



ENVIRO CARE

CLEANING/BIO-REMEDIATION

AMERICA'S ENVIRONMENTAL SOLUTION
TO A CLEANER AND SAFER WORLD

CAS

CAS Pvt LTD



APSARA Development



What is ENVIROCARE ?

- ENVIROCARE or EC is a blend of glucose enzymes that causes naturally occurring bacteria to multiply 3 billion times faster than normal, thus greatly speeding up biological degradation of contaminants. Oils, fats, and petroleum products bonding to surfaces are easily washed away as the bonds with the base material are quickly broken down.
- ENVIROCARE can be used as a cleaner for all environments including domestic and institutional kitchens and bathrooms to factory machinery and sewage effluent ponds.
- Biodegradation normally takes weeks or months depending on the size and nature of the material to be degraded. ENVIROCARE reduces biodegradation time naturally by stimulating the beneficial bacteria to remove the organic contamination as well as the disease causing organisms such as viruses and harmful bacteria such as E. coli.
- ENVIROCARE enhances the efficiency of bioremediation by stimulating the growth of naturally occurring bacteria to breakdown the molecular chain of organic and inorganic contaminants. Traditional cleaners using soda ash, chlorine, or other chemicals also breaks down fats and oils but often masks the odors with perfumes which leaves an impression of cleanliness. However, much of the contamination remains and the chemicals retards the natural degradation process, especially in the drainage and sewer system.
- ENVIROCARE is non-toxic and is completely safe to all living creatures. ENVIROCARE is also approved by the US Environmental Protection Agency (EPA) for discharge into oceans, rivers, lakes, streams, and ponds.

Benefits of ENVIROCARE

- Destruction of disease causing bacteria and viruses
- Elimination of odors
- Elimination of mosquito larvae - the enhanced bacteria growth caused by
- EC destroys mosquito larvae, and along with it mosquito - borne diseases such as dengue and malaria.

- In the long run, lowers carbon emissions by speeding up the degradation process.
- Eliminates the need for harsh chemicals with phosphate and chlorinated cleaners which can damage pipes and equipment while preserving the beneficial bacteria for the environment.

Uses of ENVIROCARE

- Food preparation factories for cleaning machinery, canning equipment, preparation areas, bottles and cans
- Slaughter houses and butcheries
- Domestic, hotel, restaurant kitchens
- Dairy Farm milk production equipment
- Animal holding areas
- Sewage and effluent treatment ponds with contaminated water waiting discharge into lakes and rivers

Application of ENVIROCARE

- Power washers work best with a solution of 1 part EC to 40 part water. Let the sprayed area sit for approximately one hour or longer then rinse with plain water. For heavily coated floors or equipment, use a brush to break the surface and get the EC solution into the contamination.
- For lighter use such as kitchens and toilets in homes and hotels, spray the diluted 1 part EC to 40 part water directly onto all surfaces and equipment and wipe with damp cloth. For floor drains, pour diluted solution into drains and let sit overnight. Rinse with water in the morning. EC will keep toilet and kitchen drains clean, reducing coliform bacteria and eliminate the need for commercial plumbers to unclog pipes.
- For odor control, spray 1 part EC to 100 parts water into the air or on fabrics and floors or any area with bad odor

ENVIRO-CARE USE FOR MILL CLEANING AND POND BIO-REMEDICATION

MILL CLEANING

Enviro-Care (EC) is a non-hazardous/completely safe natural blend of glucose enzymes which cause the natural and normally existing bacteria and fungi to rapidly increase by several billion times. When this happens the bacteria and fungi feed on the organic matter present and in that process break the bonds and digest the components.

In this process the organic contamination is broken down and the bond between the machinery, floors or any other surface is broken and the contamination biologically broken down and destroyed. The result is a far cleaner surface than is normally achieved with conventional cleaners or steam spraying. The effects last considerably longer because the surface is less likely to accumulate additional contaminants as fast as would normally be found with a residue remaining from conventional methods.

PONDS

When EC is used for cleaning the runoff is to the drains that carry to the ponds and where the enzymes continue to work for approximately 7 days. In the runoff the enzymes clean and deodorize the drain network and begin the process of bio-remediation of effluent from the mill.

For treatment of the ponds the procedure involves dosing the ingoing drain with a predetermined amount of EC preferably mixed with approximately 10 times the amount of water so as to get good dispersion in the early stage. Since EC bio-remediation is an aerobic process it is highly desirable that at least the first two ponds have mixers that will keep the oxygen in the mix and feed the EC process.

The first stage of treatment of ponds would involve kick starting the bio-remediation process by adding a larger amount of EC diluted with approximately 10 times the amount of water to get dispersion to each of the ponds. This will almost immediately result in a large reduction in odor - a signal that the bio-remediation process is working. The second stage involves a steady dose in the first pond and perhaps a smaller dose in the final pond. On treatment of the first ponds it is no longer necessary to pump the aerobic bacterial water from the last pond to the first because the first ponds already contain vastly more aerobic bacteria than would be helped by pumping. Therefore, pumps can be shut down permanently.

RESULTS

The BOD and COD will be reduced dramatically to below local standards. In sewage ponds the BOD is reduced to less than 100 without increasing the retention time. It is projected that the retention time for mill ponds could be reduced by approximately half while achieving the desired BOD levels. Also, the amount of sludge, estimated by results from sewage ponds, should be reduced by 60-70 percent thus reducing the need for pond dredging. The bio-remediation process is so active that the bacteria and fungi continue to consume the sludge resulting in a reduction of that material.

PALM OIL MILL

**THIS IS THE CONDITION
OF AN OIL PALM MILL
FLOOR BEFORE
TREATMENT**



**THIS IS THE CONDITION
ON DAY TWO AFTER EC
APPLICATION**



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MAIN POND

**MAIN POND
ON DAY ONE**



**MAIN POND
ON DAY FOUR**



**MAIN POND
ON DAY SIX**

