

## **SUMMARY OF PRODUCT CHARACTERISTICS**

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

Vetergesic, 0.3mg/ml solution for injection for Dogs and Cats

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

#### **Active Substance**

Buprenorphine: 0.3mg/ml  
(as buprenorphine hydrochloride: 0.324mg/ml)

For full list of excipients, see section 6.1

### **3. PHARMACEUTICAL FORM**

Solution for injection.  
Clear, colourless solution for injection

### **4. CLINICAL PARTICULARS**

#### **4.1 Target species**

Dogs and cats.

#### **4.2 Indications for use, specifying the target species**

Post-operative analgesia and sedation in the dog. Post-operative analgesia in the cat.

#### **4.3 Contra-indications**

None known.

#### **4.4 Special warnings for each target species**

Animals administered opioids possessing sedative and analgesic properties may show variable responses. Therefore, the responses of individual animals should be monitored and subsequent doses should be adjusted accordingly. In some cases repeat doses may fail to provide additional analgesia. In these cases, consideration should be given to use of an analgesic from an alternative class.

#### **4.5 Special precautions for use, including special precautions to be taken by the person administering the medicinal product to the animal**

i) Special Precautions for use in animals

Buprenorphine may occasionally cause significant respiratory depression and, as with other opioid drugs, care should be taken when treating animals with impaired respiratory function or animals that are receiving drugs that can cause respiratory depression. Volunteer studies in man have indicated that opiate antagonists may not fully reverse the effects of buprenorphine. Naloxone may be of benefit in reversing reduced respiratory rate and respiratory stimulants such as Doxapram are also effective in man. Because of the prolonged duration of effect of buprenorphine in comparison to such drugs, they may need to be administered repeatedly or by continuous infusion.

Buprenorphine may cause some drowsiness, which may be potentiated by other centrally-acting agents, including tranquillisers, sedatives and hypnotics. The product should not be used in conjunction with morphine or other opioid-type analgesics (e.g. etorphine, fentanyl, pethidine, methadone, papaveretum and butorphanol).

As buprenorphine is metabolised by the liver, its intensity and duration of action may be affected in animals with impaired liver function.

Safety has not been fully evaluated in clinically compromised cats e.g. those suffering from renal or hepatic dysfunction, cardiovascular disease or shock. Use in such cases should be based on the risk-benefit assessment of the veterinarian.

Repeated administration earlier than the recommended repeat interval suggested in Section 4.9 is not recommended.

- ii) Special precautions to be taken by the person administering the medicinal product to the animals.

Wash hands/affected area thoroughly after any accidental spillage

Care should be taken to avoid accidental self-injection.

Following accidental self-injection or ingestion, seek medical advice taking the product literature with you.

Following eye contamination or skin contact, wash thoroughly with cold running water. Seek medical advice if irritation persists.

#### **4.6 Adverse reactions (frequency and seriousness)**

Salivation, bradycardia, hypothermia, agitation, dehydration and meiosis can occur in the dog, and rarely hypertension and tachycardia.

Mydriasis and signs of euphoria (excessive purring, pacing, rubbing) commonly occur in cats and will usually resolve within 24 hours.

#### **4.7 Use during pregnancy, lactation or lay**

No foetal malformations were noted in reproduction studies in rats when buprenorphine was administered by subcutaneous, intramuscular, or intravenous routes. Although post-implantation losses and early foetal deaths were observed, these may have resulted from a lower level of parental care owing to sedation of the mothers.

The product should not be used pre-operatively in cases of Caesarean section, due to the risk of respiratory depression in the offspring periparturiently, and should only be used post-operatively with care. Although the reproduction

studies in animals do not indicate a teratogenic risk, buprenorphine should be used with caution in pregnant animals.

Studies in lactating rats have shown that, after intramuscular administration of buprenorphine, concentrations of unchanged buprenorphine in the milk equalled or exceeded that in the plasma. As it is likely that buprenorphine will be excreted in the milk of other species, care should be taken when administering buprenorphine to lactating animals.

#### 4.8 Interactions with other medicinal products and other forms of interaction

Buprenorphine may cause some drowsiness, which may be potentiated by other centrally acting agents, including tranquillisers, sedatives and hypnotics.

Although there is evidence in humans to indicate that therapeutic doses of buprenorphine do not reduce the analgesic efficacy of standard doses of an opioid agonist and that when buprenorphine is employed within the normal therapeutic range, standard doses of opioid agonist may be administered before the effects of the former have ended without compromising analgesia, it is recommended that buprenorphine is not used in conjunction with morphine or other opioid-type analgesics, e.g. etorphine, fentanyl, pethidine, methadone, papaveretum or butorphanol.

Vetergesic has been used successfully with a wide range of premedicant and anaesthetic agents including acepromazine, alphaxalone/alphadalone, atropine, halothane, isoflurane, ketamine, medetomidine, propofol, sevoflurane, thiopentone and xylazine without any observed adverse effects.

#### 4.9 Amounts to be administered and administration route

Vetergesic should be injected intramuscularly.

Species	Post-Operative Analgesia	Sedation
Dog	10 – 20 microgram per kg (0.3 – 0.6mL per 10kg) repeated if necessary after 3 – 4 hours with 10 microgram or 5 – 6 hours with 20 microgram doses.	10 – 20 microgram per kg (0.3 – 0.6mL per 10kg).
Cat	10 – 20 microgram per kg (0.3 – 0.6mL per 10kg), repeated if necessary, once, after 2 hours.	

To ensure that analgesia is present immediately on recovery, the product can be administered preoperatively. If additional analgesia is subsequently required, this may be achieved by administration of a further dose of Vetergesic or concomitant use of a suitable injectable NSAID.

An appropriately graduated syringe must be used to allow accurate dosing.

When administered pre-operatively in conjunction with other premedicants, it may be possible to reduce the amount of premedicant, such as acepromazine or medetomidine, and also the amount of inhalational anaesthetic used.

#### 4.10 Overdosage (symptoms, emergency procedures, antidotes) if necessary

In cases of overdose, supportive measures should be instituted, and, if appropriate, naloxone or respiratory stimulants may be used. However, dose levels many times higher than those indicated above have been used without serious side effects.

Please also refer to Sections 4.5.i and 4.6 of this SPC.

#### **4.11 Withdrawal period**

Not applicable.

### **5. PHARMACOLOGICAL PROPERTIES**

**Pharmacotherapeutic group:** Opioid analgesics, oripavine derivatives

**ATC Vetcode:** QN02AE01.

#### **5.1 Pharmacodynamic properties**

In summary buprenorphine is a potent, long-acting analgesic acting at opiate receptors in the central nervous system.

Buprenorphine exerts its analgesic effect via high affinity binding to various subclasses of opiate receptors, particularly  $\mu$ , in the central nervous system. At clinical dose levels for analgesia, buprenorphine demonstrates high efficacy and binds to opiate receptors with high affinity and high receptor avidity, such that its dissociation from the receptor site is slow, as demonstrated in in vitro studies. This unique property of buprenorphine could account for its longer duration of activity when compared to morphine. In circumstances where excessive opiate agonist is already bound to opiate receptors, buprenorphine can exert a narcotic antagonistic activity as a consequence of its high-affinity opiate receptor binding, such that an antagonistic effect on morphine equivalent to naloxone has been demonstrated.

#### **5.2 Pharmacokinetic particulars**

Buprenorphine is rapidly absorbed after intramuscular injection in various animal species and man. The substance is highly lipophilic and the volume of distribution in body compartments is large. Pharmacological effects occur within 30 minutes after injection and peak effects are usually observed at about 1 – 1.5 hours. Following intramuscular administration to cats, the mean terminal half-life was 6.3 hours and the clearance was 23 mL/kg/min, however, there was considerable inter-cat variability in pharmacokinetic parameters.

Combined pharmacokinetic and pharmacodynamic studies in cats have demonstrated a marked hysteresis between plasma concentrations and analgesic effect. Plasma concentrations of buprenorphine should not be used to formulate individual animal dosage regimens, which should be determined by monitoring of the patient's response.

The major route of excretion in all species except the rabbit (where urinary excretion predominates) is the faeces. Buprenorphine undergoes N-dealkylation and glucuronide conjugation by the intestinal wall and the liver and its metabolites are excreted via the bile into the gastro-intestinal tract.

In tissue distribution studies carried out in rats and rhesus monkeys the highest concentrations of drug-related material were observed in liver, lung and brain. Peak levels occurred rapidly and declined to low levels by 24 hours after dosing.

Protein binding studies in rats have shown that buprenorphine is highly bound to plasma proteins, principally to alpha and beta globulins.

## **6. PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Glucose anhydrous,  
Hydrochloric acid, Dilute (for pH adjustment),  
Water for injection.

### **6.2 Incompatibilities**

None known.

### **6.3 Shelf-life**

Shelf life of the veterinary medicinal product as packaged for sale: 3 years.

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

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

Protect from light.

This product does not contain an antimicrobial preservative. Any solution remaining in an ampoule following withdrawal of the required dose should be discarded.

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

Presented in 1ml clear, Type I glass, snap ampoules, in boxes of five.

### **6.6 Special precautions for disposal of unused veterinary medicinal products or waste materials derived from the use of such products, if appropriate**

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements.

**7. MARKETING AUTHORISATION HOLDER**

Ceva Animal Health Ltd  
Explorer House  
Mercury Park  
Wycombe Lane  
Wooburn Green  
High Wycombe  
Buckinghamshire  
HP10 0HH  
United Kingdom

**8. MARKETING AUTHORISATION NUMBER**

Vm 15052/4080

**9. DATE OF THE FIRST AUTHORISATION**

24 April 1995

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

October 2022

Approved 20 October 2022

