**Table 1**

**Table 1.** COD removal efficiency of mixture of dyes (AB+PX): [AB] = [PX] = 0.15 mM; [n-] = 4.0 g/L; [HP] = 7.0 mM; pH= 3; equilibrium period = 90 min; = 147 mg/L.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Treatment period  (Min) | Decolorisation (%) | | Consumption of [HP]  (%) | m- (%) | (%) |
| AB | PX |
| 10 | 71.6 | 65.3 | 64.0 | 4.1 | 31.3 |
| 30 | 83.6 | 77.6 | 64.0 | 6.1 | 33.2 |
| 60 | 97.9 | 96.9 | 67.2 | 10.9 | 35.7 |
| 120 | 100.0 | 100.0 | 76.3 | 29.3 | 45.1 |
| 180 | 100.0 | 100.0 | 87.3 | 47.4 | 58.8 |
| 240 | 100.0 | 100.0 | 95.4 | 55.7 | 74.9 |
| 300 | 100.0 | 100.0 | 98.9 | 72.1 | 83.1 |
| 360 | 100.0 | 100.0 | 99.8 | 78.2 | 83.8 |

m- – COD removal efficiency in the presence of residual HP

– COD removal efficiency in the absence of residual HP

**Table 2**

**Table 2.** COD removal and HP consumption rate constants for mixture of dyes (AB+PX) by n- / HP system at different time intervals.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Time scale | Rate constant () | |  | |
| COD removal rate constants | | | |
| HP interference | No HP interference | HP interference | No HP interference |
| 0-60 (min) | 1.49 | 1.32 | 0.98555 | 0.99926 |
| 120-300 (min) | 7.94 | 6.73 | 0.98394 | 0.99036 |
| Time scale | HP consumption rate constants | | | |
| 0 - 60 min | 1.96 | | 0.8813 | |
| 120 -300 min | 17.17 | | 0.9684 | |

**Table 3**

**Table 3.** Ions and intermediate products identified by ion chromatography

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Ions | | Intermediate products | |
| R.T (min) | Name | R. T (min) | Name |
| 1 | 4.27 |  | 1.54 | Formic acid |
| 2 | 4.54 |  | 2.63 | Malonic acid |
| 3 | 2.12 |  | 2.81 | Maleic acid |
| 4 | 3.65 |  | 3.37 | Fumaric acid |
| 5 | 4.26 |  | 2.95 | Not identified |
| 6 | 5.56 |  | 3.86 | 3- Amino phenol |
| 7 | --- | --- | 4.57 | 2- Amino phenol |
| 8 | --- | --- | 7.91 | Phenol |