



**ORFFA**

## Safe and continuous supply of selenium to pet animals, make use of body reserves!

Selenium is an essential trace element, and dietary supplementation is common practice in food for dogs and cats. Natural food stuffs contain selenium, predominantly in the organic form of L-selenomethionine. The wide variation of selenium levels in raw materials, diet composition and the influence of heat during production processes on selenium bioavailability, make selenium biofortification often required to ensure a sufficient selenium supply to the animal. The inorganic source sodium selenite is commonly used, but is this the best choice?

### DIFFERENT SOURCES IN THE METABOLISM

In the metabolism of the animal, there is a difference between L-selenomethionine and other forms of selenium (figure 1). All selenium compounds are recognized for the supply of selenium and all can be used for selenoproteins [selenoenzymes] synthesis. Beside this general pathway, L-selenomethionine is utilized in the body as an amino acid and can be build into body proteins instead of methionine. Via this specific pathway, L-selenomethionine is able to build up selenium reserves in the body and is able to transfer selenium to the offspring through colostrum and milk. The additional pathway of L-selenomethionine in the animal, enabling selenium to be build into animal protein, explains why this specific source is considered as more efficient and safe than other sources.

### THE CHALLENGE OF SELENIUM IN PET FOOD

For selenium, there is a small window between the amount that is needed to fulfill in the daily requirements (FEDIAF recommendation 0.3 – 0.4 mg / kg DM) and not exceed the (EU) legal limits of 0.568 mg / kg DM. Generally, animal based ingredients are rich in selenium, where the selenium levels in raw materials from vegetable origin are low. Pet food products containing more plant based ingredients, will need additional selenium to cover the daily requirements of the animal and overcome selenium deficiency. On the other hand, diets that are mostly based on some specific poultry or fish derived raw materials, can fulfill in the daily requirements, or even exceed the maximum levels, without additional selenium supplementation. The wide variation of selenium in raw materials makes it complicated

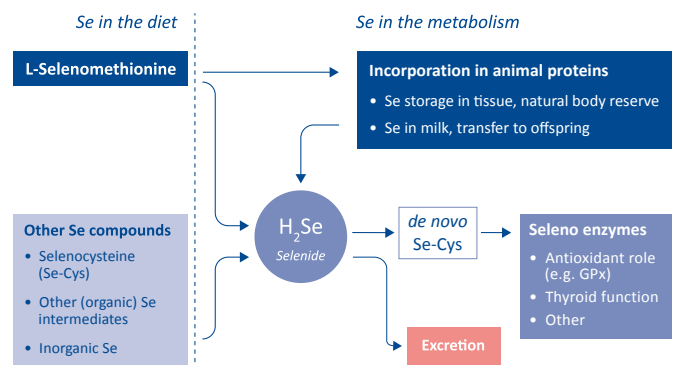


Figure 1: dietary selenium sources in the metabolism

to stay between minimum and maximum levels. On top, the pet food production process [e.g. canned diets] can have a significant effect on the bioavailability of selenium in petfood. For example, the retorting process can reduce the availability of digestible selenium, thereby the availability of selenium for the dog and cat.

### MAKE USE OF NATURAL BODY RESERVES

Taking into account the challenges of variation in the raw materials and influence of production processes, the following question arises; how can you safeguard a continuous selenium supply to the metabolism in animals? Possibly by making use of the safe reserves in the body! The greater retention of L-selenomethionine in the body, provides a safe deposit of selenium in the animal, which ensures the future selenium supply. In the protein turnover, stored L-selenomethionine will be released and can be used for selenoenzyme synthesis anytime. L-selenomethionine is a natural and safe source of selenium for pet food products, and the best choice!

Orffa offers the solution *Excential Selenium 4000*, a source of selenium, 100% in the form of L-selenomethionine.

### L-selenomethionine:



**Naturally present in raw materials**



**Safe and efficient source**



**Build into animal protein**



**Continuous natural selenium supply**

For more information please visit our website and contact one of our specialists ([www.orffa.com](http://www.orffa.com))

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