrochloride

3. PACKAGE SIZE

10 mL

10 x 10 mL

4. TARGET SPECIES

Dogs and cats

5. INDICATIONS

6. ROUTES OF ADMINISTRATION

Dogs: intravenous or intramuscular use
Cats: intramuscular use

7. WITHDRAWAL PERIODS

8. EXPIRY DATE

Exp. {mm/yyyy}

Once broached use within 3 months.

9. SPECIAL STORAGE PRECAUTIONS

After first opening the immediate packaging store the product at 20°C - 25°C.

10. THE WORDS "READ THE PACKAGE LEAFLET BEFORE USE"

Read the package leaflet before use.

11. THE WORDS "FOR ANIMAL TREATMENT ONLY"

For animal treatment only.

12. THE WORDS "KEEP OUT OF THE SIGHT AND REACH OF CHILDREN"

Keep out of the sight and reach of children.

13. NAME OF THE MARKETING AUTHORISATION HOLDER

Accord Healthcare B.V.

14. MARKETING AUTHORISATION NUMBERS

To be completed nationally

15. BATCH NUMBER

Lot:

PARTICULARS TO APPEAR ON THE IMMEDIATE PACKAGE

VIAL/MULTI PACKAGE

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Dexmedocord 0.5 mg/mL solution for Injection (Ireland, Germany, France, Spain, Italy, Belgium, Poland, Netherlands, Bulgaria, Lithuania, Latvia, Romania, Slovakia, United Kingdom (Northern Ireland))
Dexmedocord (Estonia)

2. STATEMENT OF ACTIVE SUBSTANCES

Each ml contains:

Active substance:
0.42 mg Dexmedetomidine equivalent to 0.5 mg Dexmedetomidine hydrochloride

3. TARGET SPECIES

Dogs and cats

4. ROUTES OF ADMINISTRATION

Dogs: IV, IM
Cats: IM

5. WITHDRAWAL PERIODS

6. EXPIRY DATE

Exp. {mm/yyyy}

Once broached use within 3 months.

7. SPECIAL STORAGE PRECAUTIONS

After first opening the immediate packaging store the product at 20°C - 25°C.

8. NAME OF THE MARKETING AUTHORISATION HOLDER

Accord Healthcare B.V.

9. BATCH NUMBER

Lot:

B. PACKAGE LEAFLET

PACKAGE LEAFLET

1. Name of the veterinary medicinal product

Dexmedocord 0.5 mg/mL solution for Injection (Ireland, Germany, France, Spain, Italy, Belgium, Poland, Netherlands, Bulgaria, Lithuania, Latvia, Romania, Slovakia, United Kingdom (Northern Ireland))
Dexmedocord (Estonia)

2. Composition

Each mL contains:

Active substance:

Dexmedetomidine Hydrochloride	0.5 mg (equivalent to 0.42 mg Dexmedetomidine)

Excipient:

Methyl parahydroxybenzoate (E 218)	1.6 mg
Propyl parahydroxybenzoate (E 216)	0.2 mg

Clear colourless solution.

3. Target species

Dogs and cats

4. Indications for use

Non-invasive, mildly to moderately painful, procedures and examinations which require restraint, sedation and analgesia in dogs and cats.
Deep sedation and analgesia in dogs in concomitant use with butorphanol for medical and minor surgical procedures.
Premedication in dogs and cats before induction and maintenance of general anaesthesia.

5. Contraindications

Do not use in animals with cardiovascular disorders.
Do not use in animals with severe systemic disease or in animals that are moribund.
Do not use in case of known hypersensitivity to the active substance or to any of the excipients.

6. Special warnings

Special warnings:

The administration of dexmedetomidine to puppies younger than 16 weeks and kittens younger than 12 weeks has not been studied.

Special precautions for safe use in the target species:

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

It is recommended that animals are fasted for 12 hours prior to administration of the veterinary medicinal product. Water may be given.

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

Corneal opacities may occur during sedation. The eyes should be protected by a suitable lubricant.

To be used with precaution in elderly animals.

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

Frequent and regular monitoring of respiratory and cardiac function should be performed. Pulse oximetry may be useful but is not essential for adequate monitoring. Equipment for manual ventilation should be available in case of respiratory depression or apnoea when dexmedetomidine and ketamine are used sequentially to induce anaesthesia in cats. It is also advisable to have oxygen readily available, should hypoxaemia be detected or suspected.

Sick and debilitated dogs and cats should only be premedicated with dexmedetomidine before induction and maintenance of general anaesthesia based on a risk-benefit assessment.

Use of dexmedetomidine as a premedicant in dogs and cats significantly reduces the amount of induction drug required for induction of anaesthesia. Attention should be given during the administration of intravenous induction drugs to effect. Volatile anaesthetic requirements for maintenance anaesthesia are also reduced.

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 oral exposure and self-injection. In 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.

This veterinary medicinal product can cause skin and/or eye irritation. Care should be taken to avoid skin, eye and mucosal contact. The use of impermeable gloves is advisable.
In 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

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 the active substance and/or parabens should administer the veterinary medicinal product with caution.

To the physician:
The veterinary medicinal product is an α2-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. The specific α2-adrenoceptor antagonist, atipamezole, which is approved for use in animals, has been used in humans only experimentally to antagonize dexmedetomidine-induced effects.

Pregnancy and lactation:
The safety of dexmedetomidine has not been established during pregnancy and lactation.
The use is not recommended during pregnancy and lactation.

Fertility:
The safety of dexmedetomidine has not been established in males intended for breeding.

Interaction with other medicinal products and other forms of interaction:
The use of other central nervous system depressants is expected to potentiate the effects of dexmedetomidine and therefore an appropriate dose adjustment should be made. Anticholinergics should be used with caution with dexmedetomidine.

Administration of atipamezole after dexmedetomidine rapidly reverses the effects and thus shortens the recovery period. Within 15 minutes dogs and cats are normally awake and standing.

Cats: After administration of 40 micrograms dexmedetomidine/kg bw intramuscularly concurrently with 5 mg ketamine/kg bw to cats, the maximum concentration of dexmedetomidine increased twofold but there was no effect on T max. The mean half-life of elimination of dexmedetomidine increased to 1.6 h and the total exposure (AUC) increased by 50%.

A dose of 10 mg ketamine/ kg used concurrently with 40 micrograms dexmedetomidine/ kg may cause tachycardia.

For information on adverse reactions, see section Adverse events.

For information on target animal safety in cases of overdosing, see sub-section ‘Overdose’.

Overdose:

Dogs: In cases of overdosage, or if the effects of dexmedetomidine become potentially life-threatening, the appropriate dose of atipamezole is 10 times the initial dose of dexmedetomidine (micrograms/ kg bw or micrograms/ square meter body surface area). The dose volume of atipamezole at the concentration of 5 mg/mL equals the dose volume of Dexmedocord that was given to the dog, regardless of route of administration of Dexmedocord.

Cats: In cases of overdosage, or if the effects of dexmedetomidine become potentially life-threatening, the appropriate antagonist is atipamezole, administered by intramuscular injection, at the following dose: 5 times the initial dose dexmedetomidine in micrograms/kg bw.
After concurrent exposure to a triple (3X) overdose of dexmedetomidine and 15 mg ketamine/ kg, atipamezole can be administered at the recommended dose level for reversal of effects induced by dexmedetomidine. At high serum concentrations of dexmedetomidine sedation is not increased although the level of analgesia does increase with further dose increases. The dose volume of atipamezole at the concentration of 5 mg/mL equals one-half the volume of Dexmedocord that was given to the cat.

Special restrictions for use and special conditions for use:

7. Adverse events

Dogs:

Very common (> 1 animal / 10 animals treated):	Bradycardia Cyanotic mucous membranes[2] Pale mucous membranes[2]
Common (1 to 10 animals / 100 animals treated):	Arrhythmia[1]
Rare (1 to 10 animals / 10 000 animals treated):	Pulmonary oedema
Undetermined frequency (cannot be estimated from the available data):	Excitation[1] Heart block[1] High blood pressure[3] Low blood pressure[3] Premature ventricular contractions[1] Supraventricular and nodal arrhythmia[1] Hypersalivation[1] Retching[1] Vomiting[4] Corneal opacity Muscle tremor Sedation prolonged[1] Bradypnoea[1,5] Decreased pulse oxygenation[1] Decreased respiratory rate Irregular breathing[1] Tachypnoea[1,5] Erythema[1] Decreased body temperature Urination[1]

[1]When dexmedetomidine and butorphanol are used concomitantly.
[2]Due to peripheral vasoconstriction and venous desaturation in the presence of normal arterial oxygenation.
[3]Blood pressure will increase initially and then return to normal or below normal.
[4]May occur 5–10 minutes after injection. Some dogs may also vomit at the time of recovery.
[5]When dexmedetomidine is used as a premedicant.

When dexmedetomidine and butorphanol are used concomitantly in dogs, brady- and tachyarrhythmias have been reported. These may include profound sinus bradycardia, 1st and 2nd degree AV block, sinus arrest or pause, as well as atrial, supraventricular and ventricular premature complexes.

When dexmedetomidine is used as a premedicant brady- and tachyarrhythmias have been reported and include profound sinus bradycardia, 1st and 2nd degree AV block and sinus arrest. Supraventricular

and ventricular premature complexes, sinus pause and 3rd degree AV block may be observed in rare cases.

Cats:

Very common (> 1 animal / 10 animals treated):	Arrhythmia[1] Bradycardia Heart block[2] Vomiting[3] Pale mucous membranes[4] Cyanotic mucous membranes[4]
Common (1 to 10 animals / 100 animals treated):	Supraventricular and nodal arrhythmia[1] Retching[1] Decreased pulse oxygenation[2] Hypothermia[2]
Uncommon (1 to 10 animals / 1 000 animals treated):	Apnoea[2]
Rare (1 to 10 animals / 10 000 animals treated):	Pulmonary oedema
Undetermined frequency (cannot be estimated from the available data):	Extrasystole[2] High blood pressure[5] Low blood pressure[5] Corneal opacity Muscle tremor Bradypnoea[2] Decreased respiratory rate Hypoventilation[2] Irregular breathing[2] Agitation[2]

[1]When dexmedetomidine is used as a premedicant.
[2]When dexmedetomidine and ketamine are used sequentially.
[3]May occur 5–10 minutes after injection. Some cats may also vomit at the time of recovery.
[4]Due to peripheral vasoconstriction and venous desaturation in the presence of normal arterial oxygenation.
[5]Blood pressure will increase initially and then return to normal or below normal.

Intramuscular dosing at 40 micrograms/kg (followed by ketamine or propofol) frequently resulted in sinus bradycardia and sinus arrhythmia, occasionally resulted in 1st degree atrioventricular block, and rarely resulted in supraventricular premature depolarizations, atrial bigeminy, sinus pauses, 2nd degree atrioventricular block, or escape beats/rhythms.

Reporting adverse events is important. It allows continuous safety monitoring of a product. If you notice any side effects, even those not already listed in this package leaflet, or you think that the medicine has not worked, please contact, in the first instance, your veterinarian. You can also report any adverse events to the marketing authorisation holder using the contact details at the end of this leaflet, or via your national reporting system.

8. Dosage for each species, routes and method of administration

The product is intended for:

- Dogs: intravenous or intramuscular use
- Cats: intramuscular use

The product is not intended for repeat injections.

Dosage: the following doses are recommended:

DOGS:

Dexmedetomidine doses are based on body surface area:

Intravenously: up to 375 micrograms/square metre body surface area
Intramuscularly: up to 500 micrograms/square metre body surface area

When administering in conjunction with butorphanol (0.1 mg/kg) for deep sedation and analgesia, the intramuscular dose of dexmedetomidine is 300 micrograms/square metre body surface area. The premedication dose of dexmedetomidine is 125–375 micrograms/square metre body surface area, administered 20 minutes prior to induction for procedures requiring anaesthesia. The dose should be adjusted to the type of surgery, length of procedure and patient temperament.

Concomitant use of dexmedetomidine and butorphanol produces sedative and analgesic effects beginning no later than 15 minutes. The peak sedative and analgesic effects are reached within 30 minutes after administration. Sedation lasts for at least 120 minutes post administration and analgesia lasts for at least 90 minutes. Spontaneous recovery occurs within 3 hours.

Premedication with dexmedetomidine will significantly reduce the dosage of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. In a clinical study, the requirement for propofol and thiopental was reduced by 30% and 60% respectively. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect. In a clinical study, dexmedetomidine contributed to postoperative analgesia for 0.5–4 hours. However this duration is dependent on a number of variables and further analgesia should be administered in accordance with clinical judgement.

The corresponding doses based on body weight are presented in the following tables. Use of an appropriately graduated syringe is recommended to ensure accurate dosing when administering small volumes.

Dog weight (kg)	**Dexmedetomidine 125 mcg/m^2**		**Dexmedetomidine 375 mcg/m^2**		**Dexmedetomidine 500 mcg/m^2**	
	(mcg/kg)	**(mL)**	**(mcg/kg)**	**(mL)**	**(mcg/kg)**	**(mL)**
2-3	9.4	0.04	28.1	0.12	40	0.15
3-4	8.3	0.05	25	0.17	35	0.2
4-5	7.7	0.07	23	0.2	30	0.3
5-10	6.5	0.1	19.6	0.29	25	0.4
10-13	5.6	0.13	16.8	0.38	23	0.5

13-15	5.2	0.15	15.7	0.44	21	0.6
15-20	4.9	0.17	14.6	0.51	20	0.7
20-25	4.5	0.2	13.4	0.6	18	0.8
25-30	4.2	0.23	12.6	0.69	17	0.9
30-33	4	0.25	12	0.75	16	1.0
33-37	3.9	0.27	11.6	0.81	15	1.1
37-45	3.7	0.3	11	0.9	14.5	1.2
45-50	3.5	0.33	10.5	0.99	14	1.3
50-55	3.4	0.35	10.1	1.06	13.5	1.4
55-60	3.3	0.38	9.8	1.13	13	1.5
60-65	3.2	0.4	9.5	1.19	12.8	1.6
65-70	3.1	0.42	9.3	1.26	12.5	1.7
70-80	3	0.45	9	1.35	12.3	1.8
>80	2.9	0.47	8.7	1.42	12	1.9

For deep sedation and analgesia with butorphanol		
Dog weight (kg)	**Dexmedetomidine 300 mcg/m^2 intramuscularly (mcg/kg)**	**(mL)**
2-3	24	0.12
3-4	23	0.16
4-5	22.2	0.2
5-10	16.7	0.25
10-13	13	0.3
13-15	12.5	0.35
15-20	11.4	0.4
20-25	11.1	0.5
25-30	10	0.55
30-33	9.5	0.6
33-37	9.3	0.65
37-45	8.5	0.7
45-50	8.4	0.8
50-55	8.1	0.85
55-60	7.8	0.9
60-65	7.6	0.95
65-70	7.4	1
70-80	7.3	1.1
>80	7	1.2

CATS:

The dosage for cats is 40 micrograms dexmedetomidine hydrochloride/kg bw, equal to a dose volume of 0.08 mL of Dexmedocord/kg bw when used for non-invasive, mildly to moderately painful procedures requiring restraint, sedation and analgesia.
When dexmedetomidine is used for premedication in cats, the same dose is used. Premedication with dexmedetomidine will significantly reduce the dosage of the induction agent required and will reduce volatile anaesthetic requirements for maintenance anaesthesia. In a clinical study, the requirement for propofol was reduced by 50%. All anaesthetic agents used for induction or maintenance of anaesthesia should be administered to effect.
Anaesthesia can be induced 10 minutes after premedication by intramuscular administration of a target dose of 5 mg ketamine/ kg bw or by intravenous administration of propofol to effect. Dosing for cats is presented in the following table.

Cat	**Dexmedetomidine 40 mcg/kg intramuscularly**

weight (kg)	(mcg/kg)	(mL)
1-2	40	0.1
2-3	40	0.2
3-4	40	0.3
4-6	40	0.4
6-7	40	0.5
7-8	40	0.6
8-10	40	0.7

The expected sedative and analgesic effects are reached within 15 minutes after administration and are maintained up to 60 minutes after administration. Sedation may be reversed with atipamezole. Atipamezole should not be administered prior to 30 minutes following ketamine administration.

9. Advice on correct administration

The stopper may be safely punctured up to 24 times.

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

10. Withdrawal periods

Not applicable

11. Special storage precautions

Keep out of the sight and reach of children.

This medicinal product does not require any special storage conditions.
After withdrawal of the first dose, the product may be stored for 3 months at 20°C - 25ºC.
Do not use this veterinary medicinal product after the expiry date which is stated on the label and carton after Exp. The expiry date refers to the last day of that month.
Shelf life after first opening the immediate packaging: 3 months.

12. Special precautions for disposal

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 applicable national collection systems. These measures should help to protect the environment.

Ask your veterinary surgeon or pharmacist how to dispose of medicines no longer required.

13. Classification of veterinary medicinal products

Veterinary medicinal product subject to prescription.

14. Marketing authorisation numbers and pack sizes

Marketing authorisation numbers: To be completed nationally

Pack size:
Cardboard box containing one 10 mL vial.
Cardboard box containing ten 10 mL vial.
Vial sizes: 10 mL
Not all pack sizes may be marketed.

15. Date on which the package leaflet was last revised

To be completed nationally

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

16. Contact details

Marketing authorisation holder and contact details to report suspected adverse reactions:

Accord Healthcare B.V.
Winthontlaan 200, Utrecht, 3526 KV,
Netherlands.
Telephone number: +44 (0) 208 901 3383

Manufacturer responsible for batch release:

Laboratori Fundació DAU
Calle Lletra C De La Zona Franca 12-14, Poligono Industrial De La Zona Franca De Barcelona, Barcelona, 08040, Spain.

17. Other information