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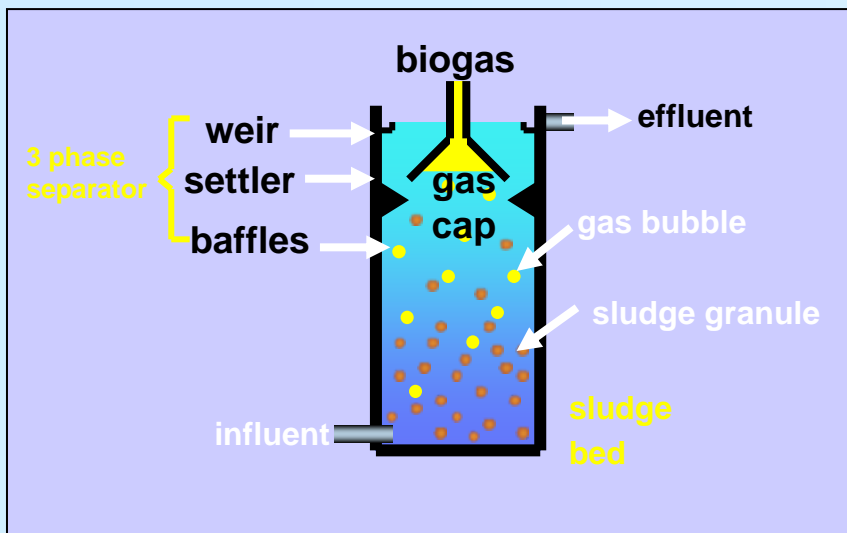
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UASB (Upflow Anaerobic Sludge Blanket)

UASB is now becoming a popular treatment method for industrial wastewater, because of its effectiveness in treating high strength wastewater and because of its economic advantages. The specially constructed settler sections allow effective degassification to occur. The dense, granular sludge particles now devoid of attached gas bubbles, sink back to the bottom establishing a return downward circulation.

Internal three-phase GSS device:



Wastewater enters the bottom of the reactor vessel through the inlet distribution system and passes upwards through the dense anaerobic sludge bed. Soluble COD is readily converted to biogas which is rich in methane and an upward circulation of water and gasborne sludge is established.

Internal three-phase GSS device: Installed at the top of the tank, the GSS device constitutes an essential part of an UASB reactor with following functions :

- To collect, separate and discharge the biogas formed.
- To reduce liquid turbulences, resulting from the gas production, in the settling compartment.
- To allow sludge particles to separate by sedimentation, flocculation or entrapment in the sludge blanket
- To limit expansion of the sludge bed in the digester compartment.
- To reduce or prevent the carry-over of sludge particles from the system.

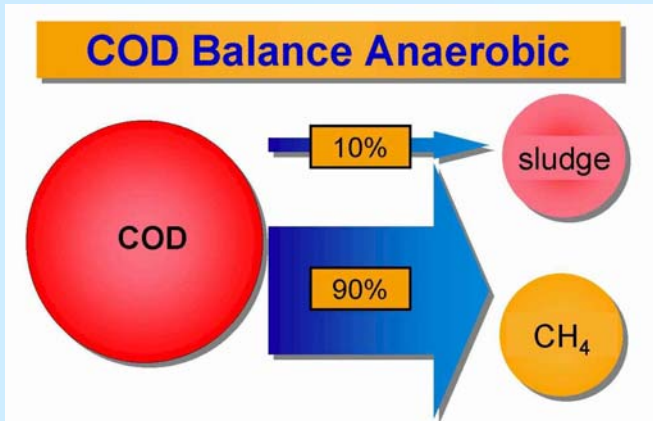


ANAEROBIC TREATMENT IN UASB TANK

ELIMINATES ODORS, REMOVES 90 % COD & PROVIDES BIOGAS

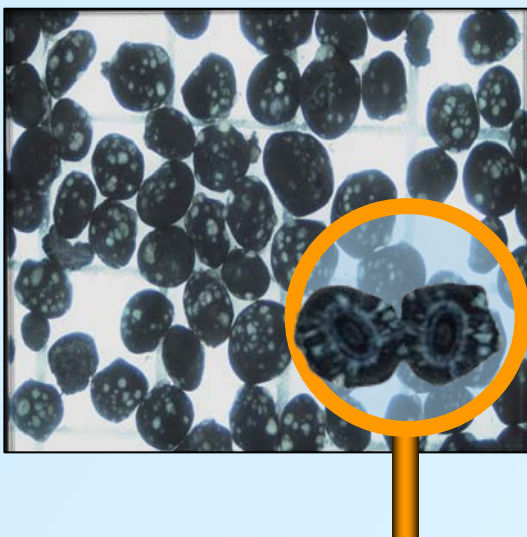
Anaerobic treatment converts the organic pollutants (COD, BOD) in wastewater into a small amount of sludge and a large amount of biogas (= methane gas + carbon dioxide)

The upward flow of gasborne sludge through the blanket combines with the return downward flow of degassed sludge and creates continuous convection. This insures effective sludge to wastewater contact without the need for any energy consuming mechanical or hydraulic agitation within the reactor.



The unique design of the reactor allows a highly active biomass concentration in relation to soluble organic solids passing through the sludge bed and is responsible for the very high loading rate (short hydraulic retention time) which can be achieved routinely.

Valuable biogas production



Thus enhancing the opportunity for good settling.

- High Organic Loading Capacity (10-15 kgCOD/m³/d)
- Compact Design
- Patented Double-Baffle Internal Settler
- Highly Settleable Granular Biomass
- Methane Energy Byproduct
- Economical Operation
- Proven Reliability

Anaerobic Sludge Granules
(close up)

