SHELL THIOGRO
GOOD FOR BUSINESS
GREAT FOR GROWERS

Shell Thiogro – Solutions for sulphur-enhanced fertilizers

shell.com/thiogro
Achieving food security is recognized as a major global challenge, with bodies such as the Food and Agricultural Organization of the United Nations (FAO) and the International Fertilizer Association (IFA) promoting agricultural best practices to help growers boost productivity. Sulphur is essential for healthy crop growth. However, soils are increasingly sulphur-deficient as a result of intensive agricultural production and reduced atmospheric sulphur deposition. Lack of sulphur in soils threatens crop quality and yield, and there is a need for high performance sulphur enhanced fertilizers to meet the challenge.

**SHELL THIOGRO FOR ENHANCED PRODUCTIVITY**

**GOOD FOR BUSINESS**

Shell Thiogro technologies are being used around the world to create innovative and custom sulphur-enhanced fertilizers. It helps producers stand out in a competitive market with differentiated products spanning phosphate, urea and specialty sulphur fertilizers.

**GOOD FOR GROWERS**

Fertilizers produced using Shell Thiogro technologies are well suited to the needs of modern agricultural practices and address soil health challenges – they are helping growers around the world to increase crop yield, quality and profitability.

**CREATING HIGH PERFORMANCE SULPHUR-ENHANCED FERTILIZERS**

With Shell Thiogro, you are leveraging some of the industry’s most advanced sulphur enhanced fertilizer technologies.

**REDUCED SULPHUR PARTICLE SIZE FOR IMPROVED AVAILABILITY**

Existing sulphur fertilizers present challenges for growers, from leaching issues to conversion times. Through micronization of elemental sulphur, Shell Thiogro optimizes oxidation and the uptake of sulphur across the growing season.

**FIT-FOR-PURPOSE FERTILIZERS**

Our technologies enable customizable product formulations that can be tailored to meet the needs of a range of soils, growing conditions and crop requirements.

**SAFE AND PROVEN PROCESSES**

Our experience and expertise enable safe incorporation of elemental sulphur into existing facilities and production streams, and our technologies have been installed at manufacturing sites around the world.

**DID YOU KNOW?**

Shell Thiogro technologies can be customised to incorporate micro-nutrients such as copper and zinc.
IN THE FACILITY
THE BENEFITS FOR FERTILIZER PRODUCERS

Shell Thiogro enables fertilizer producers to manufacture high performance sulphur enhanced fertilizers which differentiate their offer in the market and add value to their customers.

- **INCREASE SITE PROFITABILITY**
  - Extending the value of high-cost raw materials like phosphate rock and natural gas by integrating sulphur
  - Increasing returns by delivering a higher value product

- **INCREASE MARKET SHARE**
  - Diversify your portfolio with a product that responds to increasing grower demand for sulphur

- **IMPROVED RETURN ON INVESTMENT**
  - Enhances nutrient availability
  - Drives up the quantity and quality of yields
  - Reduces the risk of sulphur loss through leaching

- **LOGISTICS COST SAVINGS**
  - Nutrient dense fertilizers reduce volume per hectare required
  - Reduced number of applications required per season
  - Less storage space required for the same amount of nutrients

DID YOU KNOW?
CURRENT SULPHUR FERTILIZATION ONLY MEETS HALF THE GLOBAL REQUIREMENT. DEMAND FOR THIS KEY NUTRIENT IS ON THE RISE*.

*The Sulphur Institute and IFA Sulphur Nutrient Consumption Report 2017

Shell Thiogro

IN THE FIELD
THE BENEFITS FOR GROWERS

Shell Thiogro technologies improve sulphur availability to make it easier for growers around the world to realize increased yields.

- **ENHANCED NUTRIENT AVAILABILITY**
  - Drives up the quantity and quality of yields
  - Reduces the risk of sulphur loss through leaching

**Sulphur Solutions**

**Sulphur Solutions**
PARTNER WITH SHELL THIOGRO

IN-DEPTH KNOWLEDGE
Our licensees are able to tap into decades of Shell’s research and development, intellectual property and know-how. This includes extensive field trials covering diverse locations and product formulations.

TECHNICAL SUPPORT
Our experienced technical team supports producers throughout the implementation process, from the initial design phases through to commissioning.

MARKET INSIGHT
Our Marketing and Technology teams will work hand in hand with you to develop new and existing markets for sulphur-enhanced fertilizers.

Email us to find out more about Shell Thiogro
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DISCOVER WHAT SHELL THIOGRO TECHNOLOGIES COULD DO FOR YOU

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