

# Glycinates

## Essential for health and performance

Small quantities – big impact: Glycinates with organically bound copper, iron, manganese or zinc.

- Better absorption and bioavailability
- Essential nutrients for metabolism
- Excellent flowability and mixing behaviour
- Perfect combination of efficiency and animal performance



**The science of sustainable feed that succeeds**

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## Superior bioavailability and optimal supply of trace elements

In the past, trace elements were added to the feed in the form of inorganic salts such as sulfates and oxides. Only a limited percentage was absorbed by the animal – the major part ended up in the manure. Quite a waste both financially and environmentally. Today, organically-bound trace elements such as glycinates are commonly used in animal feeds, since they show higher bioavailability. This results in increased animal performance and better animal vitality and productivity.

BASF glycinates are very easy to digest with excellent solubility for optimal absorption.

## Nutritional effect:

- Feeding livestock with higher amounts of energy and amino acids requires adjustment of trace element levels to ensure a balance of the nutrient supply.
- Insufficient trace elements cause deficiency diseases or malnutrition symptoms, especially for young animals, like:
  - lower feed intake and growth reduction
  - impaired immune function
  - susceptibility to diseases
  - reduced fertility

# Trace elements: Essential and indispensable

BASF glycinate are providing our customers with trace elements in a form that is highly sufficient and guaranteed to fulfill animal requirements.

BASF glycinate can be dissolved directly in water and do not need to be dissolved beforehand. Since they have less potential to build complexes with phytate, a higher absorption rate by gut mucosa an even greater efficiency from supplemented phytase can be expected.



## Copper

Important for the connective tissue. This means that it plays an important part in the health of your animals' skin and cardiovascular health, but also in the process of eggshell production. Furthermore, copper protects against oxidation and it is needed as a co-factor for various enzymes.



## Iron

Responsible for oxygen binding in blood cells. It is also the main ion in many enzymes and plays a central role in antioxidative processes. Lack of iron leads to exhaustion and reduced performance.



## Manganese

Essential for cartilage formation and the reproductive system. It protects against oxidation and is required for your animals' energy supply and wellbeing.



## Zinc

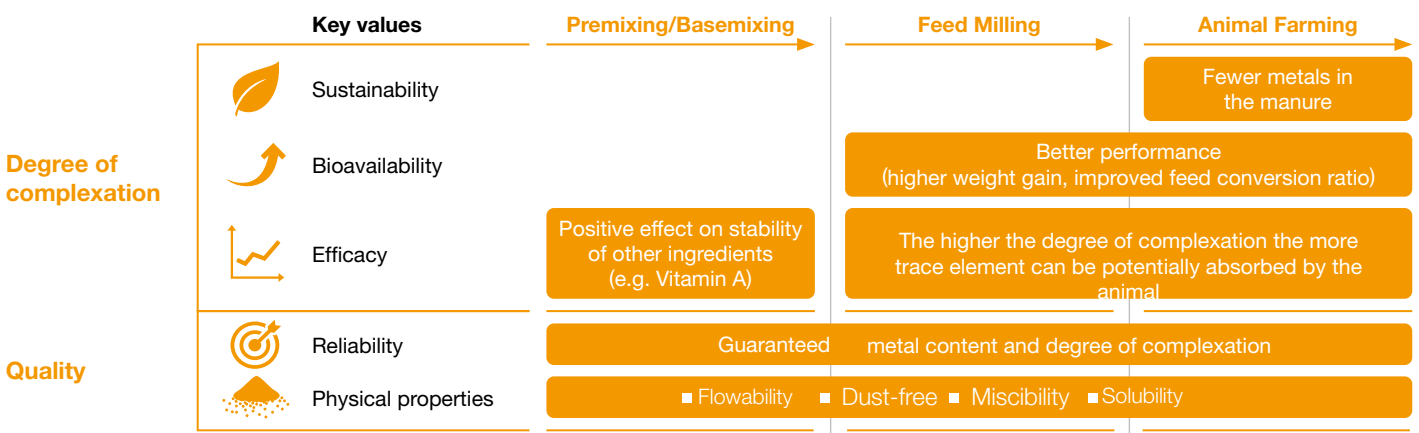
Important for collagen synthesis and keratin formation in hoof, skin, wool, hair and feathers. It also has a barrier function, protects against oxidation, and has a regulatory role in both cell turnover and repair of oxidative damage. Zinc is not only responsible for the reproductive and immune system, but also for proper growth according to your animals' full genetic potential. Additionally, zinc is a co-factor in more than 200 enzymes.

Thanks to the superior production process of the BASF glycinate you can rely on:

- constant content of trace elements
- excellent flowability
- perfect miscibility and water solubility
- uniform particles
- no dust or lumps and easy to handle
- no odor

With glycinate, potentially smaller quantities are needed to supply the animals' net needs, therefore the environment benefits from less excreted trace elements. By using glycine, the smallest amino acid occurring in nature, it is possible to form the smallest amino acid trace element complex with the highest mineral content.

## Gain value with degree of complexation and quality



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