

Combining Calcium with thiosulfate, Does it really harm soil and plants?

There is a claim based on the idea that **it is not permissible for calcium to combine with thiosulfate because it quickly turns into calcium sulfate, which harms the soil and plants.** However, according to the scientific research presented below, the transformation of calcium thiosulfate into sulfate requires special conditions (temperature: 60 °C, pH = 5, and the presence of copper as a catalyst for the reaction).

https://www.researchgate.net/publication/332078339_Oxidation_of_Thiosulfate_with_Oxygen_Using_Copper_II_as_a_Catalyst

These all conditions can't be present in agricultural soil and lead to the conversion of calcium thiosulfate into sulfate.

In another side, **calcium sulphate** does not harm the plant and soil, because it is a chemical **used as a fertilizer**, and it has been licensed internationally to use as fertilizer by the Canadian Food Inspection Agency.

<https://inspection.canada.ca/plant-health/fertilizers/regulatory-modernization/list-of-primary-fertilizer-and-supplement-material/eng/1533213691120/1533213691867>

Therefore, even if a reaction that converts thiosulfate into sulfate occurs, this will also be beneficial for the soil.

This research is based on the possibility of use calcium with thiosulfate by presenting scientific research and international licenses for the use of calcium thiosulfate as a fertilizer, use of potassium thiosulfate as a fertilizer, the two components of the **Ugarit Multi product produced by Yara for Fertilizers and chemical industry.**

Calcium thiosulfate is listed as a safe soil chemical that can be used as a fertilizer by United States Environmental Protection Agency (EPA).

<https://pubchem.ncbi.nlm.nih.gov/compound/Calcium-thiosulfate#section=Industry-Uses>

Calcium thiosulphate is also listed as a primary fertilizer and supplement by the Canadian Food Inspection Agency

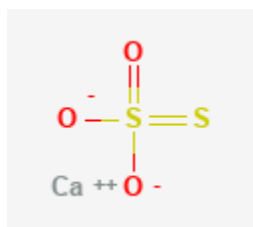
<https://inspection.canada.ca/plant-health/fertilizers/regulatory-modernization/list-of-primary-fertilizer-and-supplement-material/eng/1533213691120/1533213691867>

Potassium thiosulfate is listed as a chemical that is safe for soil and can be used as a fertilizer by the United States Environmental Protection Agency (EPA).

<https://pubchem.ncbi.nlm.nih.gov/compound/Potassium-thiosulfate#section=Industry-Uses>

Calcium Thiosulfate can be physically mixed with **Potassium Thiosulfate (the two components of Ugarit Multi)** because these compounds are physically stable, and calcium thiosulfate is compatible and can be mixed with many other fertilizers.

Calcium Thiosulfate



Potassium Thiosulfate

