

**ANNEX I**

**SUMMARY OF PRODUCT CHARACTERISTICS**

## 1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Catosal 100 mg/ml + 0.05 mg/ml solution for injection for cattle, horses and dogs

## 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

1 ml contains:

### Active substances:

Butafosfan	100 mg
Cyanocobalamin (vitamin B <sub>12</sub> )	0.05 mg

### Excipients:

Qualitative composition of excipients and other constituents	Quantitative composition if that information is essential for proper administration of the veterinary medicinal product
<i>n</i> -butanol	30 mg
Sodium hydroxide (for pH adjustment)	
Water for injections	

Clear, pink solution for injection.

## 3. CLINICAL INFORMATION

### 3.1 Target species

Cattle  
Horses  
Dogs

### 3.2 Indications for use for each target species

#### All target species:

- Supportive treatment and prevention of hypophosphatemia and/or cyanocobalamin (vitamin B<sub>12</sub>) deficiency.

#### Cattle:

- Supportive treatment to restore rumination following surgical treatment of displaced abomasum associated with secondary ketosis.  
- Complementary treatment of parturient paresis in addition to Ca/Mg therapy.  
- Prevention of ketosis development, if administered before calving.

#### Horses:

- Adjunctive therapy in horses suffering from muscular exhaustion.

### 3.3 Contraindications

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

### 3.4 Special warnings

None.

### 3.5 Special precautions for use

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

Intravenous administration should be done very slowly since cases of circulatory shock may be associated with too rapid injection.

In dogs suffering from chronic renal insufficiency the veterinary medicinal product should only be used according to the benefit-risk assessment by the responsible veterinarian.

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

People with known hypersensitivity to any of the ingredients should avoid contact with the veterinary medicinal product.

This veterinary medicinal product may cause skin and eye irritation. Avoid contact with skin and eyes. In case of accidental exposure, rinse the affected area thoroughly with water.

Self-injection should be avoided. In case of accidental 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

Cattle, horses, dogs:

Rare (1 to 10 animals / 10,000 animals treated):	Injection site pain <sup>1</sup>
Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Circulatory shock <sup>2</sup>

<sup>1</sup>Has been reported following subcutaneous administration in dogs.

<sup>2</sup>In cases where rapid intravenous infusion has occurred.

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 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

Can be used during pregnancy and lactation in cows.

The safety of the veterinary medicinal product has not been established during pregnancy and lactation in mares and bitches. Laboratory studies in rats have not produced any evidence of teratogenic, foetotoxic or maternotoxic effects. Use only according to the benefit-risk assessment by the responsible veterinarian.

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

None known.

### 3.9 Administration routes and dosage

Cattle and horses:

Intravenous use.

Dogs:

Intravenous, intramuscular and subcutaneous use.

It is recommended that the solution is warmed to body temperature before administration.

The dose depends on the animal's body weight (bw) and condition.

Species	Dose butafosfan (mg/kg bw)	Dose cyanocobalamin (mg/kg bw)	Dose volume of the veterinary medicinal product	Route of administration
Cattle Horses	5–10	0.0025–0.005	5–10 ml/100 kg	i.v.
Dogs	10–15	0.005–0.0075	0.1–0.15 ml/kg	i.v., i.m., s.c.

For the supportive treatment of secondary ketosis in cows, the recommended dose should be administered on three consecutive days.

For the prevention of ketosis in cows, the recommended dose should be administered on three consecutive days within the period of 10 days before expected calving.

For other indications, treatment should be repeated as necessary.

For multiple bottle entry, an aspirating needle or multi-dose syringe is recommended to avoid excessive broaching of the stopper. The stopper may be safely punctured up to 10 times.

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

No adverse effect was reported after intravenous administrations up to 5 times the recommended dose in cattle.

Except transient slight swelling at the injection site, no other adverse effect was reported after subcutaneous administrations up to 5 times the recommended dose in dogs.

No overdose data are available for dogs after intravenous and intramuscular administrations.

No overdose data are available for horses.

### 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

Cattle and horses:

Meat and offal: Zero days.

Milk: Zero hours.

## **4. PHARMACOLOGICAL INFORMATION**

### **4.1 ATCvet code**

QA12CX99

### **4.2 Pharmacodynamics**

Butafosfan is a synthetically produced organic phosphorus compound. It is used as an exogenous source of phosphorus, which is important for energy metabolism. It is essential for gluconeogenesis since most intermediates of that process need to be phosphorylated.

Cyanocobalamin is a unique cobalt-containing vitamin which is a semi-synthetic form of vitamin B<sub>12</sub>. It functions as a co-factor for two of the enzymes important in fatty acid synthesis and in the biosynthesis of glucose from propionate.

Cyanocobalamin belongs to the family of water-soluble B-vitamins which are synthesized by the microbial flora in the digestive tract of domestic animals (forestomachs and large intestine). When administered parenterally, cyanocobalamin is directly available as a source of vitamin B<sub>12</sub>.

### **4.3 Pharmacokinetics**

Butafosfan is rapidly absorbed from the injection site when administered subcutaneously or intramuscularly. The maximum plasma concentration is reached approximately 30 minutes after administration. Butafosfan is distributed to the liver, kidney, muscle and skin/fat and is excreted rapidly, mainly in urine (74 % in the first 12 hours), while less than 1 % is excreted in faeces. In studies in cattle after a single intravenous administration of a single dose of 5 mg/kg body weight elimination is relatively rapid with a terminal half-life of 3.2 hours. In cows it was established that milk excretion was low.

In studies in horses, after intravenous administration of butafosfan at a dose of 10 mg/kg of body weight, the value  $C_{max}$  was reached within 1 minute, while the biological half-life is approximately 78 minutes.

In studies in dogs after a single subcutaneous administration of a single dose of 20 mg/kg body weight, absorption and butafosfan elimination is relatively rapid.  $T_{max}$  in dogs is 0.75 h, while the terminal half-life is approximately 9 hours.

Cyanocobalamin is rapidly and extensively absorbed into the blood after subcutaneous or intramuscular administration to animals. In serum, it is bound to specific transport proteins called transcobalamins. It is distributed extensively into all tissues and tends to accumulate in the liver. The principal routes of excretion of absorbed vitamin B<sub>12</sub> are via urine, bile, and faeces. Urinary excretion of unmetabolised vitamin B<sub>12</sub> by kidney glomerular filtration is minimal and biliary excretion via faeces is the major excretory route. Much of the cobalamin excreted in bile is reabsorbed; at least 65 to 75 % is reabsorbed in the ileum by means of the “intrinsic factor” active transport mechanism.

## **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:

- 100 ml bottle: 5 years.
- 50 ml and 250 ml bottle: 3 years.

Shelf life after first opening the immediate packaging: 28 days.

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

Do not freeze.  
Protect from light.

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

Type II (50 ml, 100 ml) or type I (250 ml) brown glass bottle.  
Each bottle is closed with a chlorobutyl stopper and a flanged cap.

#### Pack sizes:

Cardboard box with 1 bottle filled with 50 ml.  
Cardboard box with 1 bottle filled with 100 ml.  
Cardboard box with 1 bottle filled with 250 ml.

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**

<To be completed nationally.>

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

<To be completed nationally.>

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

Date of first authorisation: {DD/MM/YYYY}

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

{MM/YYYY}

## **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).

**ANNEX III**  
**LABELLING AND PACKAGE LEAFLET**

## **A. LABELLING**



**PARTICULARS TO APPEAR ON THE OUTER PACKAGE****Cardboard box****1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

Catosal 100 mg/ml + 0.05 mg/ml solution for injection

**2. STATEMENT OF ACTIVE SUBSTANCES**

Butafosfan 100 mg/ml

Cyanocobalamin (vitamin B<sub>12</sub>) 0.05 mg/ml**3. PACKAGE SIZE**

50 ml

100 ml

250 ml

**4. TARGET SPECIES**

Cattle, horses, dogs.

**5. INDICATIONS****6. ROUTES OF ADMINISTRATION**

Cattle and horses:

Intravenous use.

Dogs:

Intravenous, intramuscular and subcutaneous use.

**7. WITHDRAWAL PERIODS**

Withdrawal periods:

Cattle and horses:

Meat and offal: Zero days.

Milk: Zero hours.

**8. EXPIRY DATE**

Exp. {mm/yyyy}

Once broached, use within 28 days – by: \_\_\_\_\_.

**9. SPECIAL STORAGE PRECAUTIONS**

Do not freeze. Protect from light.

**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**

Elanco 

**14. MARKETING AUTHORISATION NUMBERS**

<To be completed nationally.>

**15. BATCH NUMBER**

Lot {number}

**PARTICULARS TO APPEAR ON THE IMMEDIATE PACKAGE**

Glass bottle (100 ml, 250 ml)

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

Catosal 100 mg/ml + 0.05 mg/ml solution for injection

**2. STATEMENT OF ACTIVE SUBSTANCES**

Butafosfan 100 mg/ml  
Cyanocobalamin (vitamin B<sub>12</sub>) 0.05 mg/ml

**3. TARGET SPECIES**

Cattle, horses, dogs.

**4. ROUTES OF ADMINISTRATION**

Cattle and horses:  
Intravenous use.

Dogs:  
Intravenous, intramuscular and subcutaneous use.

Read the package leaflet before use.

**5. WITHDRAWAL PERIODS**

Withdrawal periods:

Cattle and horses:

Meat and offal: Zero days.

Milk: Zero hours.

**6. EXPIRY DATE**


Exp. {mm/yyyy}

Once broached, use within 28 days – by: \_\_\_\_\_.

**7. SPECIAL STORAGE PRECAUTIONS**

Do not freeze. Protect from light.

**8. NAME OF THE MARKETING AUTHORISATION HOLDER**

Elanco 

<b>9. BATCH NUMBER</b>
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Lot {number}

<b>MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS</b>
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<b>Glass bottle (50 ml)</b>
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<b>1. NAME OF THE VETERINARY MEDICINAL PRODUCT</b>
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Catosal

<b>2. QUANTITATIVE PARTICULARS OF THE ACTIVE SUBSTANCES</b>
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Butafosfan 100 mg/ml

Cyanocobalamin (vitamin B<sub>12</sub>) 0.05 mg/ml

<b>3. BATCH NUMBER</b>
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Lot {number}

<b>4. EXPIRY DATE</b>
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Exp. {mm/yyyy}

Once broached, use within 28 days – by: \_\_\_\_\_.

## **B. PACKAGE LEAFLET**

## PACKAGE LEAFLET

### 1. Name of the veterinary medicinal product

Catosal 100 mg/ml + 0.05 mg/ml solution for injection for cattle, horses and dogs

### 2. Composition

1 ml contains:

#### Active substances:

Butafosfan	100 mg
Cyanocobalamin (vitamin B <sub>12</sub> )	0.05 mg

#### Excipients:

<i>n</i> -butanol	30 mg
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Clear, pink solution for injection.

### 3. Target species

Cattle  
Horses  
Dogs

### 4. Indications for use

#### All target species:

- Supportive treatment and prevention of hypophosphatemia and/or cyanocobalamin (vitamin B<sub>12</sub>) deficiency.

#### Cattle:

- Supportive treatment to restore rumination following surgical treatment of displaced abomasum associated with secondary ketosis.  
- Complementary treatment of parturient paresis in addition to Ca/Mg therapy.  
- Prevention of ketosis development, if administered before calving.

#### Horses:

- Adjunctive therapy in horses suffering from muscular exhaustion.

### 5. Contraindications

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

### 6. Special warnings

#### Special warnings:

None.

Special precautions for safe use in the target species:

Intravenous administration should be done very slowly since cases of circulatory shock may be associated with too rapid injection.

In dogs suffering from chronic renal insufficiency the veterinary medicinal product should only be used according to the benefit-risk assessment by the responsible veterinarian.

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

People with known hypersensitivity to any of the ingredients should avoid contact with the veterinary medicinal product.

This veterinary medicinal product may cause skin and eye irritation. Avoid contact with skin and eyes.

In case of accidental exposure, rinse the affected area thoroughly with water.

Self-injection should be avoided. In case of accidental 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.

Pregnancy and lactation:

Can be used during pregnancy and lactation in cows.

The safety of the veterinary medicinal product has not been established during pregnancy and lactation in mares and bitches. Laboratory studies in rats have not produced any evidence of teratogenic, foetotoxic or maternotoxic effects. Use only according to the benefit-risk assessment by the responsible veterinarian.

Interaction with other medicinal products and other forms of interaction:

None known.

Overdose:

No adverse effect was reported after intravenous administrations up to 5 times the recommended dose in cattle.

Except transient slight swelling at the injection site, no other adverse effect was reported after subcutaneous administrations up to 5 times the recommended dose in dogs.

No overdose data are available for dogs after intravenous and intramuscular administrations.

No overdose data are available for horses.

Major incompatibilities:

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

## **7. Adverse events**

Cattle, horses, dogs:

Rare (1 to 10 animals / 10,000 animals treated):
Injection site pain <sup>1</sup>
Very rare (<1 animal / 10,000 animals treated, including isolated reports):
Circulatory shock <sup>2</sup>

<sup>1</sup>Has been reported following subcutaneous administration in dogs.

<sup>2</sup>In cases where rapid intravenous infusion has occurred.

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: {national system details}.

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

Cattle and horses:

Intravenous use.

Dogs:

Intravenous, intramuscular and subcutaneous use.

The dose depends on the animal's body weight (bw) and condition.

Species	Dose butafosfan (mg/kg bw)	Dose cyanocobalamin (mg/kg bw)	Dose volume of the veterinary medicinal product	Route of administration
Cattle Horses	5–10	0.0025-0.005	5–10 ml/100 kg	i.v.
Dogs	10–15	0.005–0.0075	0.1–0.15 ml/kg	i.v., i.m., s.c.

For the supportive treatment of secondary ketosis in cows, the recommended dose should be administered on three consecutive days.

For the prevention of ketosis in cows, the recommended dose should be administered on three consecutive days within the period of 10 days before expected calving.

For other indications, treatment should be repeated as necessary.

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

It is recommended that the solution is warmed to body temperature before administration.

For multiple bottle entry, an aspirating needle or multi-dose syringe is recommended to avoid excessive broaching of the stopper. The stopper may be safely punctured up to 10 times.

## **10. Withdrawal periods**

Cattle and horses:

Meat and offal: Zero days.

Milk: Zero hours.

## **11. Special storage precautions**

Keep out of the sight and reach of children.

Do not freeze.

Protect from light.

Do not use this veterinary medicinal product after the expiry date which is stated on the carton and bottle 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**

<To be completed nationally.>

### Pack sizes:

Cardboard box with 1 bottle filled with 50 ml.

Cardboard box with 1 bottle filled with 100 ml.

Cardboard box with 1 bottle filled with 250 ml.

Not all pack sizes may be marketed.

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

{MM/YYYY}

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 and contact details to report suspected adverse reactions:

<To be completed nationally.>

### Manufacturer responsible for batch release:

KVP Pharma + Veterinär Produkte GmbH, Projensdorfer Straße 324, 24106 Kiel, Germany