There are only two kinds of minerals, inorganic and organic. Inorganic minerals are in their natural form just as they come out of the ground. Once the inorganic mineral has been treated in any way, it becomes organic, but all organic minerals are not the same...

An inorganic mineral can be treated to become an amino acid complex, a proteinate, or an Amino Acid Chelate. The amino acid complex and the proteinate are as inexpensive to produce as they are ineffective at delivering nutrition. The Amino Acid Chelate is produced by following a tightly controlled process that guarantees a consistent level of nutrition which a complex or proteinate can not come close to matching!

As the vast majority of consumers dont understand the differences in organic minerals they fall prey to the feed companies which market their products as using organic minerals. When they represent their products they extoll the virtues of chelated minerals and how vastly superior they are to other minerals, which is true. They then comment on how chelated minerals are organic and how they only use organic minerals in their products. The consumer then thinks the minerals in their feed or supplements are chelated when they are almost always an amino acid complex or a proteinate, or worse yet, only an inorganic mineral!

The only way to know for sure what kind of minerals are in your feed or supplement is to inspect the ingredients tag which must to be attached to any product. Companies cant list their minerals as chelated unless they truly are chelated. As an exception, two minerals, Potassium and Phosphorus, cant be chelated because of their composition. The best that can be obtained for Potassium and Phosphorus is an amino acid complex.

MAC CHELATED MINERALS not only use True Amino Acid Chelated Minerals in making their supplements, they also include Calcium in chelated form, selenium yeast which is gentler on the stomach and much easier to absorb than selenium selenite, the inorganic form, and Aspergillus Oryzae which is a prebiotic microbial for Ultra Digestive Efficiency of fiber in the digestive tract, yet our products cost about the same or even less to use than products that use only Organic minerals, calcium in inorganic form, selenium selenite, and no prebiotic.

You now know more about chelated minerals than 99% of the public and can make an informed decision about the health of your animals!

What is a Metal Amino Acid Chelated Mineral?

The definition an a meta amino acid chelate as defined by the American Association of Feed Control Officials, AAFCO, is the product resulting from the reaction of a metal ion from a soluble metal salt with amino acids with a mole rate of one mole of metal to one to three (preferably two) moles of amino acid to form coordinate covalent bonds. The chelating ligand(s) are a mixture of hydrolyzed amino acids with an average molecular weight of approximately 150, or are specific amino acid(s). The resulting molecular weight of the chelate must not exceed 800. The minimum metal content must be declared. When used as a commercial feed ingredient it must be declared as a specific metal amino acid chelate. In layman terms it means when a mineral element is surrounded by preferably two amino acid rings with a stable bond. This is an expensive, very precise scientific process which when done properly guarantees a specific amount of nutrition which is available to the animal. No other method of treating minerals can obtain nearly the absorption ability of a chelate.

Why are chelated minerals important?

All of the nutrition in the world is of little value if it isnt available for absorption. In a horse, food can spend as little as 15 minutes in the stomach and small intestine. Once the food has left the small intestine, no absorption of nutrition takes place. A true metal amino acid chelated mineral is recognized by the digestive tract as a food and because the chelated mineral is such a small size, it is absorbed into the blood stream without any digestion. That is the secret of a chelated mineral.

How effective are chelated minerals?

A study that was done (Ashmed, H.D. et al 1985) with rumen animals showed that true amino acid chelated minerals are absorbed 300% to 500% more effectively than inorganic minerals. As horses have a single stomach the importance of absorption with the true amino acid chelated minerals takes on even more significance.

Why dont all feed companies use chelated minerals?

The process to obtain a fully reacted true metal amino acid chelated mineral is a very scientific and precise procedure which is also far more expensive then the process to obtain an amino acid complex or proteinate. Along with the less expensive process comes only a fraction of the absorption obtained with the amino acid chelate.

Can all minerals be chelated?

Unfortunately, no. Two minerals, potassium and phosphorous, cant be chelated because the specific makeup of the structure wont allow for a stable bond to an amino acid, so the best result one can hope for is in the form an amino acid complex, which isnt as effective as a chelate, but still better than just an inorganic mineral.