

Biological Treatment

Why Biological Treatment When water is heated, and most waste water has been heated - the naturally dissolved oxygen is driven out. Gas expands faster than water when heated. So it follows that laundry and most bath water is low in oxygen.

Thus it is prone to becoming anaerobic when stored. Wash sink water is not so bad, as ½ the water we use is drawn from the cold tap and has not gone through the electric cylinder, geyser, kettle, or been boiled during food preparation. Remember that water run from the hot tap, when cool, is 'flat' and tasteless.

Laundry water, with depleted oxygen and the typically high phosphate content, derived from incompletely expended soaps/detergents of which sodium tripolyphosphate is a principle ingredient, in conjunction with dissolved organic wastes, is an ideal medium for anaerobic bacteria to flourish.

Anaerobic bacteria generate sulphide gasses. Sulphide gasses are a principal cause of both odour and of corrosion, much of the sulphur being derived from sodium sulphate, another typical ingredient of washing powder. Sulphide gasses give a pungent 'rotten egg' drain odour. Only a few ml's in a large room make the atmosphere unbearable.

Sulphide gases are soluble in water, and the formation of corrosive sulphuric acids, though diluted and weak, is the result. Such water corrodes the internal walls of ferrous water pipes, and when irrigated onto vegetation, will progressively destroy plants as surely as industrially generated 'acid rain'.

So it follows that wash water must not be allowed to become 'stale'. If this happens, even when it is being irrigated, the smell will be most offensive.

Management of stored grey water is highly important as bacterial growth is imminent. Non-management of stored grey water will result in anaerobic conditions. This is why we utilize 'The Bio-Systems SA Grey Water Additive' bacteria. These bacteria, of which you will add a level tsp every week, remove much of the COD, emulsified fatty substances, and prevent anaerobic conditions, putrefaction & rotting, and thereby controlling the formation of odours. The result is re-usable water that is relatively 'clean' and does not smell.