

ABBREVIATIONS

Abbreviation	Nomenclature
<i>A</i>	<i>Adenine</i>
<i>BOD</i>	Biological Oxygen Demand (mg/L)
<i>C</i>	<i>Cytocine</i>
<i>COD</i>	Chemical Oxygen Demand (mg/L)
<i>DO</i>	Dissolved oxygen (mg/L)
<i>EC</i>	Elimination capacity (mg/L/day)
<i>G</i>	<i>Guanine</i>
K_s	Half-saturation constant (mg/L)
K_{dp}	is kinetic constant for biomass death phase (per hr)
K_{obs}	Biological first order degradation rate (per day)
μ_{max}	Maximum specific growth rate (1/day)
<i>M</i>	Specific growth rate (1/day)
<i>MT</i>	Metric ton
<i>PBBR</i>	Packed bed bioreactor
<i>PUF</i>	Poly urethane foam
<i>Q</i>	Volumetric flow rate (mL/h)
<i>Q</i>	Specific substrate utilization rate
<i>RT</i>	Retention time
$(\%)RE$	Removal efficiency (%)
<i>S</i>	Initial substrate concentrations (mg/L)
S_{in}	Inlet concentrations of Malathion (mg/L)
S_{out}	Outlet concentrations of Malathion (mg/L)
<i>T</i>	<i>Thymine</i>
<i>T</i>	Time (day)
T_m	Temperature at the midpoint of the melting curve(°C)
<i>UV</i>	Ultra Violet
<i>V</i>	Hold-up volume of the reactor (L)
<i>X</i>	Microbial cell mass initial substrate concentrations (mg/L)
$Y_{x/c}$	Mass of cell formed to the mass of substrate utilized