Sulfur is one of the most important industrial raw materials. In one way or another it is used by nearly every sector of the fertilizer and industrial complexes of the world.

Approximately 60% of S consumption is used in manufacturing fertilizers, because it provides by far the most satisfactory method of producing these products in useable form. Nearly all S is first converted to \( \text{H}_2\text{SO}_4 \), which in turn is used to acidulate phosphate rock in order to make either phosphoric acid or single superphosphate, or reacted with \( \text{NH}_3 \) to form \( (\text{NH}_4)_2 \text{SO}_4 \). When used to make phosphoric acid, most of the S is discarded as byproduct gypsum and its plant nutrient value is withheld from the farmer, unlike the cases of single superphosphate and ammonium sulfate.

Sulfur also is an essential plant nutrient and thus is necessary for agriculture both directly and indirectly, as a chemical reagent. Sulfur in its various forms is produced worldwide, with no one country being a predominant producer or supplier to world markets. In 1984, world consumption was about 57 million tonnes, exceeding production by about 3 million tonnes, much of which was withdrawn from Canadian inventory.

Sulfur ranks 13th in abundance among the elements in the earth’s crust. It is one of the few elements that is found in the native state. By far the greatest quantity, however, is contained in many inorganic minerals and in organic fossil fuels. When combined with industrial minerals it can be either an unwelcome coproduct or a source of abundant supply. Because the world’s resources and reserves are irregularly distributed, S moves in large quantities in international trade.

In approximate order of increasing cost of mining or recovery, the following raw materials provide most of the world’s S and \( \text{H}_2\text{SO}_4 \) supply.