

OliQuell™: Scalable Olive Waste Solution for Emission Reduction, Water Purification, and Regenerative Agriculture

Presented by: Veos Pharmaceuticals



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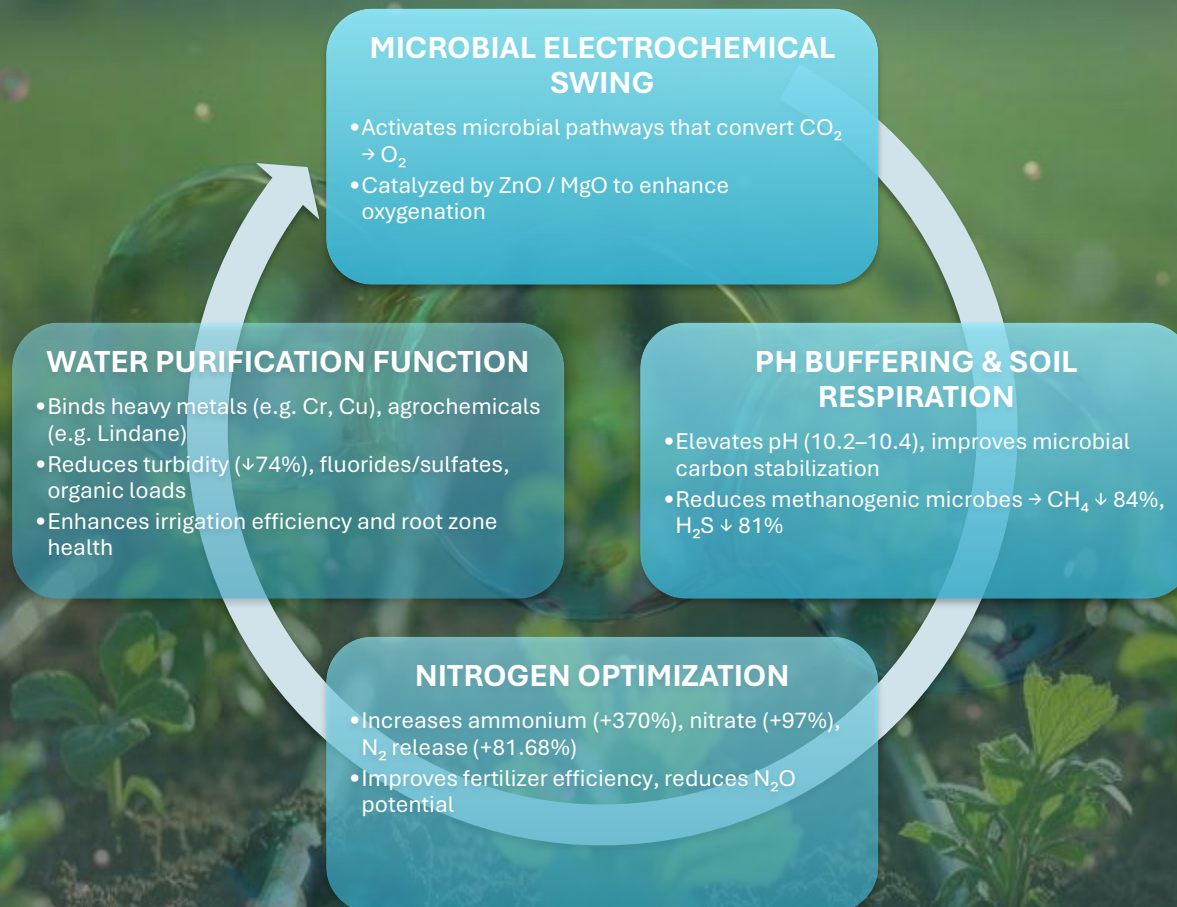
PROPERTY	SPECIFICATION
Source	Derived from olive leaf extract , formulated with a synergistic blend of natural minerals and biopolymers .
Key Components	Component A (35%), Component B (25%), Component C (25%), Component D (15%)
Heavy Metals Compliance	Meets regulatory limits for Pb, Cd, Hg, and As , ensuring safe agricultural application .
Other Monoterpenes	Present
Appearance	Off-white fine powder , easy to integrate into soil, irrigation, and agricultural formulations .
Solubility	Dispersible in water , allowing even distribution in soil and water systems .
pH Stability	Stable across a broad pH range , supporting microbial soil balance and optimized nutrient release .
Shelf Life	3 years
Microbiological Safety	Complies with quality & safety standards , ensuring low microbial count and absence of contaminants.
Storage	Store in a cool, dry place , away from direct sunlight and heat
Country Origin	China

Physico-Chemical Characteristics of OliQuell™

- OliQuell™ is a water-dispersible, mineral-enhanced agricultural solution designed to improve soil health, enhance nitrogen fixation, and reduce greenhouse gas emissions. Unlike traditional chemical fertilizers, OliQuell™ leverages a synergistic blend of natural components to optimize nutrient cycling, promote microbial balance, and support sustainable farming practices.
- Its active ingredients facilitate CO₂-to-O₂ conversion, methane (CH₄) suppression, and improved soil oxygenation, making it a scalable and eco-friendly alternative for regenerative agriculture



MECHANISM OF ACTION (MOA)



OliQuell™ Improves micro-environment for soil-applied herbicides by stabilizing pH and slowing degradation



OLIQUELL™ REGULATORY STATUS

REGION	REGULATORY BODY	APPROVAL TYPE	REGULATORY PATHWAY	IMMEDIATE MARKET ACCESS	ACCEPTED CLAIMS
USA	EPA (Environmental Protection Agency)	FIFRA Exempt (if marketed as a soil amendment)	40 CFR 152.6(g) exemption for soil amendments & plant inoculants	Market immediately as a Soil Amendment & Nutrient Enhancer	Enhances microbial activity, improves soil nutrients, supports plant resilience
EU	EFSA & EU Commission (Regulation 2019/1009)	Plant Biostimulant under Fertilizing Products Regulation	Can be marketed as an EU fertilizing product under Regulation (EU) 2019/1009	Market immediately under CE Marking with self-certification	Increases soil stability, enhances microbial soil interactions, supports nutrient uptake
Canada	CFIA (Canadian Food Inspection Agency)	Agricultural Supplement under the Fertilizers Act	Requires CFIA registration as a soil supplement under the Fertilizers Act (Exempt sales allowed during registration)	Sell immediately as a soil enhancer while CFIA registration is processing	Improves soil conditions, enhances bioavailability, prevents toxic accumulation

No known regulatory barriers to adoption in food crop production



Competitive Advantage

Combines soil carbon removal + water purification in one product

Addresses CH_4 , H_2S , turbidity, and heavy metal loads

Low-cost, high-margin product compatible with EU regulation (2019/1009)

No toxic residues; GRAS-compliant ingredients (ZnO , MgO , Chitosan, Oleuropein)

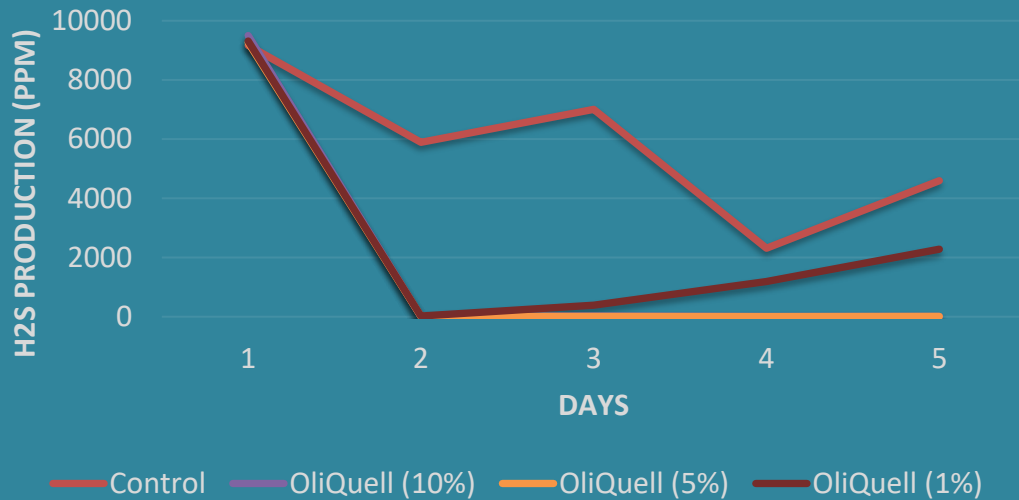
Unexpensive, water dispersible and stable



OliQuell™ Suppresses Hydrogen Sulfide (H₂S), Enhancing Emissions Control & System Longevity

A Nature-Based Solution for Reducing Toxic Gas Formation in Organic Waste Systems

Effect of OliQuell™ on H₂S production



Key Results from 5-Day Trials:

- ✓ Reduces H₂S by up to 81%, mitigating corrosion, toxicity, and gas accumulation
- ✓ Inhibits sulfate-reducing bacteria, preventing acidification in manure, compost, and digester systems
- ✓ Promotes sulfide precipitation through pH elevation (10.2-10.4), neutralizing H₂S at the source
- ✓ Improves oxygen availability and microbial balance, enhancing sulfur cycling efficiency

OliQuell™ Suppresses H₂S Emissions While Boosting Oxygen Levels in Organic Waste Systems



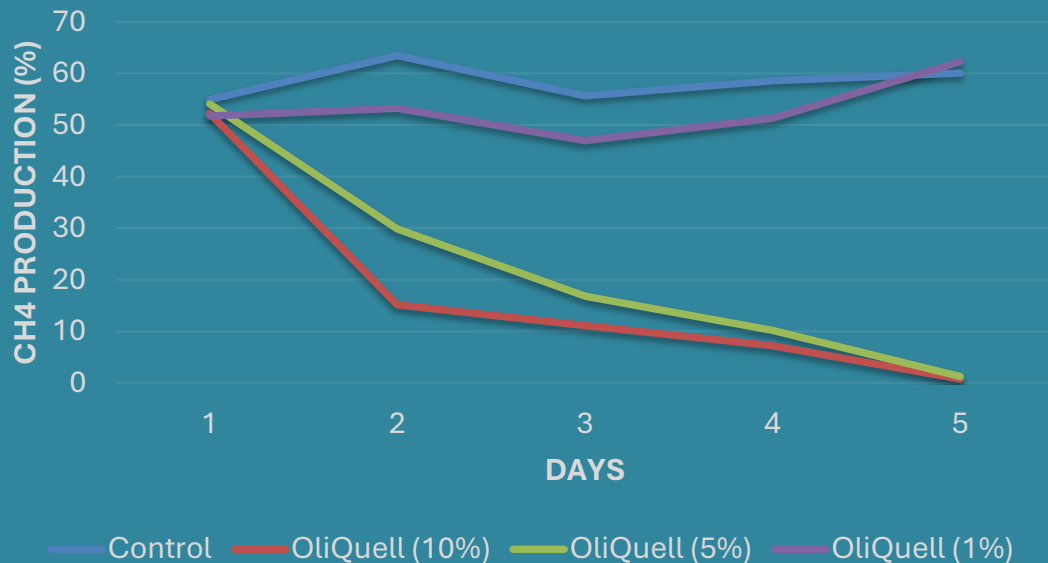
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OliQuell™ Reduces Methane Emissions in Organic Waste Systems

A Nature-Based Additive for CH₄ Suppression and Soil Gas Stabilization

Effect of OliQuell on CH₄ production



Key Outcomes from 5-Day CH₄ Trials:

- ✓ Reduces methane emissions by up to 84%, especially at 10% dose levels
- ✓ Mitigation is linked to microbial modulation and alkaline pH stabilization
- ✓ Suppresses methanogenic archaea activity—key CH₄ producers in anaerobic and waste systems
- ✓ Demonstrates dose-dependent effect, with higher doses showing near-total suppression

OliQuell™ Reduces Methane Emissions in Organic Waste Systems

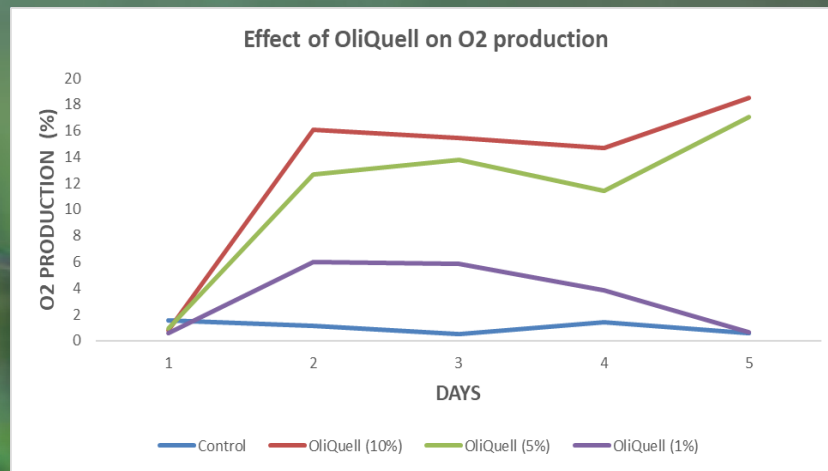
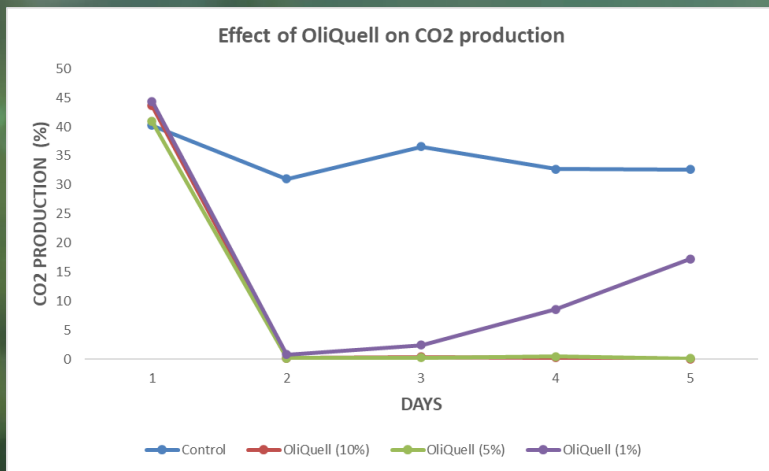


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OliQuell™ Enhances Emissions Reduction & Soil Gas Exchange

Catalyzes CO₂-to-O₂ Conversion in Organic-Rich Environments



Key Outcomes (from Controlled Trials):

- ✓ CO₂ concentrations dropped ~50% in 5–10% OliQuell™ treatments by Day 5
- ✓ O₂ levels increased by up to 18.5%, boosting oxygenation in low-aeration systems
- ✓ Demonstrated dose-dependent efficacy in CO₂ breakdown and O₂ generation

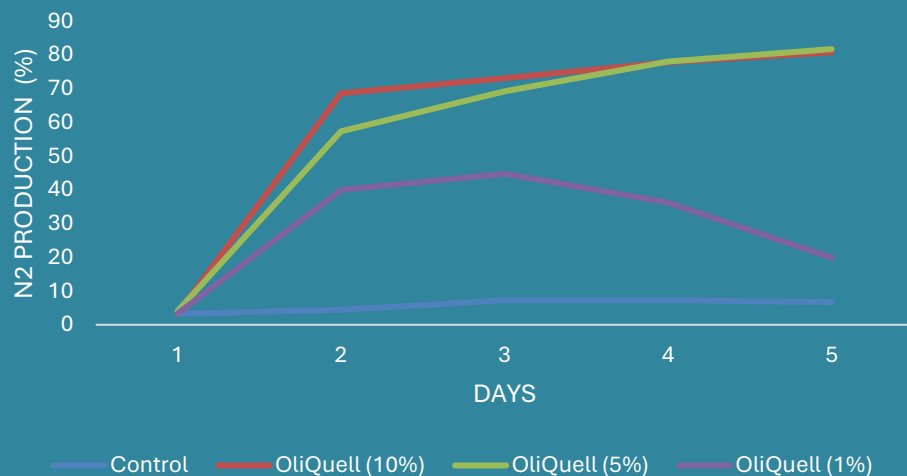
OliQuell™ actively enhances CO₂ reduction and O₂ generation, improving soil oxygenation, supporting plant respiration, and promoting a more balanced carbon cycle in agricultural ecosystems.



OLIQUELL™ IMPROVES NITROGEN FIXATION & SOIL HEALTH

OLIQUELL™ HAS DEMONSTRATED SIGNIFICANT DOSE-DEPENDENT EFFICACY IN ENHANCING N₂ AVAILABILITY & OPTIMIZING SOIL NUTRIENT CYCLES

Effect of OliQuell on N₂ production



Key Findings – Nitrogen Fixation & Soil Health

- ✓ Increases nitrogen (N₂) levels in soil by up to 81.68%, enhancing natural fertility
- ✓ Improves microbial balance, supporting beneficial nitrogen-fixing bacteria
- ✓ Stabilizes soil pH, optimizing conditions for nutrient uptake

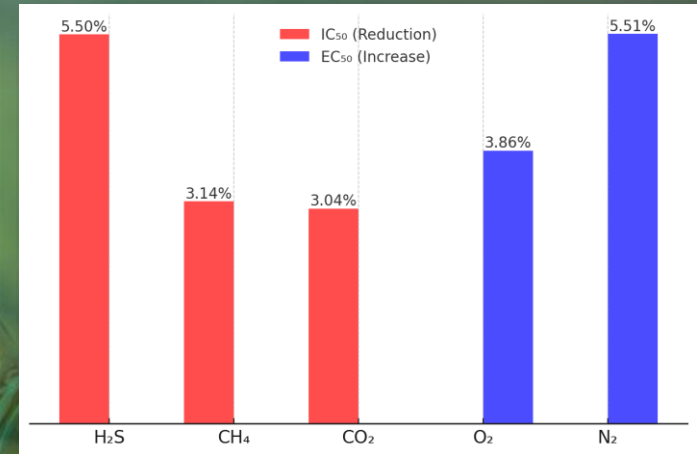
OliQuell™ Increases N₂ Fixation & Supports Sustainable Nitrogen Cycling



OliQuell™ Optimizes Soil Gas Exchange for Emissions Reduction & Oxygenation

Lower CH₄ & H₂S, Higher O₂ & N₂

Gas	Reduction (IC ₅₀ - Suppression of Gas) ↓ 5.5% (50% reduction)	Enhancement (EC ₅₀ - Beneficial Gas Increase)
H ₂ S	- Minimizes toxicity in anaerobic systems	N/A
CH ₄	↓ 3.14% (50% reduction) - Suppresses methane emissions in manure and compost	N/A
CO ₂	↓ 3.04% (50% reduction) - Enhanced carbon sequestration	N/A
O ₂	N/A	↑ 3.86% (50% increase) - Improves soil oxygenation and microbial respiration
N ₂	N/A	↑ 5.51% (50% increase) - Enhances nitrogen cycling and fertilizer efficiency



Why It Matters:

- Reduces climate-relevant emissions – CH₄ and H₂S mitigation directly supports EU and global decarbonization targets
- Improves soil oxygenation – boosting microbial efficiency and plant performance without synthetic intervention
- Supports nature-based industrial solutions – enhances soil health and carbon balance in digesters, biogas units, and agri-waste systems
- Minimizes fertilizer demand – improved nitrogen retention reduces input needs and environmental runoff

OliQuell™ Optimizes Soil Gas Exchange & Carbon Balance

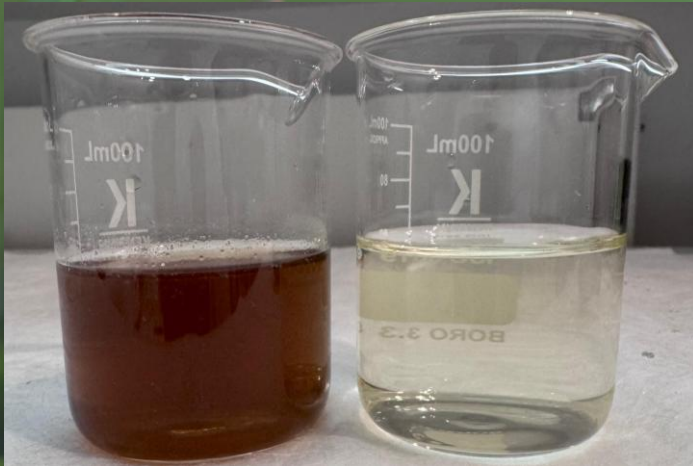


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OliQuell™ Enhances Water Quality & Contaminant Reduction

A Sustainable Solution for Heavy Metal Adsorption, Agrochemical Runoff Control, and Wastewater Clarification



CONTROL

OLIQUELL 5%

Key Findings from 24-Hour Incubation Studies:

- ✓ Visibly improves water clarity within 24 hours, demonstrating removal of suspended solids and organic matter
- ✓ 5% OliQuell™ treatment outperforms control, showing significantly reduced turbidity and particulate content
- ✓ Reduces heavy metals, agrochemical residues, and nutrient overload, enhancing water quality for reuse and discharge

OliQuell™ Supports Clean Waste Cycles by Neutralizing H_2S and Enhancing Aeration



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OLIQUELL HEAVY METAL REMOVAL AND BROAD-SPECTRUM CONTAMINANT CONTROL

In various water treatment applications, OLIQUELL has proven to be highly effective in adsorbing heavy metals

Key findings indicate that:

Contaminant	Adsorption Capacity (mg/g)	Remarks
Chromium (Cr)	4.02	Highly effective in adsorbing heavy metals
Copper (Cu)	3.99	Highly effective in adsorbing heavy metals
Lindane (HCH)	51	Excels in removing pesticides, antibiotics, and other pollutants

1. Demonstrates high adsorption capacity for heavy metals, achieving 4.02 mg/g for Chromium (Cr) and 3.99 mg/g for Copper (Cu).
2. Effective in removing a broad spectrum of contaminants, including pesticides like Lindane (HCH) with an adsorption capacity of 51 mg/g.
3. Catalyzes advanced oxidation processes (AOPs) with iron nanoparticles, resulting in efficient breakdown of organic pollutants.
4. Achieved a 50% reduction in microcontaminants such as atrazine, carbendazim, imidacloprid, and thiamethoxam within 120 minutes in solar-assisted pilot studies.

OliQuell™ Efficacy in Driving Low-Carbon Waste & Water Transitions



OLIQUELL™ Intellectual Property

An innovative composition and method utilizing synergistic natural compounds derived from renewable sources for improving soil health, reducing agrochemical reliance, and enhancing nitrogen cycling. The composition integrates:

- ✓ Microbial optimization technologies to promote nitrogen fixation and reduce synthetic fertilizer dependency.
- ✓ Catalytic transformation processes that convert CO_2 to O_2 , supporting carbon sequestration and improved oxygenation in soil.
- ✓ Greenhouse gas suppression properties, reducing CH_4 (methane) emissions by up to 84% and H_2S toxicity, improving soil and plant health.
- ✓ Eco-friendly and biodegradable formulation, adaptable across various soil conditions and pH ranges, ensuring long-term agricultural sustainability.

**Provision Patents Filed. Conversion to
Full Patents in Sept 2025**



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OLIQUELL Competitive Advantages vs. Competitors

EVALUATION CATEGORY (UPL)	OLIQUELL™ (MINERAL-BIOACTIVE SOIL MODIFIER)	CONVENTIONAL SOIL ADJUVANTS
Performance Enhancement	Improves uniformity of application, retention of actives, and reduces volatilization	Often passive; limited to surfactants or inert fillers
Residual Control & Leaching	Slows degradation of Pendimethalin/Atrazine via pH buffering and nutrient adsorption	May leach or degrade actives; no pH buffering
Compatibility with Actives	Non-nano, inert base; compatible with tank-mixes, no encapsulation interference	May require reformulation; can bind undesirably to actives
EPA/Regulatory Fit	All components are GRAS/EPA-exempt or used in food/soil (ZnO, MgO, chitosan, oleuropein)	Many require individual EPA registration
Scalability and Cost	~\$35/kg; modular, stable shelf-life, compatible with standard ag equipment	May involve complex synthesis or temperature sensitivity
Soil Behavior Modification	Boosts retention (↓ leaching), improves dispersion, supports microbial carbon cycling	Typically no emission suppression or pH stabilization



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