WATCHER®
WATCH WATER
a Water Company

FILTERSORB
FILTRATION
ADSORPTION
INSTANT PRODUCTS
OXY TREATMENT
SYSTEMS

SOILOXY

CONTROLLED OXYGEN RELEASE

INTRODUCING

OXYGEN IS INVISIBLE INFRASTRUCTURE

When oxygen disappears, roots weaken, biology slows and reduced compounds accumulate. **SoilOxy®** is designed to place a persistent oxygen reserve directly inside wet soil, saturated media, sediment or groundwater - without depending on continuous mechanical aeration.

WHAT OXYGEN SUPPORTS

- Root respiration and energy generation
- Aerobic microbial activity and biodegradation
- More oxidizing conditions around roots and sediment
- Conversion of reduced, odorous compounds
- Biological treatment where air transfer is difficult

THE SOILOXY® DIFFERENCE

A solid, slow-release technology that stays where it is placed and responds to moisture. The formulation remains proprietary.

Engineered for localized oxygen management. **SoilOxy®** provides a solid, moisture-responsive platform that can be positioned directly within the treatment zone, supporting root respiration, aerobic biological activity and improved redox conditions where conventional aeration is difficult or impractical.

Agriculture | Remediation | Aquaculture | Water | Biological Treatment

APPLICATIONS

- Waterlogged Crops
- Turf & Sports Fields
- Soil & Groundwater Remediation
- Lakes & Ponds
- Fish & Shrimp Ponds
- Constructed Wetlands

IAPMO R&T WATER QUALITY PLATINUM SEAL
IAPMO RESEARCH AND TESTING

PREMIUM QUALITY
MADE IN GERMANY

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WATCH WATER® OXYGEN MANAGEMENT

ONE COMPANY TWO OPPOSITE MISSIONS

Watch Water® develops technologies for **both directions of oxygen control**: adding oxygen where life and aerobic treatment need it, and removing oxygen where corrosion and oxidation must be prevented.

SOILOXY
Controlled oxygen addition - for oxygen-limited soil, water and sediment environments.

OXYLOCK
Adsorptive oxygen removal - for environments where corrosion and oxidation must be prevented.

WATCH WATER® POSITIONING: MASTER OF ADDING AND **REMOVING OXYGEN (O_2).**

GLOBAL APPLICATION MAP

ONE PLATFORM ACROSS SIX CATEGORIES

SoilOxy® can be developed into market-specific grades and deployment formats across land, water, sediment and biological treatment.

AGRICULTURE
Waterlogged crops, rice establishment, greenhouses, cannabis & hemp

Land
Turf & sports fields, urban trees, forestry, brownfields

Waterbodies
Lakes and ponds, black/ odorous water, eutrophic sediment, canals

Aquaculture
Fish & shrimp ponds, organic bottom sludge, sulfide risk management, ammonia management

Remediation
Petroleum hydrocarbons, BTEX and TPH; treatment trenches; well cartridges

Biological Treatment
Constructed wetlands, polishing lagoons, soil filters, sludge treatment under evaluation

RELEASE SEQUENCE

FROM MOISTURE TO BIOLOGICAL RESPONSE

Step 1
Moisture: Water reaches the placed granules.

Step 2
Activation: The protected matrix begins a controlled reaction.

Step 4
Biological Response: Roots and aerobic organisms gain access to oxygen.

Step 3
Oxygen: Diffuses into pores, water films and the root zone.

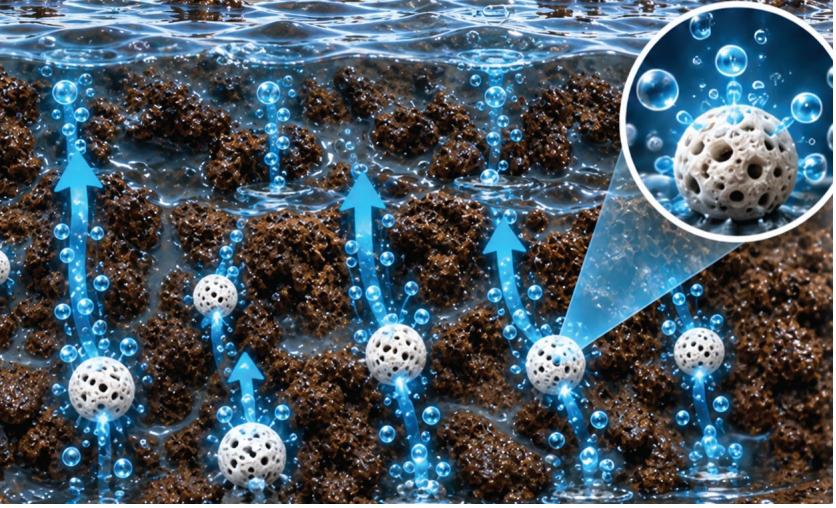
What Controls Performance

- Granule size and structural integrity
- Moisture, temperature and pH
- Placement depth and media contact
- Oxygen demand of soil, water or sediment

Why Granules Matter

- Reduced dust during handling
- Localized placement
- Longer residence in treatment zone
- Potential for tailored release profiles

The engineering principle: SoilOxy® is not a substitute for understanding the oxygen demand.
Measure first → select placement method → confirm response → scale responsibly.



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WATERLOGGING RESPONSE

PROTECTING CROPS FROM ROOT-ZONE HYPOXIA

Water fills the air spaces in soil and oxygen diffusion drops sharply. Root respiration slows, nutrient uptake changes, and reduced compounds may accumulate. **SoilOxy®** is designed to support the root zone during this oxygen deficit.

Priority crops

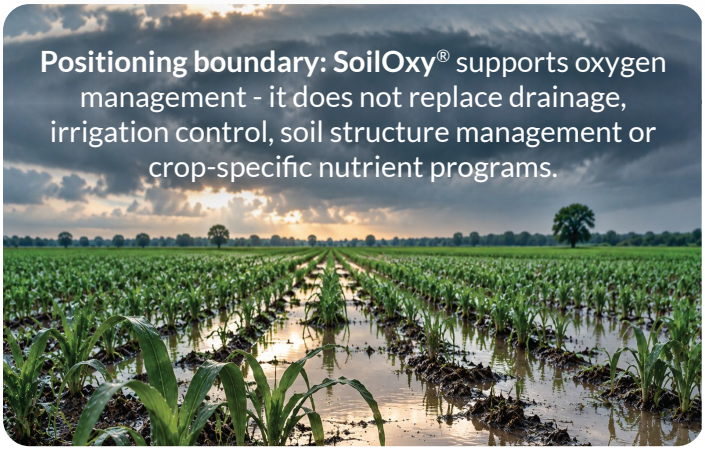
- Maize and other field crops
- Rapeseed and other oilseed crops
- Soybean and pulses
- Vegetables and specialty crops

Where the need occurs

- Heavy clay soils
- Compacted root zones
- Low-lying fields
- High-rainfall or over-irrigated regions

Pilot endpoints to evaluate

- Support root respiration
- Duration and severity of root-zone hypoxia
- Maintain aerobic biological activity
- Improve recovery after temporary flooding



ONE OXYGEN PLATFORM. MULTIPLE ENVIRONMENTS.

HIGH-VALUE HORTICULTURE

CANNABIS, HEMP & INTENSIVE CULTIVATION

High-value plants make consistent root-zone performance commercially important. Legal cannabis and hemp cultivation can experience root-zone oxygen stress from **warm irrigation water, frequent irrigation, dense root systems, compacted media and temporary overwatering.**

Best Initial Segments

- Soil-grown legal cannabis
- Coco-coir cultivation
- Mother plants
- Propagation & transplant establishment

Potential benefits to validate include sustaining oxygen availability near developing roots, supporting plants during temporary overwatering conditions, encouraging fine-root development, and improving crop uniformity and overall root-zone conditions.

Development Priority

CONTROLLED CULTIVATION TRIALS MEASURING ROOT-ZONE OXYGEN, pH, EC, ROOT HEALTH, BIOMASS, YIELD AND CROP QUALITY.

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ESTABLISHMENT - CONTROLLED TRIALS

SEEDS, PROPAGATION AND YOUNG ROOTS

Controlled oxygen delivery has potential wherever seeds or new roots face saturated, fine-textured or poorly aerated conditions. These applications require gentle release profiles and precise placement.

DIRECT-SEEDED RICE

Support germination and emergence in flooded conditions.

SEED PELLETING

A specialized R&D route for oxygen around the seed microzone.

NURSERIES

Support plugs, liners and transplant establishment in wet media.

OXYGEN AT THE ROOT OF BETTER PERFORMANCE.

CUTTINGS

Investigate root initiation where moisture must remain high.

TRANSPLANTS

Bridge the oxygen stress of planting and irrigation adjustment.

RESTORATION SEEDING

Support establishment on compacted or disturbed land.

No Universal Dosage

Avoid direct concentrated contact.
Confirm germination and root safety before scale-up.

LAND & LANDSCAPE

LONG-LIVED ROOTS & DIFFICULT SOILS

Oxygen limitation also affects perennial plants, compacted landscapes and restoration projects. SoilOxy® can be engineered for root zones where **mechanical aeration is temporary, difficult or expensive.**

Turf & Sports Fields - Field Trials

- Golf greens and tees, sports pitches
- Waterlogged landscaping, post-compaction recovery

Trees & Perennials - Field Trials

- Orchards, berries, vineyards
- Urban tree pits, containerized trees

Restoration Land - Site-Specific

- Brownfield revegetation, mine-site rehabilitation
- Erosion-control planting, rhizosphere-assisted remediation

Why it fits: *passive and localized, compatible with subsurface placement, supports both roots and aerobic biology, and can complement physical decompaction with potential seasonal release profiles.*

SURFACE WATER

OXYGEN AT THE BOTTOM

Organic-rich sediment consumes oxygen and can become strongly reducing. SoilOxy® can be developed for **controlled placement where the oxygen deficit begins - near or within the sediment.**

Waterbodies

- Urban ponds
- Lakes and reservoirs
- Drainage canals, storm-water basins

Target Conditions

- Low bottom oxygen
- Black sediment
- Reduced sulfur odour, high organic loading

Use Boundary

SoilOxy® is not emergency aeration for fish distress. Waterbody use requires ecological risk assessment, controlled placement and monitoring.

SMART OXYGEN DELIVERY FOR OXYGEN-LIMITED ENVIRONMENTS.

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ENVIRONMENTAL REMEDIATION

AEROBIC TREATMENT BELOW GROUND

Aerobic microorganisms can degrade many petroleum-derived contaminants, but oxygen delivery often limits the rate. **SoilOxy® is designed to create persistent oxygen zones within the contaminated matrix.**

SOIL & GROUNDWATER - AN ESTABLISHED PRINCIPLE

Priority Contaminants

- Petroleum hydrocarbons and TPH
- BTEX (benzene, toluene, ethylbenzene, xylenes)
- Gasoline, diesel and fuel residues

Priority Sites

- Fuel stations and depots
- Airports and workshops
- Refineries and industrial land
- Spill and plume treatment

DEPLOYMENT & PASSIVE FORMATS

- Direct soil mixing, injection-compatible carriers
- Treatment trenches, permeable barriers
- Well socks, baskets and cartridges, biopile amendments

Monitoring: *dissolved oxygen, redox potential, pH and contaminant decline.* ***SoilOxy®*** *supplies oxygen - the remediation design must still account for contaminant mass, oxygen demand, geology, groundwater flow, nutrients and microbial capability.*

AQUACULTURE

HEALTHIER POND BOTTOMS FOR FISH AND SHRIMP

Uneaten feed, faeces and organic matter settle to the bottom. Oxygen depletion can drive sulfide formation, odour and unstable nutrient cycling. **Controlled oxygen release can support aerobic sediment bioremediation.**

THE BOTTOM IS A BIOLOGICAL REACTOR

The Bottom Is a Biological Reactor

- Freshwater fish ponds
- Shrimp and prawn farms
- Hatchery sediment zones

Process Goals

- Aerobic organic-matter breakdown
- Reduced sulfide pressure
- More stable bottom conditions

DESIGN CONTROLS

- Species and life stage · sediment oxygen demand
- Salinity and temperature · application timing

Use Boundary:
SoilOxy® must never be broadcast at an unvalidated rate into stocked ponds. Start with controlled mesocosm and field trials.

NUTRIENTS, SULFIDE AND ECOLOGICAL RECOVERY

REDOX IS THE SWITCH

Low redox conditions favour reduced sulfur compounds and can mobilize nutrients from sediment. Raising local oxygen and redox may help stabilize the interface, **but the outcome depends on mineralogy and oxygen demand.**

1. Anoxic Sediment Reduced compounds accumulate
2. SoilOxy® Placement Positioned at active layer
3. Local Oxygen Zone Oxygen & redox increase
4. Recovery Path: Aerobic degradation evaluated

Research Areas Under Evaluation: internal phosphorus-loading control, nitrogen transformation, methane-emission response, cyanobacteria-management strategies, reactive sediment caps.

Measure the whole system: dissolved oxygen, redox, pH, sulfide, ammonia, phosphorus, sediment oxygen demand and ecological response - bench test ⟶ mesocosm controlled field section ⟶ full deployment.

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BIOLOGICAL TREATMENT

WETLANDS, LAGOONS AND DECENTRALIZED SYSTEMS

Constructed wetlands and passive treatment systems often contain aerobic, anoxic and anaerobic zones. **SoilOxy® can be evaluated as a localized oxygen source without converting the entire system to full aeration.**

WHERE BLOWERS ARE ABSENT OR IMPRACTICAL

Pilot-Ready Systems
- Constructed wetlands
- Wastewater polishing lagoons
- Planted gravel beds

Process Goals
- Support aerobic COD/BOD removal
- Create nitrification microzones
- Reduce anaerobic odour

PROCESS DESIGN RULE:

Do not oxygenate every zone indiscriminately. Nitrogen removal may require both aerobic nitrification and anoxic denitrification - SoilOxy® placement must follow the intended biological pathway.

ADVANCED DEVELOPMENT

THE NEXT FRONTIER

SoilOxy® can be tested wherever a solid, localized oxygen source may replace or supplement intermittent aeration. **These are development opportunities - not universal commercial claims.**

Sludge
Oxidative conditioning, odour control and dewatering research.

Leachate
Aerobic polishing after matrix testing.

Bioreactors
Supplemental oxygen in media beds & biofilters.

Sulfide & Odour
Localized treatment of reduced sulfur conditions.

Organic Pollutants
Treatability for phenols and similar compounds.

Reactive Formats
Customized mats, cartridges, barriers, blends.

Outside the SoilOxy® Environmental Platform
Food processing, oral care, medical use, direct drinking-water dosing and animal contact require separate grades, approvals and safety dossiers.

DEPLOYMENT FORMATS

PLACE THE OXYGEN WHERE THE DEMAND EXISTS

SoilOxy® performance depends on how the granules meet moisture and oxygen demand. Watch Water® **can develop application-specific particle sizes, carriers, containment and placement methods.**

Mix-In
Blend through a defined soil, media or sediment layer.

Root-Zone Band
Place beside or below the active root zone.

Trench / Barrier
Intercept groundwater or create a passive treatment zone.

Sock / Cartridge
Contain granules for wells, channels or retrieval.

Surface Cap
Controlled placement over active sediment.

Composite Media
Combine with structural or complementary carriers.

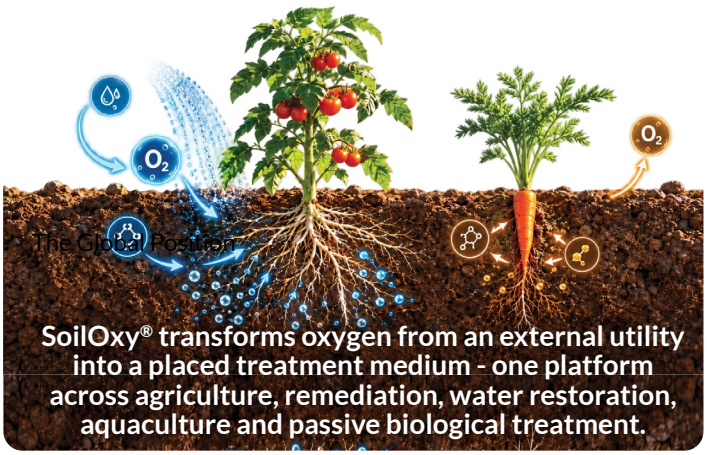
Design Input	Why It Matters
Moisture & saturation	Controls activation and transport
Oxygen demand	Determines required release and duration
pH and temperature	Influence reaction and biological response
Placement geometry	Controls the treated volume

COMMERCIALIZATION

THE SOILOXY® DEVELOPMENT STANDARD

Each application moves through the same pathway: **characterize the oxygen deficit, select the SoilOxy® grade, confirm the release profile, validate the biological response and define the commercial claim.**

1. **Characterize:** Water, soil or sediment; oxygen demand; pH; temperature; contaminants.
2. **Screen:** Bench testing across a safe concentration and placement range.
3. **Pilot:** Controlled field section with untreated comparison and monitoring.
4. **Validate:** Confirm oxygen response, biological outcome, safety and duration.
5. **Commercialize:** Publish only the claims supported for that application and grade.



SoilOxy® transforms oxygen from an external utility into a placed treatment medium - one platform across agriculture, remediation, water restoration, aquaculture and passive biological treatment.

Standard Packaging

Packaging	Weight of product	Quantity/pallet	Gross Wt./pallet
Box (4 × 6 kg buckets)	24 kg	48	1250 kg
Drum	60 kg	18	1163 kg

★ *Other packaging can be considered on request*

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