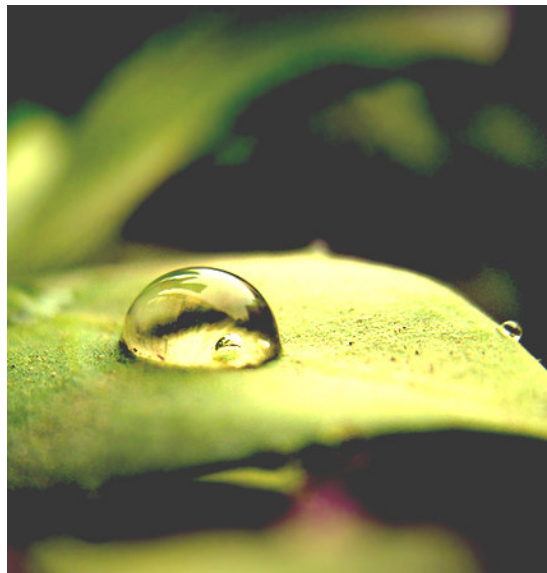


BioCore™

Active Oxygen Technology

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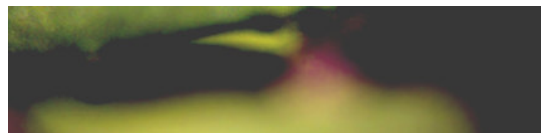
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■ BioCore™ Summary

BioCore™ is a patented and pending organic chemical compound designed to reduce organic solids via chemical oxidation/reduction reactions.

BioCore™ is used in industrial closed loop water recycling systems and municipal treatment systems offering a tremendous redox value which is more efficient and cost effective than hydrogen peroxide alone.



■ BioCore™ Chemical Characteristics

The compound consists of a highly stabilized, highly enhanced hydrogen peroxide (contains 15% but acts like 50%)

This product produces oxygen as its by-product and is non-halogenated.

The molecular activity offers approximately 190 liters of oxygen produced for each liter of compound

- The oxidation potential MV is 722 at 18% (30% HP is 412)
- Ph is 2.0
- Density = 1.03
- Weight of the product is 8.6 lbs/gallon

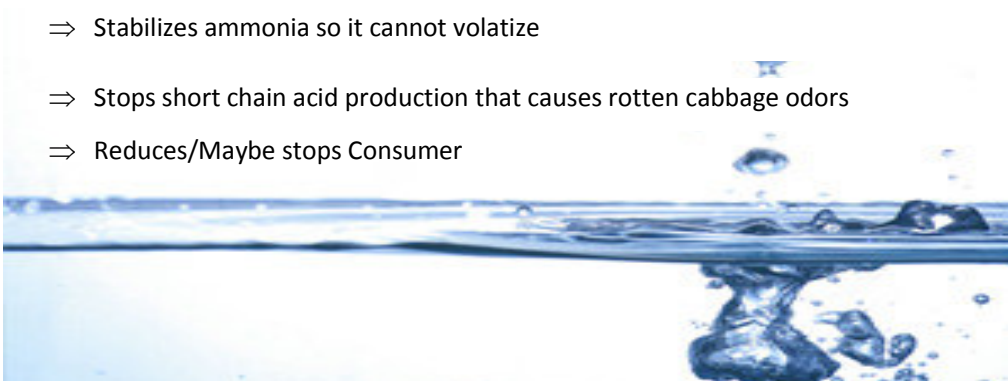
■ **BioCore™ Features & Benefits**

- ⇒ Contains no hazardous ingredients & no VOCs
- ⇒ Offers residuals of hydrogen peroxide
- ⇒ Produces no hazardous by-products
- ⇒ Non-halogcnated — non phosphonated
- ⇒ Low odor & Safe shipping and handling
- ⇒ All raw materials used are GRAS
(generally recognized as safe)
- ⇒ Cost effective means of reducing
sludge and organics
- ⇒ Maintains dissolved oxygen levels for extended periods of time
- ⇒ Reduces mechanical aeration costs by providing superior oxygen levels in aeration basins (cuts power requirements by up to 75%)
- ⇒ Prevents anaerobic responses which produce volatile amines and short chain acids
- ⇒ Sulfide reduction ration 1:12.5 one molecule BioCore to 12.5 molecules sulfide



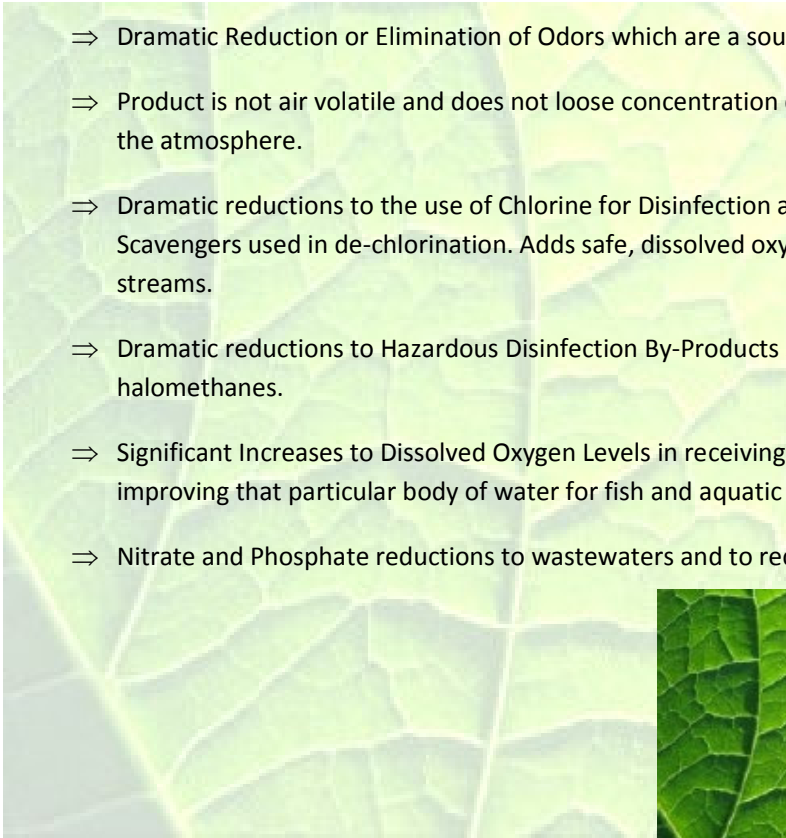
■ **BioCore™ Collection - Flow Systems**

- ⇒ Stops extreme H₂S spikes by reduction of SRB's and oxidation of sulfides
- ⇒ Stops H₂S gas from forming by continuous increase to dissolved oxygen levels
- ⇒ Stops carbon monoxide formation by continuous increase to dissolved oxygen & satisfaction of oxygen demands
- ⇒ Stops corrosion caused by slime growth (organic biofilm). Prevents accumulation of slim (biofilm) inside lines
- ⇒ Stabilizes ammonia so it cannot volatilize
- ⇒ Stops short chain acid production that causes rotten cabbage odors
- ⇒ Reduces/Maybe stops Consumer



■ Lagoons

- ⇒ Dramatic Reduction or Elimination of Odors which are a source of complaints.
- ⇒ Product is not air volatile and does not loose concentration due to volatization to the atmosphere.
- ⇒ Dramatic reductions to the use of Chlorine for Disinfection and Sulfate Oxygen Scavengers used in de-chlorination. Adds safe, dissolved oxygen to receiving streams.
- ⇒ Dramatic reductions to Hazardous Disinfection By-Products such as tri-halomethanes.
- ⇒ Significant Increases to Dissolved Oxygen Levels in receiving waters, thereby improving that particular body of water for fish and aquatic plant life.
- ⇒ Nitrate and Phosphate reductions to wastewaters and to receiving streams.



Microbiologic Test Results after Raw Sewage Treatment

<u>Identification</u>	<u>E-Coli</u>	<u>Fecal Coliform</u>
Untreated Raw Sewage	3×10^6 MPN/100 ml	7×10^6 MPN/100 ml
5 PPM	$< 6 \times 10^4$ MPN/100 ml	31×10^4 MPN/100ml
10 PPM	$< 3 \times 10^4$ MPN/100 ml	$< 3 \times 10^4$ MPN/100 ml
25 PPM	$< 3 \times 10^4$ MPN/100 ml	$< 3 \times 10^4$ MPN/100 ml
50 PPM	$< 3 \times 10^3$ MPN/100 ml	$< 3 \times 10^3$ MPN/100 ml
75 PPM	< 300 MPN/100 ml	< 300 MPN/100 ml
100 PPM	< 300 MPN/100 ml	< 300 MPN/100 ml

- ⇒ BioCore is a non-toxic organic chemistry based on glycolate stabilization of low level hydrogen peroxide offering long term, highly stabilized release of oxygen. This stabilized release promotes and supports aerobic respiration for aerobic activity.
- ⇒ Supplementing with BioCore is “enabling” to aerobic composting bacteria while inhibiting anaerobic “odor causing” bacteria.
- ⇒ In composting this supplementation provides for reduced odor, increased decomposition through sustained oxygen release, fixation of nitrogen compounds, and reduced compost “turning” due to readily available oxygen.
- ⇒ There are a variety of intangible value added benefits provided to the marketplace such as more stabilized nitrogen, improved bio-nutrient value, improved odor and improved oxygen content.
- ⇒ BioCore increases photorespiration in plants by providing an ample supply of oxygen and together with glycolate will stimulate an increase to aerobic soil activity which accomplishes nutrient uptake. Glycolate-P can be used as a substitute to NO₃ for plant growth.

■ Artificial lagoon of total capacity of 21 million gallons for collecting water wastes from a dairy-farming industry.

- ⇒ Nitrogen (TKN) was reduced to 144 ppm from 10.780 ppm
- ⇒ Phosphorics were reduced to 6,4 ppm from 500 ppm
- ⇒ BOD5 was reduced to 263 ppm

