



# Healthy biology

Produce the highest Methane yields









# Desulphurization –

## Basis for plant efficiency and process stability

### Why Desulphurization products?

- Rapid and reliable binding of Sulphides preventing conversion to H<sub>2</sub>S
- A more stable and efficient biology due to the increased trace element availability
- Prevents damage to concrete, steel and parts of the CHP
- Nets and beams are free, sulphur is permanently discharged from the plant.

### The MethaTec® Detox S Portfolio

	MethaTec® Detox S Direct	MethaTec® Detox S Turbo	MethaTec® Detox S Premium
Product			
Sulphide-binding per kg by short retention			
Buffer effect by long retention			
Dispersion in the substrate			
Packaging	20 kg bag (fermentable) 1,000 kg Big Bag		
Iron content	ca. 35%	ca. 37%	ca. 50%

All MethaTec® Detox S Products are based on Iron Hydroxide taken from water treatment and are subject to the strict limit values of the fertilisation ordinance (DüMV). MethaTec® Detox S Products are not classified as hazardous substances nor are they subject to special transport or storage conditions. This makes them ideal for desulphurization in your biogas plant.

# PRODUCT RECOMMENDATION – TRACE ELEMENT MIXTURE – OPTIMAL SUPPLY TO THE BIOLOGY

## Why individual trace element mixtures?

- Needs-based supply to the microbiology
- No unnecessary costs due to excessive dosage
- Safe handling taking the health regulations into account

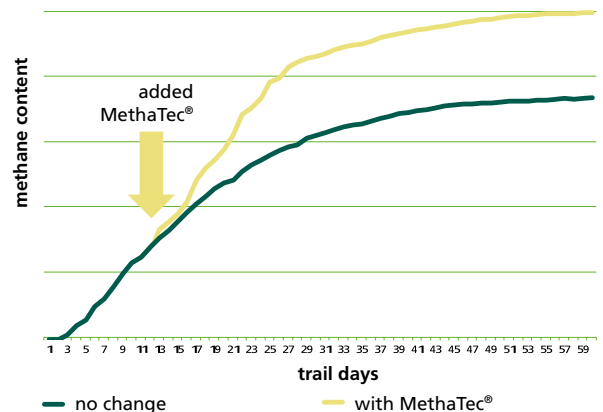


## Powdered Trace elements

### MethaTec® Essentials

- Solid trace element mixture using Iron Hydroxide as a buffer
- Individual and exactly balanced to the needs of the micronutrient requirements of the biogas system
- Ideal for systems with high amounts of sulphur
- The included Iron Hydroxide binds the sulphide and prevents the conversion to H<sub>2</sub>S
- Maximum availability due to chelated micronutrients
- Cost effective and sustainably effective

Pack size: 5 - 20 kg

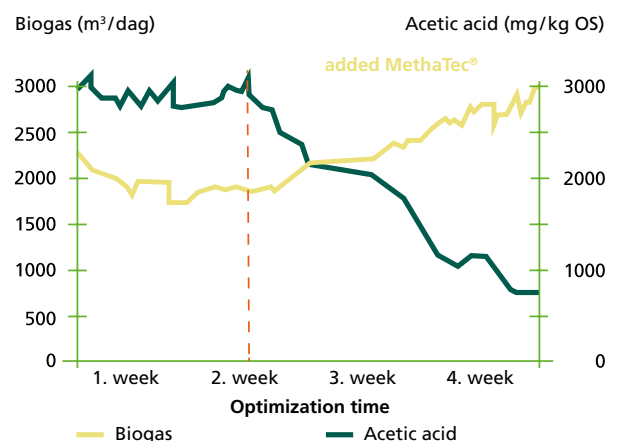


## Liquid Trace elements

### MethaTec® EcoPlex

- Complex trace element mixture
- Stable to fluctuating pH-values und temperatures
- Individually balanced mixture to the needs of the biogas system
- Maximum availability due to chelated micronutrients

Pack size: 30 kg canister  
65 kg drum  
250 kg drum  
1.250 kg container



Results:

- Increased methane content
- Better substrate utilization
- High yield security

# besser substrate and energy efficiency



**Particularly  
recommended:  
Our All-in-one  
solution**

## **MethaTec® Trace n' Zyme**

Perfectly mixed combinations of micronutrients, Iron hydroxide and Enzymes

- Reliable top performance thanks to our highly efficient combination of Trace elements and Enzymes
- Ideal for systems with high amounts of sulphur and high fibre substrates
- Iron Hydroxide, Trace elements and Enzymes in one product

Pack size: 5 - 20 kg fermentable bag

### **Why Enzymes?**

- Promote the breakdown of difficult to ferment substrates
- Increase gas production and reduce retention time
  - Better agitation and pumping ability
- Reduction of daily costs and increase revenues



# Liquid Enzym mixtures

## MethaFerm® Liquifier

- Highly concentrated, specially designed enzyme mixture for breaking down Cellulose,
- Hemicellulose and other cell wall components
- Outstanding distribution with low application rates
- Suitable for long fibre material and high amounts of manure
- Dissolves sink and floating layers within 1-2 weeks



## MethaFerm® Gras liquid

- Optimizing the fermentation of hard to digest fibre components
- Maximum capacity even with difficult substrates
- Stable to fluctuating pH- and temperature changes
- Used for Grass, green rye and whole cereal crop

## MethaFerm® Mais liquid

- Ideal for corn and fresh corn with high proportion of stable starch
- Improves fermentation even with bad ensiled corn
- Stable to fluctuating pH- and temperature changes
- Suitable for corn and sweet sorghum

Product	Application	Package
MethaFerm® Liquifier	<ul style="list-style-type: none"> <li>• deal for high amounts of manure and floating layers</li> </ul>	
MethaFerm® Gras liquid	<ul style="list-style-type: none"> <li>• Grass</li> <li>• Sudan grass</li> <li>• Green rye</li> <li>• Cereal whole plants</li> </ul>	60 kg drum 220 kg drum 1.000 kg container
MethaFerm® Mais liquid	<ul style="list-style-type: none"> <li>• Energy corn</li> <li>• Sweet sorghum</li> </ul>	

# EMERGENCY REMEDIES – QUICK ASSISTANCE IN ACUTE PROCESS DISTURBANCES

## MethaTec® Essentials Basic

- Optimized micronutrient mixture with Iron Hydroxide for emergencies
- Fast reacting for acidification and problems with biology
- Ideal for systems with high sulphur content
- Easy handling due to fermentable bag



Pack size: 20 kg bag

## MethaTec® EcoPlex Basic

- Highly effective emergency mixture of complexed trace elements
- Activates the biology and ensured optimum substrate utilization
- Supports the acid reduction for a quick regeneration of the system



Pack size: 30 kg canister

## MethaTec® Nmin

- Binds ammonium and prevents the formation of harmful ammonia
- Creates colonization area for the bacteria especially in low fibre substrates
- Added Iron hydroxide support the chemical desulphurization
- Stabilizes and improves the biological process
- Improves the viscosity in the fermenter and prevents foaming



Pack size: 20 kg bag

1.000 kg Big Bag

## MethaTec® Defoamer

- Quickly dissolves existing foam and stops re-foaming
- Does not contain mineral oil or silicone
- Completely biologically degradable



Pack size: 9 kg canister

27 kg canister

190 kg drum

900 kg container

# DOSING STATION – THE NEW GENERATION OF ACURATE DOSING

The exact dosage of trace element mixtures like MethaTec® EcoPlex and Enzyme mixtures like MethaFerm® take place fully automatically with each fermenter feeding.



## Advantage:

- Individual configuration of the TerraVis SpurEn cabinet to your needs
- Remote access and control of the dosing quantity via webserver and LogoApp possible
- Exact dosing of trace element or Enzyme mixtures with each fermenter feeding using the sensor function (without access to the system control)

## Example equipment:

- Lockable cabinet
- Sensor for start detection of the pump
- Membrane pump with potentiometer for fine dosing
- Siemens Logo controller
- 3-colour LED-Signal lamp
- Prepared remote access via Webserver and LogoApp
- A probe to report the system status

## FINE DESULFURIZATION – ACTIVATED CARBON

### MethaTec® Aktivkohle Extra

- Base material: hard coal
- Very low tendency to spontaneous combustion
- With medium to high sulphur content in the gas
- Extremely hard, therefore low dust formation

Pack size: 25 kg bag  
500 kg BigBag

### MethaTec® Aktivkohle Profi

- Used for high sulphur contents in the gas and short contact times.
- Base material: hard coal
- Very low tendency to spontaneous combustion

Pack size: 18 kg bag  
450 kg BigBag

**TERRAVIS TIPP:**  
Also available as an activated carbon replacement service in the all-round carefree package!





## CONTACT

TerraVis GmbH  
Industrieweg 110, 48155 Münster  
Telefon: +49 251.682-2055  
[info@terravis-biogas.de](mailto:info@terravis-biogas.de)

[www.terravis-biogas.de](http://www.terravis-biogas.de)