

WASTE WATER TREATMENT IN SOFT DRINK PLANTS

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The production of soft drinks and juices, is a minor polluting industrial activity. The only pollutants produced are liquid waste. This waste is the product of the bottling process. The juice and sugar tanks contain residuals of sugar, fruit juice and detergents. In our plants, this liquid waste is processed in a waste water treatment installation so that the released waters will not pollute the environment. This waste water treatment process follows these steps:

- **Homogenisation - Balancing:** After the production process, the waste waters are advanced in the balancing tank. In this tank, they are continuously stirred so that a homogeneous mixture is achieved, as well as, a balance of the hydraulic load.
- **pH Adjustment - Addition of Nutrients:** During the balancing process, pH adjustment is taking place and nutrients are added which are essential for the life and metabolism of micro-organisms.
- **Aeration** is the heart of the system. In this tank, bio-degradation of the organic load takes place with the help of aerobic micro-organisms. These micro-organisms are a mixture of bacteria and protozoa which are continuously growing by consuming the organic load of the waste waters. To keep them alive, the oxygen level in the liquid mixture, has to be controlled and this is achieved through the aeration process.
- **Sedimentation - Separation:** The mixture is advanced in the sedimentation - separation tank. In this tank, the liquid is kept, in order to separate the sludge from the clean waste. The biomass contained in the subsiding sludge returns to the aeration tank, thus repeating the cycle while the clean treated waste water overflows in the chlorinating tank.
- **Waste Water:** The released waste water is chlorinated and drained until it is clean. Part of this water is used to water the plants on our premises.
- **Sludge Treatment:** The surplus biomass sludge is dehydrated with the help of a belt filtering press and stored in a silo. From there, it is transported by trucks to approved receiving areas.

By using the above process, we succeed in protecting the environment against pollution, while saving the water needed for irrigating the plants on our premises.

*As sponsors of the Biopolitics International Organisation, the Hellenic Bottling Company specially produced a film for presentation at the "Profit and the Bio-Environment" conference. This paper presents the points mentioned in the film.

Managing Director of the Hellenic Bottling Company since January 1995, **Christos Komninos** holds a degree in Chemical Engineering from Istanbul Technical University (I.T.U.). Mr. Komninos has been with the Hellenic Bottling Company since 1972, in several sales and marketing positions, and in 1987 he became Managing Director of Coca Cola Bottlers Ireland, one of the company's subsidiaries. Upon his return to Greece in 1990, he was appointed Manager of Development and, in 1992, General Manager for Greece.