

penergetic 

# Water Remediation

with

penergetic  W

**Supports water's self-cleaning capacity,  
controls algae and activates microorganisms**

**Provides biological stimulation for:**

- **surface water**
- **waste water**
- **ground water**

**Areas of Application**

- Small lakes
- Ponds, dugouts
- Garden ponds
- Groundwater wells, cisterns



## BENEFITS

- improves water quality and clarity
- reduces algae growth to a natural level
- controls silt deposits (organic matter) in water bodies
- stabilizes the ecological equilibrium
- eliminates aquatic putrefaction bacteria
- mitigates production of harmful gases (e.g. ammonia & nitric oxide)
- improves conditions for plants and animals
- increases the aesthetic appearance of aquatic feature
- improves quality and taste of drinking water

## KEY SUCCESS FACTORS

- 100% natural ingredients and process
- Treats the causes, not the symptoms, of an imbalanced aquatic environment
- Provides customized information tailored to specific applications
- Proven effective and in use for over twenty years
- Moderate application cost
- Environmentally friendly

## FACTORS THAT MAY LIMIT THE EFFECTIVENESS OF PENERGETIC W

- Water body already in a highly advanced stage of eutrophication
- Sludge content exceeds 50% of total volume of water body
- Uncontrolled exposure to nutrients from an external source (e.g. runoff from fertilizer application or animal wastes, other sources) [Note: Other penergetic products can address these issues.]
- If treatment starts during the summer period of stagnation when the water body's circulation is stratified

**Note:** In some cases it has taken years for a pond, dugout or lake to reach the "tipping over" point, where it can no longer support itself in a natural balance. Consequently, it will also take time for the water body to re-establish itself – realistic expectations are warranted.



## PRODUCT FORM (THREE TYPES)

### Penergetic w for surface water

- reestablishes oxygenation and pond microorganism activity
- best applied in the Spring when full water layer circulation/mixing evident

### Penergetic w for waste water / mud reduction

- promotes natural decomposition and self cleaning capabilities
- best applied in the Autumn once full water layer circulation/mixing re-established

### Penergetic w for ground water

- can be applied at any time
- for control of water borne germs and bacteria
- may be used in conjunction with Aquakat

## INITIAL TREATMENT

Carried out according to the time of year and the specific problem to be addressed.

For best results, treatment should be started in the early spring, prior to an algae bloom occurring.

The initial dose should be applied as specified above. To more precisely calculate the dosage required, request a copy of the penergetic w logarithmic table (dosage to water surface area).

If no reduction in algae is attainable with the normal dosage because the treatment has commenced too late in the season, penergetic w for mud reduction can be added as a supplementary agent. Mix penergetic w for mud reduction with sand to a max. dosage of 1 g/m<sup>2</sup> (mixing ratio 1:10) and scatter the dry mixture directly over the algae.

## SLUDGE DEPOSITS

In mid Autumn (October to beginning of November – depending on location) the water should be treated with 2 g of penergetic w for mud reduction per m<sup>2</sup> (if the water is stocked with fish this should be after fish are harvested), as sludge is broken down in natural bodies of water at the lower temperatures which prevail in the winter. As a result of this treatment, the accumulated biomass will be processed more quickly and the sludge broken down. In the spring, treat with penergetic w for surface water every 2 to 4 weeks.

**\*\* Warning:** Caution is to be exercised in using penergetic w for mud reduction in water containing fish. In some cases, penergetic w for mud reduction should only be applied if absolutely necessary and then at a reduced dosage (just 0.5 g/m<sup>2</sup>). A higher dosage may lead to an oxygen deficiency for the fish as a result of the stimulated sludge breakdown process, especially if a hot spell occurs. Alternatively, penergetic w for surface water enhances oxygenization and is beneficial for fish.

## ADDED SUPPORT FOR WATER REMEDIATION

In addition to using penergetic w, the largest versions of the AquaKat® (e.g. XLarge, XXLarge and the AquaKat Module) programmed with information specific to water remediation may be used. For more details on these devices contact Penergetic Canada.

For special applications, AquaKats can be customized to resonate with information specific for the intended purpose.

## APPLICATION

### Initial application

(based on surface area)

up to 10 m <sup>2</sup>	(110 sq. ft)	5.0g/m <sup>2</sup>
up to 100 m <sup>2</sup>	(1,100 sq. ft)	3.0g/m <sup>2</sup>
up to 1000 m <sup>2</sup>	(11,000 sq. ft)	2.0g/m <sup>2</sup>
up to 2000 m <sup>2</sup>	(22,000 sq. ft)	1.5g/m <sup>2</sup>
over 2000 m <sup>2</sup>	(22,000 sq. ft.)	1.0g/m <sup>2</sup>

### Subsequent Applications

Use 1.0 g per m<sup>2</sup> for all further applications.

### Frequency of Use

Following the initial application, subsequent applications should be every 3 to 4 weeks until the water body stabilizes.

### Other Tips

- following a heavy rain, top up dosage by 1g/m<sup>2</sup>
- in hot weather reduce time between applications.
- with heavy algae growth sprinkle directly on to algae.
- accelerate self-cleaning process by pouring a bucket of water and sediment from a healthy pond into the water to be treated.

## CONTROLLED TEST RESULTS WITH PENERGETIC W

CONTROL



Evidence of algae

PENERGETIC TREATED



No algae present

## TURBIDITY EXAMINATION



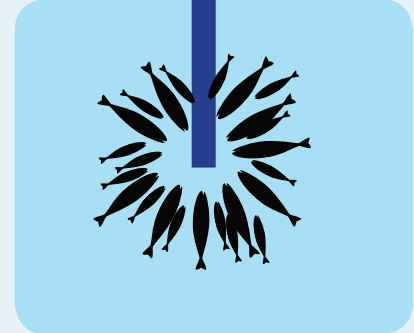
Control sample = murky



Penergetic w treated = clear

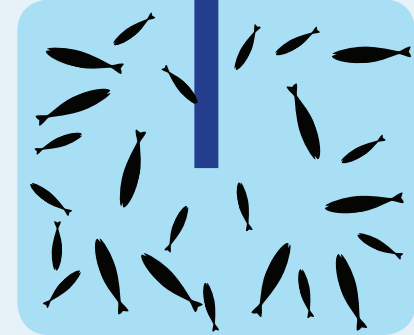
## PENERGETIC SYSTEM IMPROVES A FISH POND

PREVIOUS SITUATION



Fish densely packed below fresh water intake pipe

AFTER USING PENERGETIC



Fish evenly dispersed as water now self-oxygenating

## PRACTICAL EXAMPLE: LAKE BAD BALYERSOIEN, BAVARIA, GERMANY

**Size:** 200,000 m<sup>2</sup> (50 acres) part in a nature reserve

**Nature of Problem:** Excessive plant growth in the lake - unaesthetic appearance & a hazard to swimmers.

**History of Past Attempts at Eradication:** Used a mower boat to cut plants in the lake and the Village contracted to have a swimming channel dredged in the lake. Very expensive and problems return.

**Penergetic Solution:** Two (2) AquaKat water modules and 160 kg of penergetic w per year.

**Result:** Lake regained its natural ecological balance. Plant growth in the lake is now controlled naturally. The Village and lake users are happy. The focus has now shifted to treating upland sources of nutrient loading with other penergetic products.

LAKE SIDE CHANNELS

BEFORE

AFTER



For further information contact:

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