



Recommendations



TIGER MICRONUTRIENTS® Copper 12% (72%S, 12%Cu)

— Granular Micronutrient Fertilizer —

PRODUCT DESCRIPTION

TIGER MICRONUTRIENTS® Copper 12% is a new formulation of family of our granular micronutrients that offers several improved features over conventional micronutrient sources. Tiger Micronutrients began in our R&D lab, where Tiger tested the theory of taking extremely fine metal oxide particles, and incorporating them into a conversion matrix. This provides uniform distribution and quick conversion to the plant available sulfate form. The result - the development of Tiger Micronutrients as a new class of micronutrients that produce sulphuric acid in the vicinity of the micronutrient sulphur matrix. **“Acid Forming Technology” or “AFT”** greatly improves the performance of granular micronutrient sources. Tiger Micronutrients are granular fertilizers made from embedding a high analysis pure oxide micronutrient source into the Tiger 90CR matrix. Each pastille contains thousands of tiny metal oxide particles per pastille (split pea fertilizer granule). Swelling agents fracture the pastille and disperse the particles when it comes into contact with soil moisture. As the particles disperse, the micronutrients are exposed to the sulphuric acid that is formed by soil microbes converting the Tiger 90CR sulphur to sulphate (Sulphuric acid -H²S04). The oxide micronutrient form is converted from the insoluble oxide form to the soluble, plant-available sulfate form during the growing season, minimizing the loss of the micronutrient to leaching typically associated with sulfate micronutrients.

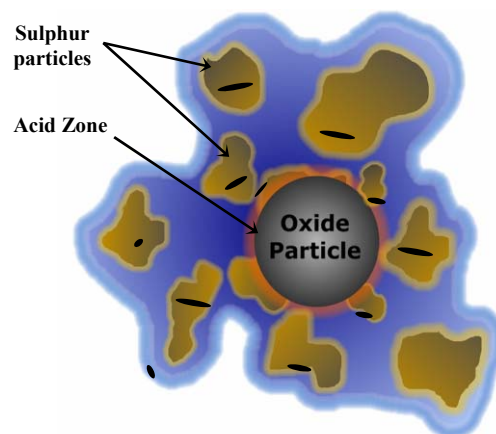
The Benefits

- **Uniform distribution** of a finely divided metal oxide spread uniformly to provide optimum number of feeding sites for plant roots. **One of the greatest limiting factors is root - nutrient interception.**
- **Season long conversion** to the plant available sulfate form for optimum uptake, maximum yield and quality response. **Many sulfate micronutrients are leached below the root zone.**
- **Improved environmental benefits** with resistance to leaching and setting new standards minimizing the “heavy metal” content of the micronutrient.

**AFT Micronutrients
“Acid Forming Technology”**

**Improved Performance
Quick Conversion
Faster Nutrient Availability**

Thiobacilli — soil microbes that exist naturally in our soils, feed off the **Tiger 90CR™ sulphur** and produce sulphuric acid.





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TIGER MICRONUTRIENTS Copper 12% is a unique, micronutrient fertilizer that delivers agronomically and economically, and provides excellent handling characteristics.

TIGER MICRONUTRIENTS Copper 12% provides a cost effective method of correcting copper deficiencies. Copper deficiencies vary with crop type. Symptoms such as younger yellowing leaves in corn, to stem head melonosis and take-all root rot disease in cereals, as well as a chlorotic blue-green cast called “turgor” observed in many vegetables. Consult an agronomic specialist regarding deficiency symptoms.

- With all Tiger Micronutrient Benefits
- Reduced heavy metal content
- Improved handling with cleaner (less dust) and uniform sizing.
- New “RCO” technology allows for quick dispersion and increased performance.
- “Ultra Low” analysis products allows for greater micronutrient distribution and performance.
- Dual nutrient formulations allows for greater value over conventional source.

Guaranteed Analysis 72% Sulphur, 12% Copper (Cu), 16% Inert Ingredients

COPPER Actual lbs required	TIGER Copper 12% + S to apply	<u>Added Value Sulphur</u> (lbs actual)
1 pound	8.3 pounds	6 pounds actual S

Where to use TIGER MICRONUTRIENTS® fertilizers

TIGER Copper 12% granular fertilizers are formulated to provide the most cost-effective micronutrients available on the market. They offer superior blending and handling qualities with minimal dust.

When used as a part of a balanced fertility program, **TIGER Copper 12%** can provide a season-long source of Copper. **TIGER Copper 12%** can be applied alone or blended with granular fertilizers.

Broadcast Applications — should be applied at **2 to 3 times the rate of precision placed rates** in order to ensure adequate crop root interception in the first season of application.

Surface applications of **TIGER MICRONUTRIENTS fertilizer** allows the **TIGER Copper 12%** granule to disperse onto the soil surface. A light incorporation will assist in even distribution of the micronutrient particles into the soil.



Tiger Micronutrients vs. Conventional Oxy-Sulfate sources

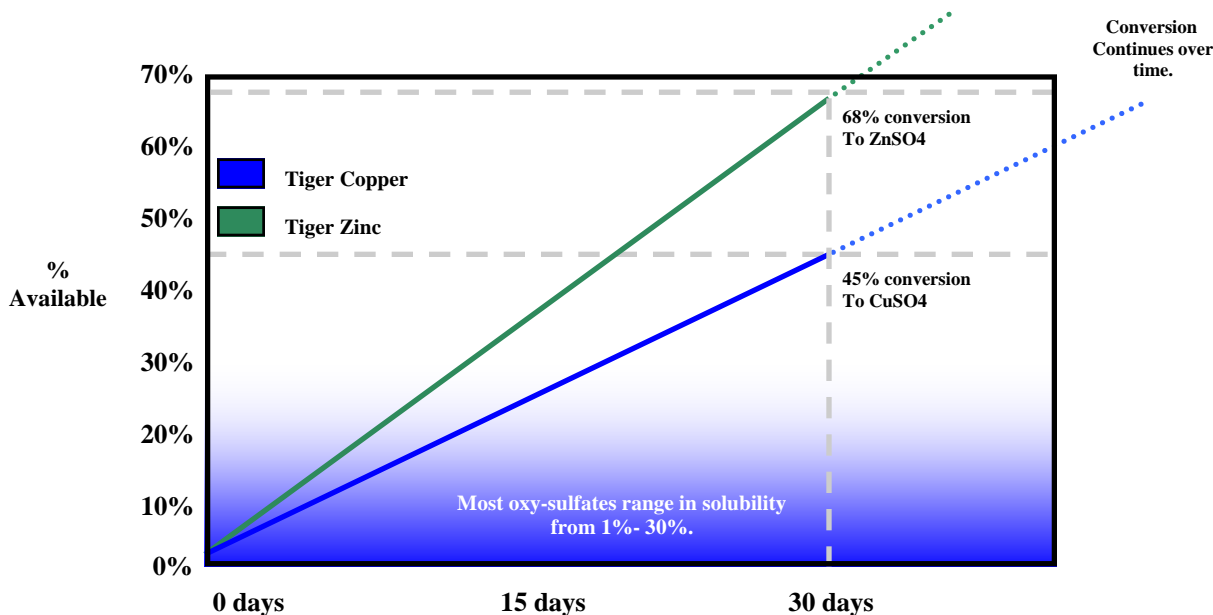
When comparing **Tiger Micronutrients™** performance to conventional oxy-sulfates, one must understand how oxy-sulfates are manufactured.

Oxy-Sulfates are formed by taking a **Oxide material** and grinding it into a **powder**. The powder is then granulated and placed into a **Sulfuric Acid** bath, and left for a period of time for the sulfuric acid to solubilize the oxide material. This achieves the maximum amount of available sulfate the oxy-sulfate material will contain. *Note some of the oxy-sulfate micronutrients are by-products from industrial uses which contain a high levels of "Heavy Metals"*.

Most oxy-sulfate micronutrients range in solubility (available sulfate form) *from 1% to 30%* based on how long the product was reacted for. Unfortunately this reaction process also *results in a granule that becomes hard and difficult to breakdown into a fine powder due to the sulfuric acid treatment*.

Other problems encountered with oxy-sulfate products that contain a large amount of available sulfate material is the reaction with other products when blended together. *The hygroscopic nature of the oxy-sulfate, reacts with such products as ammonium sulfate, urea and potassium and become difficult to handle as the fertilizer blend takes on moisture from the air.*

The graphs below will explain how **Tiger Micronutrients™** performs based on **lab results** from an independent Microbiological Consulting company and Tiger-Sul Products research staff.

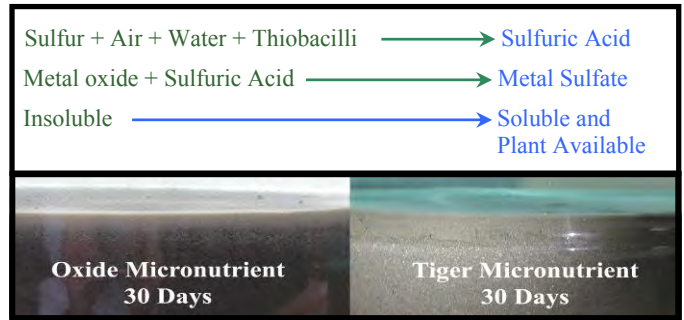


Tiger Micronutrient™ testing conducted in lab with 22°C temperature in continuous water phase for a period of 30 days

This graph shows that Tiger Micronutrients unique performance allows for greater availability of the applied micronutrient over a period of time

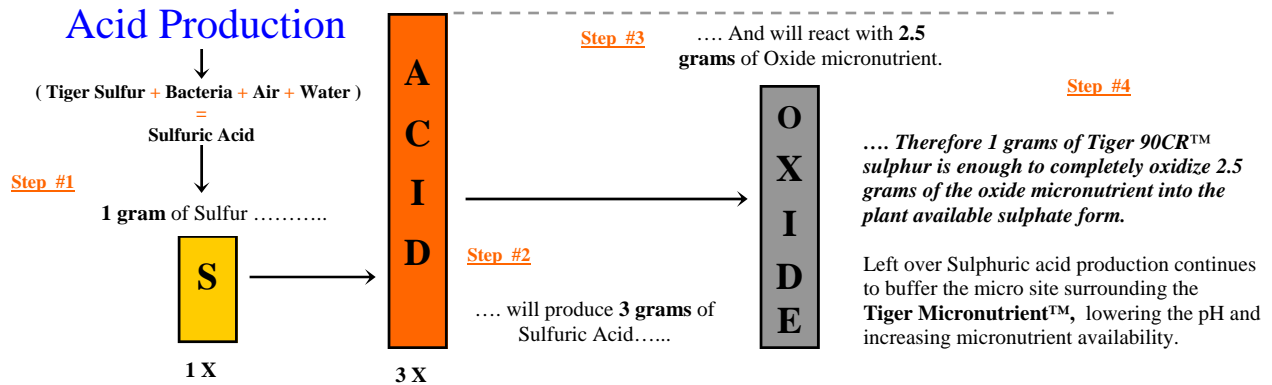
Solubility - Enhanced by Tiger 90CR

The matrix contains the micronutrient and Tiger 90CR™ sulphur matrix that not only quickly degrades and disperses, but also enhances the rate at which the soil microbes (thiobacilli) oxidize the sulfur to sulfuric acid. Since this sulfuric acid is produced in the immediate vicinity of the micronutrient oxides, they react together to convert to plant available metal sulfates — in a conversion that happens quickly and throughout the growing season. Tiger 12% Copper™ sample shows ultra fine micronutrient Particles dispersed in a water solution. Blue water indicates presence of Copper Sulfate formation.



The presence of the Tiger 90CR™ Sulphur in the Tiger Micronutrients™ formulation is oxidized by the “Thiobacilli” which produces sulfuric acid and greatly improves the conversion of the oxide micronutrient. The above samples emerged in a water solution clearly shows the effects of the “Acid Forming” Tiger micronutrient™ solution vs. the oxide formulation without the “Acid Forming Technology”.

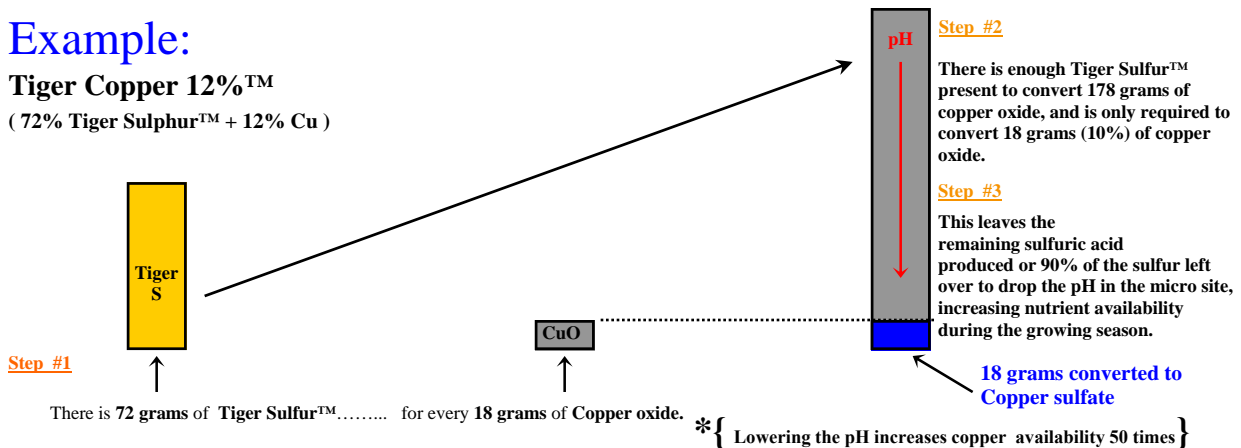
How do Tiger Micronutrients™ work?



Example:

Tiger Copper 12%™

(72% Tiger Sulphur™ + 12% Cu)



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