



APPLIED MINERALS  
**AMIRON™**

# Advanced Natural Nano-Iron Hydroxide for Biogas Desulfurization

## Introduction

### A Natural Alternative

Applied Minerals is proud to offer its AMIRON™ advanced natural nano-iron hydroxide as a high performance, natural, and cost-effective solution to the biogas desulfurization process.

Due to its high purity, surface area, and strong reactivity, AMIRON efficiently removes toxic hydrogen sulfide from the gas stream before it has the chance to hinder the fermentation process or equipment.

Contact: Rogerio Galante: 1 (212) 226.4253 [www.amironoxides.com](http://www.amironoxides.com)

### Key Benefits

#### Prevention of Corrosion Damage

Hydrogen sulfide ( $H_2S$ ) reacts during the fermentation process to form acidic sulfur dioxide ( $SO_2$ ), a highly corrosive gas. This leads to destructive corrosion on the fermentation reactor/ generator and results in extended plant downtime.

AMIRON prevents this unwanted scenario by reacting with the  $H_2S$  before it has a chance to cause any damage. Through its reaction, iron sulfide is produced, an environmentally safe substance that will not harm the reactor or the environment.

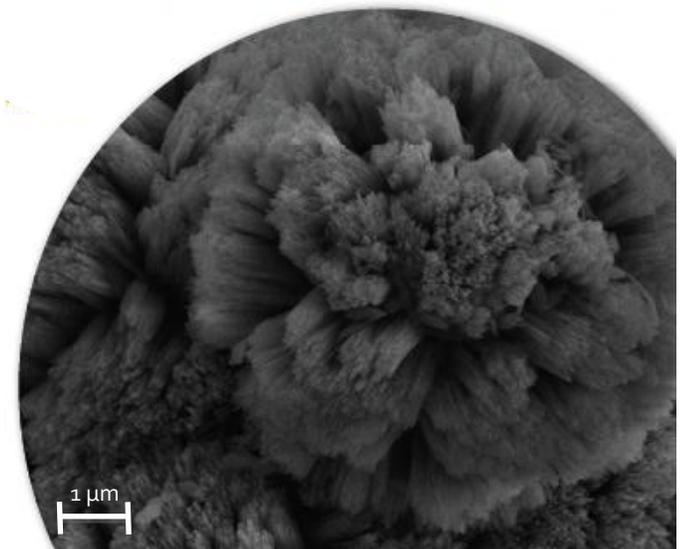
#### 100% Natural & Safe to Handle

AMIRON is all-natural, non-hazardous to the environment, and can be safely handled by personnel without any special training for the handling of dangerous materials.

#### Protection of Oxidation Catalysts

Hydrogen sulfide also disrupts the biogas process by inhibiting oxidation catalysts normally responsible for limiting the production level of formaldehyde. As a result, strict regulatory limits can be exceeded.

By removing  $H_2S$ , AMIRON protects the oxidation catalysts and maintains the biogas stream within regulatory limits.



# Our Resource

Applied Minerals' U.S.A-based resource contains **3.3M tons** of high grade iron oxide in the form of limonite, goethite and hematite, grading 95% on average.

With world class resources, production capabilities, quality control and the technical support to match, Applied Minerals' mission is to become the industry's most reliable vertically integrated US source of advanced natural iron oxide products to the global marketplace.



## Additional Key Benefits

### Compliance With Regulatory Guidelines

**AMIRON** is 100% natural with extremely low levels of trace metals, produced under strict quality control methods to ensure adherence to tight international guidelines. It also reacts with the hydrogen sulfide to form iron sulfide, a naturally occurring material commonly found in soil and used as a fertilizer.

### Dust Free Handling

**AMIRON** is packaged in 25 kg paper bags which can be added directly into the process unopened, creating easy handling without any dust.

### Cost Effective Solution

Due to Applied Minerals' vertically integrated corporate structure, **AMIRON** provides the most cost-effective solution for the reduction of hydrogen sulfide. Controlling the process from mine to market, the company is able to deliver its product to its customers while ensuring a top quality and most cost effective solution.

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**Member:**



Promoting the Anaerobic Digestion and Biogas Industry

