

## SUMMARY OF PRODUCT CHARACTERISTICS

### 1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Vominil 10 mg/ml solution for injection for dogs and cats

### 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

**Active substance:**

Maropitant (as maropitant citrate monohydrate) 10 mg

**Excipients:**

Qualitative composition of excipients and other constituents	Quantitative composition if that information is essential for proper administration of the veterinary medicinal product
n-Butanol	22.00 mg
Sulfobutylbetadex sodium (SBECD)	
Water for injections	

Clear, colourless to almost 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 the treatment and prevention of nausea induced by chemotherapy.
- For the prevention of vomiting except that induced by motion sickness.
- For the treatment of vomiting, in combination with other supportive measures.
- For the prevention of perioperative nausea and vomiting and improvement in recovery from general anaesthesia after use of the  $\mu$ -opiate receptor agonist morphine.

Cats

- For the prevention of vomiting and the reduction of nausea, except that induced by motion sickness.
- For the treatment of vomiting, in combination with other supportive measures.

#### 3.3 Contraindications

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

#### 3.4 Special warnings

Vomiting can be associated with serious, severely debilitating conditions including gastrointestinal obstructions; therefore, appropriate diagnostic evaluations should be employed.

Good veterinary practice indicates that antiemetics should be used in conjunction with other veterinary and supportive measures such as dietary control and fluid replacement therapy while addressing the underlying causes of the vomiting.

The use of the veterinary medicinal product against vomiting due to motion sickness is not recommended.

Dogs:

Although maropitant has been demonstrated to be effective in both the treatment and prevention of emesis induced by chemotherapy, it was found more efficacious if used preventively. Therefore, it is recommended to administer the antiemetic prior to administration of the chemotherapeutic agent.

Cats:

The efficacy of maropitant in reduction of nausea was demonstrated in studies using a model (xylazine-induced nausea).

### **3.5 Special precautions for use**

#### Special precautions for safe use in the target species:

The safety of the veterinary medicinal product has not been established in dogs less than 8 weeks of age, or in cats less than 16 weeks of age, and in pregnant or lactating dogs and cats. Use only according to the benefit-risk assessment by the responsible veterinarian.

Maropitant is metabolised in the liver and therefore should be used with caution in patients with hepatic disease. As maropitant is accumulated in the body during a 14-day treatment period due to metabolic saturation, careful monitoring of liver function and any adverse events should be implemented during long term treatment.

The veterinary medicinal product should be used with caution in animals suffering from or with predisposition for cardiac diseases as maropitant has affinity to Ca- and K-ion channels. Increases of approximately 10% in the QT interval of the ECG were observed in a study on healthy beagle dogs administered 8 mg/kg orally; however, such an increase is unlikely to be of clinical significance.

Due to the frequent occurrence of transient pain during subcutaneous injection, appropriate animal restraining measures may have to be applied. Injecting the veterinary medicinal product at refrigerated temperature may reduce pain at injection.

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

This product may cause skin sensitisation. People with known hypersensitivity to maropitant should administer the veterinary medicinal product with caution. Wash the exposed skin immediately after exposure with large amounts of water. If you develop symptoms such as a rash after accidental exposure, seek medical advice and show the physician this warning.

This veterinary medicinal product may be irritant to the eyes. Avoid eye contact. In case of accidental contact of the product with eyes rinse abundantly with fresh water. If symptoms occur, seek the advice of a physician.

Maropitant is a neurokinin-1 (NK1) receptor antagonist that acts in the central nervous system. Accidental self-injection or ingestion may result in nausea, dizziness and somnolence. Care should be taken to avoid accidental self-injection. In case of accidental oral intake or self-injection seek medical advice immediately and show the package leaflet or the label to the physician.

Wash hands after use.

#### Special precautions for the protection of the environment:

Not applicable.

### 3.6 Adverse events

#### Dogs and cats:

Very common (>1 animal / 10 animals treated):	Injection site pain*
Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Anaphylactic-type reaction, allergic oedema, urticaria, erythema, collapse, dyspnoea, pale mucous membrane; Lethargy; Neurological disorders (e.g. ataxia, convulsion/seizure, muscle tremor)

\*May occur when injected subcutaneously. In approximately one third of cats moderate to severe response to injection is observed.

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 also section ‘contact details’ of the package leaflet for respective contact details.

### 3.7 Use during pregnancy, lactation or lay

Use only accordingly to the benefit-risk assessment by the responsible veterinarian because conclusive reproductive toxicity studies have not been conducted in any animal species.

### 3.8 Interaction with other medicinal products and other forms of interaction

The veterinary medicinal product should not be used concomitantly with Ca-channel antagonists as maropitant has affinity to Ca-channels.

Maropitant is highly bound to plasma proteins and may compete with other highly bound medicines.

### 3.9 Administration routes and dosage

For subcutaneous or intravenous use.

The veterinary medicinal product should be injected subcutaneously or intravenously, once daily, at a dose of 1 mg/kg bodyweight (1 ml/10 kg bodyweight) for up to 5 consecutive days. Intravenous administration of the veterinary medicinal product should be given as a single bolus without mixing the veterinary medicinal product with any other fluids.

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

To prevent vomiting, the veterinary medicinal product should be administered more than 1 hour in advance. The duration of effect is approximately 24 h and therefore treatment can be given the night before administration of an agent that may cause emesis e.g. chemotherapy.

As the pharmacokinetic variation is large and maropitant accumulates in the body after once daily repeated administration, lower doses than recommended might be sufficient in some individuals and when repeating the dose.

For administration by subcutaneous injection, see also ‘special precautions for safe use in the target species’ (section 3.5).

The rubber stopper may be safely punctured up to 100 times.

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

Apart from transient reactions at the injection site following subcutaneous administration, maropitant was well tolerated in dogs and young cats injected daily with up to 5 mg/kg (5 times the recommended dose) for 15 consecutive days (3-times the recommended duration of administration). No data is available on overdoses in adult cats.

### 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

Not applicable.

### 3.12 Withdrawal periods

Not applicable.

## 4. PHARMACOLOGICAL INFORMATION

### 4.1 ATCvet code: QA04AD90

### 4.2 Pharmacodynamics

Vomiting is a complex process coordinated centrally by the emetic centre. This centre consists of several brainstem nuclei (area postrema, nucleus tractus solitarius, dorsal motor nucleus of the vagus) that receive and integrate sensory stimuli from central and peripheral sources and chemical stimuli from the circulation and the cerebro-spinal fluid.

Maropitant is a neurokinin 1 (NK1) receptor antagonist, which acts by inhibiting the binding of substance P, a neuropeptide of the tachykinin family. Substance P is found in significant concentrations in the nuclei comprising the emetic centre and is considered the key neurotransmitter involved in vomiting. By inhibiting the binding of substance P within the emetic centre, maropitant is effective against neural and humoral (central and peripheral) causes of vomiting.

A variety of *in vitro* assays have demonstrated that maropitant binds selectively at the NK1 receptor with dose-dependent functional antagonism of substance P activity.

Maropitant is effective against vomiting. The anti-emetic efficacy of maropitant against central and peripheral emetics was demonstrated in experimental studies including apomorphine, cisplatin and syrup of ipecac (dogs) and xylazine (cats).

Signs of nausea in dogs including excessive salivation and lethargy might remain after treatment.

### 4.3 Pharmacokinetics

#### Dogs

The pharmacokinetic profile of maropitant when administered as a single subcutaneous dose of 1 mg/kg body weight to dogs was characterised by a maximum concentration ( $C_{max}$ ) in plasma of approximately 92 ng/ml; this was achieved within 0.75 hours post-dosing ( $T_{max}$ ). Peak concentrations were followed by a decline in systemic exposure with an apparent elimination half-life ( $t_{1/2}$ ) of 8.84 hours. Following a single intravenous dose at 1 mg/kg the initial plasma concentration was 363 ng/ml. The volume of distribution at steady-state ( $V_{ss}$ ) was 9.3 l/kg and systemic clearance was 1.5 l/h/kg. The elimination  $t_{1/2}$  following intravenous dosing was approximately 5.8 h.

During clinical studies maropitant plasma levels conferred efficacy from 1 hour after administration. The bioavailability of maropitant after subcutaneous administration in dogs was 90.7%. Maropitant displays linear kinetics when administered subcutaneously within the 0.5–2 mg/kg dose range.

Following repeated subcutaneous administration of once-daily doses of 1 mg/kg bodyweight for five consecutive days, accumulation was 146%. Maropitant undergoes cytochrome P450 (CYP) metabolism in the liver. CYP2D15 and CYP3A12 were identified as the canine isoforms involved in the hepatic biotransformation of maropitant.

Renal clearance is a minor route of elimination, with less than 1% of a 1 mg/kg subcutaneous dose appearing in the urine as either maropitant or its major metabolite. Plasma protein binding of maropitant in dogs is more than 99%.

### **Cats**

The pharmacokinetic profile of maropitant when administered as a single subcutaneous dose of 1 mg/kg body weight to cats was characterised by a maximum concentration ( $C_{max}$ ) in plasma of approximately 165 ng/ml; this was achieved on average 0.32 hours (19 min) post-dosing ( $T_{max}$ ). Peak concentrations were followed by a decline in systemic exposure with an apparent elimination half-life ( $t_{1/2}$ ) of 16.8 hours. Following a single intravenous dose at 1 mg/kg the initial plasma concentration was 1040 ng/ml. The volume of distribution at steady-state ( $V_{ss}$ ) was 2.3 l/kg and systemic clearance was 0.51 l/h/kg. The elimination  $t_{1/2}$  following intravenous dosing was approximately 4.9 h. There appears to be an age-related effect on the pharmacokinetics of maropitant in cats with kittens having higher clearance than adults.

During clinical studies maropitant plasma levels conferred efficacy from 1 hour after administration.

The bioavailability of maropitant after subcutaneous administration in cats was 91.3%. Maropitant displays linear kinetics when administered subcutaneously within the 0.25–3 mg/kg dose range.

Following repeated subcutaneous administration of once-daily doses of 1 mg/kg bodyweight for five consecutive days, accumulation was 250%. Maropitant undergoes cytochrome P450 (CYP) metabolism in the liver. CYP1A and CYP3A-related enzymes were identified as the feline isoforms involved in the hepatic biotransformation of maropitant.

Renal and faecal clearances are minor routes of elimination for maropitant, with less than 1% of a 1 mg/kg subcutaneous dose appearing in the urine or faeces as maropitant. For the major metabolite 10.4% of the maropitant dose was recovered in urine and 9.3% in faeces. Plasma protein binding of maropitant in cats was estimated to be 99.1%.

## **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 in the same syringe.

### **5.2 Shelf life**

Shelf life of the veterinary medicinal product as packaged for sale: 30 months  
Shelf life after first opening the immediate packaging: 28 days

### **5.3 Special precautions for storage**

Do not freeze.

### **5.4 Nature and composition of immediate packaging**

Amber glass vial type I (Ph. Eur.) with 10 ml, 25 ml or 50 ml solution for injection, closed with a chlorobutyl rubber stopper, type I (Ph. Eur) and aluminium pull or flip off cap in a cardboard box.

Pack sizes:

Cardboard box with 1 vial (10 ml)

Cardboard box with 1 vial (25 ml)

Cardboard box with 1 vial (50 ml)

Cardboard box with 5 vials (10 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**

VetViva Richter GmbH

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

#### **8. DATE OF FIRST AUTHORISATION**

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 \(https://medicines.health.europa.eu/veterinary\)](https://medicines.health.europa.eu/veterinary).

**LABELLING****PARTICULARS TO APPEAR ON THE OUTER PACKAGE**

Cardboard box (10 ml, 5 x 10 ml, 25 ml, 50 ml)

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

Vominil 10 mg/ml solution for injection

**2. STATEMENT OF ACTIVE SUBSTANCES**

Maropitant 10 mg/ml

**3. PACKAGE SIZE**

10 ml  
25 ml  
50 ml  
5 x 10 ml

**4. TARGET SPECIES**

Dogs, cats

**5. INDICATIONS**

-

**6. ROUTES OF ADMINISTRATION**

For subcutaneous or intravenous use.

**7. WITHDRAWAL PERIODS**

-

**8. EXPIRY DATE**

Exp. {mm/yyyy}

Once broached, use within 28 days.

**9. SPECIAL STORAGE PRECAUTIONS**

Do not freeze.

**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**

VetViva Richter

**14. MARKETING AUTHORISATION NUMBERS**

**15. BATCH NUMBER**

Lot {number}

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

10 ml, 25 ml, 50 ml amber glass vial closed with a chlorobutyl rubber stopper and aluminium cap

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

Vominil



Dogs, cats

**2. QUANTITATIVE PARTICULARS OF THE ACTIVE SUBSTANCES**

Maropitant 10 mg/ml

**3. BATCH NUMBER**

Lot {number}

**4. EXPIRY DATE**

Exp. {mm/yyyy}

Once broached use by...

**PACKAGE LEAFLET****1. Name of the veterinary medicinal product**

Vominil 10 mg/ml solution for injection for dogs and cats

**2. Composition**

Each ml contains:

**Active substance:**

Maropitant (as maropitant citrate monohydrate) 10 mg

**Excipients:**

n-Butanol 22 mg

Clear, colourless to almost colourless solution for injection.

**3. Target species**

Dogs, cats

**4. Indications for use**

Dogs

- For the treatment and prevention of nausea induced by chemotherapy.
- For the prevention of vomiting except that induced by motion sickness.
- For the treatment of vomiting, in combination with other supportive measures.
- For the prevention of perioperative nausea and vomiting and improvement in recovery from general anaesthesia after use of the  $\mu$ -opiate receptor agonist morphine.

Cats

- For the prevention of vomiting and the reduction of nausea, except that induced by motion sickness.
- For the treatment of vomiting, in combination with other supportive measures.

**5. Contraindications**

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

**6. Special warnings**Special warnings:

Vomiting can be associated with serious, severely debilitating conditions including gastrointestinal obstructions; therefore, appropriate diagnostic evaluations should be employed.

Good veterinary practice indicates that antiemetics should be used in conjunction with other veterinary and supportive measures such as dietary control and fluid replacement therapy while addressing the underlying causes of the vomiting.

The use of the veterinary medicinal product against vomiting due to motion sickness is not recommended.

**Dogs:**

Although maropitant has been demonstrated to be effective in both the treatment and prevention of emesis induced by chemotherapy, it was found more efficacious if used preventively. Therefore, it is recommended to administer the antiemetic prior to administration of the chemotherapeutic agent.

**Cats:**

The efficacy of maropitant in reduction of nausea was demonstrated in studies using a model (xylazine-induced nausea).

Special precautions for safe use in the target species:

The safety of the veterinary medicinal product has not been established in dogs less than 8 weeks of age, or in cats less than 16 weeks of age, and in pregnant or lactating dogs and cats. Use only according to the benefit-risk assessment by the responsible veterinarian.

Maropitant is metabolised in the liver and therefore should be used with caution in patients with hepatic disease. As maropitant is accumulated in the body during a 14-day treatment period due to metabolic saturation, careful monitoring of liver function and any adverse events should be implemented during long term treatment.

The veterinary medicinal product should be used with caution in animals suffering from or with predisposition for cardiac diseases as maropitant has affinity to Ca- and K-ion channels. Increases of approximately 10% in the QT interval of the ECG were observed in a study on healthy beagle dogs administered 8 mg/kg orally; however, such an increase is unlikely to be of clinical significance.

Due to the frequent occurrence of transient pain during subcutaneous injection, appropriate animal restraining measures may have to be applied. Injecting the veterinary medicinal product at refrigerated temperature may reduce pain at injection.

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

This product may cause skin sensitisation. People with known hypersensitivity to maropitant should administer the veterinary medicinal product with caution. Wash the exposed skin immediately after exposure with large amounts of water. If you develop symptoms such as a rash after accidental exposure, seek medical advice and show the physician this warning.

This veterinary medicinal product may be irritant to the eyes. Avoid eye contact. In case of accidental contact of the product with eyes rinse abundantly with fresh water. If symptoms occur, seek the advice of a physician.

Maropitant is a neurokinin-1 (NK1) receptor antagonist that acts in the central nervous system.

Accidental self-injection or ingestion may result in nausea, dizziness and somnolence. Care should be taken to avoid accidental self-injection. In case of accidental oral intake or self-injection seek medical advice immediately and show the package leaflet or the label to the physician.

Wash hands after use.

Pregnancy and lactation:

Use only according to the benefit-risk assessment by the responsible veterinarian because conclusive reproductive toxicity studies have not been conducted in any animal species.

Interaction with other medicinal products and other forms of interaction:

The veterinary medicinal product should not be used concomitantly with Ca-channel antagonists as maropitant has affinity to Ca-channels.

Maropitant is highly bound to plasma proteins and may compete with other highly bound medicines.

Overdose:

Apart from transient reactions at the injection site following subcutaneous administration, maropitant was well tolerated in dogs and young cats injected daily with up to 5 mg/kg (5 times the recommended dose) for 15 consecutive days (3-times the recommended duration of administration). No data is available on overdoses in adult cats.

Major incompatibilities:

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

## **7. Adverse events**

Dogs, cats:

Very common (>1 animal / 10 animals treated):

Injection site pain\*

Very rare (<1 animal / 10,000 animals treated, including isolated reports):

Anaphylactic-type reaction, allergic oedema, urticaria, erythema, collapse, dyspnoea, pale mucous membrane. Lethargy. Neurological disorders (e.g. ataxia, convulsion/seizure, muscle tremor)

\*May occur when injected subcutaneously. In approximately one third of cats moderate to severe response to injection is observed.

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal 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 or the local representative of 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**

For subcutaneous or intravenous use.

The veterinary medicinal product should be injected subcutaneously or intravenously, once daily, at a dose of 1 mg/kg bodyweight (1 ml/10 kg bodyweight) for up to 5 consecutive days. Intravenous administration of the veterinary medicinal product should be given as a single bolus without mixing the veterinary medicinal product with any other fluids.

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

The rubber stopper may be safely punctured up to 100 times.

## **9. Advice on correct administration**

To prevent vomiting, the veterinary medicinal product should be administered more than 1 hour in advance. The duration of effect is approximately 24 h and therefore treatment can be given the night before administration of an agent that may cause emesis e.g. chemotherapy.

As the pharmacokinetic variation is large and maropitant accumulates in the body after once daily repeated administration, lower doses than recommended might be sufficient in some individuals and when repeating the dose.

For administration by subcutaneous injection, see also ‘special precautions for safe use in the target species’.

**10. Withdrawal periods**

Not applicable.

**11. Special storage precautions**

Keep out of the sight and reach of children.

Do not freeze.

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: 28 days

**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**

Pack sizes:

Cardboard box with 1 vial (10 ml)

Cardboard box with 1 vial (25 ml)

Cardboard box with 1 vial (50 ml)

Cardboard box with 5 vials (10 ml)

Not all pack sizes may be marketed.

**15. Date on which the package leaflet was last revised**

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

**16. Contact details**

Marketing authorisation holder, manufacturer responsible for batch release <and contact details to report suspected adverse reactions>:

VetViva Richter GmbH, Durisolstrasse 14, 4600 Wels, Austria

<Local representatives and contact details to report suspected adverse reactions:>

<For any information about this veterinary medicinal product, please contact the local representative of the marketing authorisation holder. >

**17. Other information**

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