

VIGOPHOS

THE POSITIVE TOUCH
THE SUPPORTIVE TREATMENT FOR METABOLIC DISORDERS

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

Qualitative and quantitative composition
Each ml contains: Active substance: Butafosfan 100.0 mg, Cyanocobalamin 0.05 mg.

Indications for use, specifying the target species
All target species: Supportive treatment and prevention of hypophosphatemia and/or cyanocobalamin (vitamin B12) 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.

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

Special warnings for each target species
None.

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.

Adverse events

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

¹ Has been reported following subcutaneous administration in dogs.
² 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 its local representative or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

Use during 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 or 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.

Administration routes and dosage
Cattle and horses: Intravenous use.
Dogs: Intravenous, intramuscular and subcutaneous use.

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	IV
Dogs	10-15	0.005-0.0075	0.1-0.15 ml/kg	IV, IM, SC

For the supportive treatment of secondary ketosis in cows, the recommended dose should be administered on three consecutive days. For the prevention of ketosis, 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.
The stopper may be safely punctured up to 50 times with a needle-size not exceeding 18 G. For multiple bottle entry, an aspirating needle or multi-dose syringe is recommended to avoid excessive broaching of the stopper.

Symptoms of overdose (and where applicable, emergency procedures and antidotes)
No adverse effect was reported after intravenous administration 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.



Withdrawal periods
Cattle and horses: Meat and off al: 0 days;
Milk: 0 hours.

Shelf life
Shelf-life of the veterinary medicinal product as packaged for sale: 4 years
Shelf-life after first opening of the immediate packaging: 28 days

Special precautions for storage
Keep the bottle in the outer carton in order to protect from light.

Pack size
100 ml Type II amber glass vial.

Marketing authorisation holder
LIVISTO
Av. Universitat Autònoma, 29
08290 Cerdanyola del Vallès
Barcelona (Spain).

References

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- DairyNZ (2023). Transition Cows. <https://www.dairynz.co.nz/animal/nutrition/transition-cows/>
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- Fürll M, Deniz A, Westphal B, Illing C and Constable PD (2010). Effect of multiple intravenous injections of butaphosphan and cyanocobalamin on the metabolism of periparturient dairy cows. J. Dairy Sci. 93, 4155-4164.
- Graulet B et al. (2007). Effects of Dietary Supplements of Folic Acid and Vitamin B12 on Metabolism of Dairy Cows in Early Lactation. J. Dairy Sci. 90, 3442-3455.
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VIGOPHOS

THE POSITIVE TOUCH

Butafosfan + Cyanocobalamin solution for injection
for cattle, horses and dogs

Along with you

VIGOPHOS

Butafosfan + Cyanocobalamin solution for injection
for **cattle**, horses and dogs

VIGOPHOS is a combination of Butafosfan (100 mg/ml) and Cyanocobalamin (0.05 mg/ml) indicated for:

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Supportive treatment and prevention of hypophosphatemia an/or cyanocobalamin (vitamin B₁₂) deficiency.
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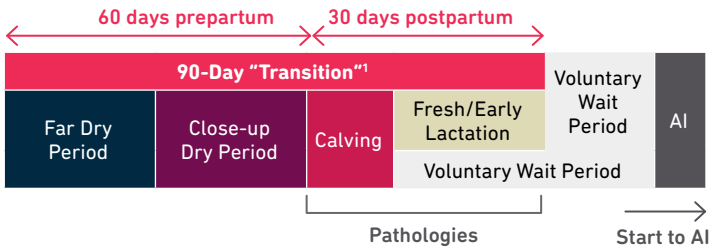
Supportive treatment to restore rumination following surgical treatment of displaced abomasum associated with secondary ketosis.
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Complementary treatment of parturient paresis in addition to Ca/Mg therapy.
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Prevention of ketosis development, if administered before calving.

METABOLIC DISORDERS

The transition period is one of the most important periods in dairy cattle.¹



Dairy cows face many physiological challenges during this time. Nutrient requirements increase, and they need more energy and nutrients than they can consume, suffering from a negative energy balance (NEB).^{1,2}

Most metabolic disorders occur during this period, as hypocalcaemia, hypomagnesemia, hypophosphatemia and ketosis.³

KETOSIS IN DAIRY COWS

Ketosis is a metabolic disease characterized by a disturbance of carbohydrate metabolism and an increase of ketone bodies in blood (acetonemia), urine and milk as hypoglycaemia and low hepatic glycogen.

The low concentration of glucose in plasma during NEB forces to an excessive lipid mobilisation and increased blood levels of non-esterified fatty acids (NEFAs) and ketone bodies (β-hydroxybutyrate, acetone and acetoacetate).⁴

It can be clinical or subclinical and can be diagnosed by measuring levels of β-hydroxybutyrate (BHB):

Stage of the disease	BHB levels in blood
Subclinical ketosis	1,200-2,800 µmol/L
Clinical ketosis	>2,800 µmol/L

BUTAFOSFAN

Butafosfan is an organic phosphorous compound used as a phosphorous source in cattle. The major indications are metabolic disorders related to Ketosis.⁵

Phosphorus plays a key metabolic role in energy production by being a structural compund of ATP, a molecule that acts as a donor of energy in Krebs cycle and gluconeogenesis. Rates of gluconeogenesis are therefore regulated by phosphorus source availability.⁶

Butafosfan stimulates the Krebs cycle and enhances the production of Oxaloacetate, an intermediate in Krebs cycle which is a limiting factor for gluconeogenesis.

CYANOCOBALAMIN

Cyanocobalamin is the synthetic form of vitamin B₁₂ and one of the most important essential vitamins for the DNA synthesis.

In lactating cows, vitamin B₁₂ is needed for propionate metabolism (**gluconeogenesis precursor**) to ensure a good source of glucose and energy, reducing the incidence of ketosis.^{7,8}

In addition, it is a cofactor of the enzyme methylmalonyl-CoA mutase allowing the conversion of propionate into a gluconeogenetic substrate.⁹

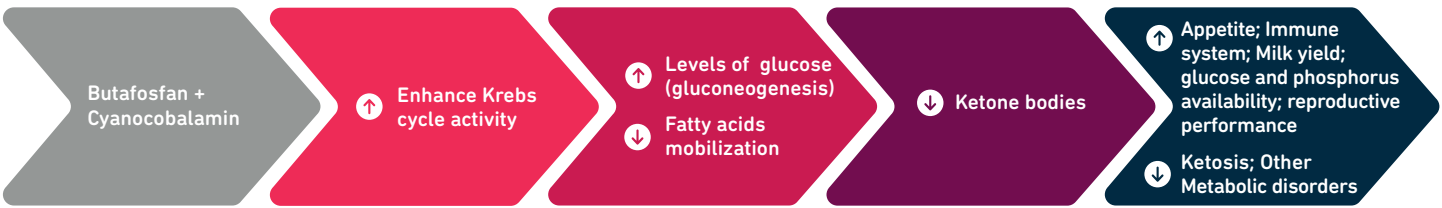
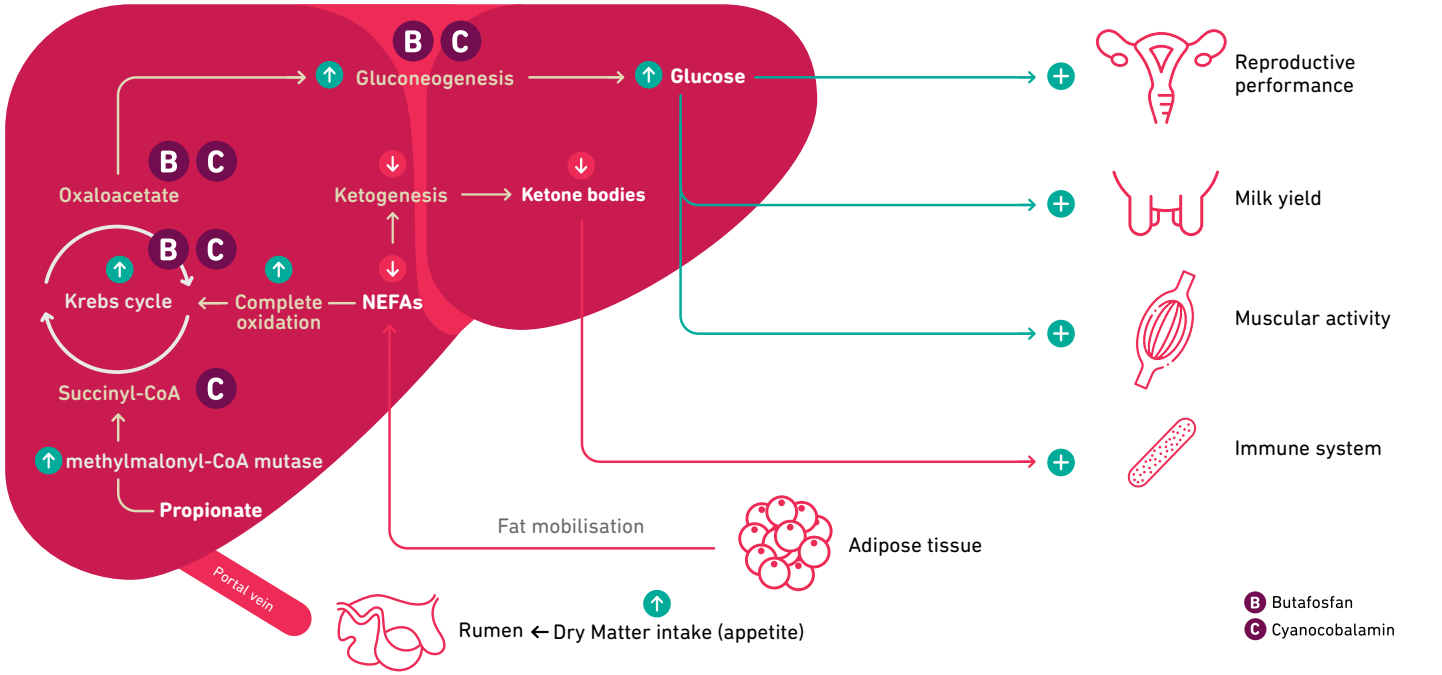
THE POSITIVE TOUCH

VIGOPHOS is the positive touch that supports veterinarians in the reestablishment of the energetic balance in metabolic disorders.

MECHANISM OF ACTION

The combined action of Butafosfan and Cyanocobalamin stimulates the Krebs cycle by promoting carbohydrate metabolism to obtain glucose and energy.

This combination also reduces the genic expression of ACSL1 promoting the complete oxidation of NEFAs for the entry to Krebs cycle and avoiding ketogenesis.



WITHDRAWAL PERIOD

Meat and offal
0 days

Milk
0 hours



DOSAGE

5-10 ml/ 100 kg b.w., IV
3 days

For the prevention of ketosis, the recommended dose should be administered 10 days before expected calving.

VIGOPHOS enhances the efficiency of energy production promoting carbohydrate energy route and reducing accumulation of ketone bodies.

Low levels of ketone bodies reduce the presence of metabolic disorders related to ketosis.