

SLUDGE RETENTION TIME

Higher Sludge Retention Time (SRT) is required in anaerobic processes as compared to aerobic processes. The potential of UASB reactor for given wastewater treatment is mainly dictated by the amount of sludge that can be retained in a reactor. In turn, SRT is strongly dependant on settling characteristics of the sludge. It is reported that SRT greater than 50 days is required for successful operation of UASB reactor to achieve efficiency of about 90%. This higher SRT can be maintained by controlling loss of sludge through effluent by proper design of gas-solid-liquid separator [Ghangrekar *et al*, 1999]. It is reported that for temperature below 15^oC, a SRT greater than 100days is necessary to retain sufficient methanogenic activity in the reactor [Lettinga and Zeeman *et.al.*, 1999]. The minimum SRT for design of UASB reactor for wastewater treatment is dependent on temperature and the liquid upflow velocity. In general, the minimum SRT should be 50 days.