

EQUISTRO®



Description: DL-methionine is an essential amino acid. This means that it must be obtained through the diet in adequate quantities to meet the body's needs. DL-methionine is obtained by the hydrolysis of protein by pancreatic enzymes during digestion. DL-Methionine is often the second most deficient essential amino acid in horse's diets, after L-lysine, due to its inadequate levels in commonly-fed cereal grains and grass. Horses can only use amino acids if all essential amino acids are present at sufficient levels. If one essential amino acid, such as DL-methionine, is deficient, the horse's body will use it up and convert the excess of the remaining amino acids into carbon dioxide, which is exhaled, and to urea, which is excreted in the urine.

Function: Amino acids like DL-methionine are the building blocks of protein. DL-methionine is also the precursor of every peptide synthesized by the organism and is particularly involved in keratin synthesis, component of hair and hoof. Moreover, one of the important functions of methionine is its ability to be a supplier of sulfur and other compounds required by the body for normal metabolism and growth. Sulfur is a key element and vital to life. Without an adequate

intake of sulfur, the body will not be able to make and utilize a number of antioxidant nutrients. Methionine is also a methyl donor, capable of giving off a molecule with a single carbon atom with 3 tightly connected hydrogen atoms, called a methyl group which horse needs for a wide variety of chemical and metabolic reactions inside its body. DL-methionine is essential for the synthesis of actin and myosin in muscle fibers and can be metabolized to amines, components of spermatic liquid. Methionine belongs to a group of compounds called lipotropics which help the liver to process fat in the body and so to support liver function. **Source:** For horses, DL-methionine is found in plant proteins. Alfalfa, beet pulp, flax, rice bran and sunflower seeds are good sources.

Requirements: Horses usually acquire sufficient DL-methionine from their diet, but athletic horses and growing foals may benefit from DL-methionine supplementation.

Deficiency: The effects of essential amino acid deficiency are generally nonspecific, and many of the signs do not differ from the effects of partial or total caloric restriction. In general, the horse will have growth impairment, poor quality hair and hoof growth, weight loss, and inappetence. Milk production is decreased in lactating mares. Some symptoms can be more particularly linked to methionine deficiency like poor quality hoof's horn and stallion reproductive disorder. **Excess:** Excess can't occur with a well-balanced diet. In case of excessive protein intake, the owner will not be face only with a DL-methionine excess but with a whole protein excess, leading to decreased performance, ammonia excretion and water consumption increase.

When problems may occur? CIn case of training and competition activities without daily required protein intake in the diet: the horse will lose weight and muscle mass leading to low performance and fatigue.

DL-METHIONINE



Vétoquinol
Signe de Passion

