

ACTIVATED SLUDGE WASTEWATER TREATMENT PLANT

Activated sludge wastewater treatment plant is a wide diffused technology to treat polluted water in industries and municipalities.

INTECNA's program cover all needs of such plants :

SEDIMENTATION
FOAMING CONTROL
FATS AND OIL DEGRADATION
BIOLOGICAL SLUDGE CONDITIONING
SLUDGE DEWATERING
COLOUR REMOVAL

It's well known that a good management of the plant, usually requires only **few additives**, but unfortunately BOD/N/P, flow unbalancing, odours, not complete degradation and many other factors affect plant efficiency, so it's usual to improve the process with auxiliaries addressed to specific problem solving.

In the following items, are mentioned some diffused problem and their practical solution.

UNSATISFACTORY SEDIMENTATION ACTIVATED SLUDGE CONDITIONING



Wide diffused are the problems related to unsatisfactory Sludge Volume Index or Sludge Bulking. INTECNA applied in several plants a sludge conditioning NOT containing Polymers (HYPOL PWD 100 C) to be use directly in activated sludge vessel once a week. That allowed to ameliorate sludge quality and to avoid losses in final sedimentators.

UNSATISFACTORY BIODEGRADATION BACTERIA AND ENZYMES APPLICATION

Presence of Fats, Oil, Tensides and other not easily degradable substances affect biological process and sludge quality. In such case INTECNA selected some bio applications to improve plant working efficiency.

From the microbiology it's well known that all bacteria produce their own specific enzymes to aid in the digestion of the food source that Mother Nature created them to eat. Enzymes break down a food source into a form that the bacteria can eat. By using a "bacteria only" or "enzyme producing bacteria" (all bacteria produce enzymes), you are counting on the bacteria to produce their own enzymes to do the job that they were bought to do. Unfortunately, since the majority of products are not stabilized, you are asking the ineffective strains to perform a task that they simply can't handle. By using an enzyme-only product, you simply are not "finishing" the job. Enzyme-only products simply convert food sources into simpler forms without digesting them completely. Enzyme-only products usually only pass the problem down the line to cause substantially larger problems later.

By combining the proper bacteria strains with the appropriate enzymes, INTECNA's formulations have an immediate action. This immediate digestion enables our bacteria strains to "adhere" to food sources, where they continue to eat until the food source is gone. It is important to remember that the "food source" is usually the problem to be solved for the best product selection.

In the table are reported type, Total Bacteria content, Enzymes and uses.

HYBAC NG	Powder	Bacillus Subtilis B. amyloliquificans Arthrobacter Pseudomonas fluorescens Nitrosomonas europea Nitrobacter agilis Yarrowia lipolitica	10 EXP 9	Multifunctional Starter in Biological plants
HYBAC CELL	Powder	Bacillus Subtilis B. amyloliquificans Arthrobacter Pseudomonas fluorescens Nitrosomonas europea Nitrobacter agilis Yarrowia lipolitica	10 EXP 9	CELLULASE Disgregating agent for Cellulose derivatives
HYBAC CH	Powder	Bacillus Subtilis B. amyloliquificans Arthrobacter Pseudomonas fluorescens Nitrosomonas europea Nitrobacter agilis Yarrowia lipolitica	10 EXP 8	Multifunctional Starter in Biological plants
HYBAC DP	Liquid	Bacillus Subtilis B. amyloliquificans Arthrobacter Pseudomonas fluorescens Nitrosomonas europea Nitrobacter agilis Yarrowia lipolitica	10 EXP 9	LIPASE Disgregating agent for organic matter

SLUDGE DEWATERING POLYELECTROLYTES USE

INTECNA's delivery program provides :

POWDER POLYMERS (Line HYGRAM A and HYGRAM C)
OIL EMULSION POLYMERS (line HYGRAM OE)
WATER EMULSION POLYMERS (Line HYPOL WD)

Product selection and use of the most suitable polymer must be done with previous laboratory and field test and depends on flow rate, type of sludge, type of installed equipment. Moreover, INTECNA is equipped to mix raw material to prepare **polymers formulations** tailored to answer to specific plant requirement

FOAM CONTROL

In the controlled sister Company NYATEC, is produced a wide range of antifoam agent (oil and water based). Such products find application in the following applications:

Foam control in biological plant
Foam control in paint Booths
Foam control in Paper mill
Foam control in Food Industry

For every product, when necessary, is available FDA status.



INTECNA