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Supplementary Material

Phosphorus release from waste sludge and digestate driven by biological sulfate

reduction: effect of feed sulfate concentration and thermal hydrolysis

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Table S1 – Soluble chemical oxygen demand (sCOD) concentrations and ratio between sCOD and total COD (tCOD) at different durations of thermal hydrolysis performed at 90°C on sludge digestate prior to biological sulfate reduction aimed at phosphate release.

| Duration (h) | sCOD (mg/L) | sCOD/tCOD (%) | |
|--------------|-------------|---------------|--|
| 0 | 286±20 | 1.4 | |
| 1 | 1829±152 | 9.0 | |
| 2 | 4143±40 | 20.4 | |
| 4 | 4910±57 | 24.2 | |

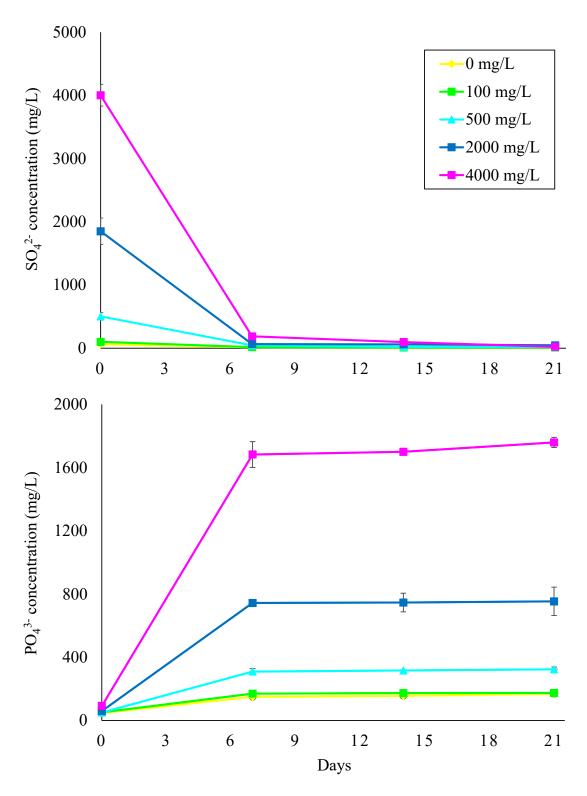


Fig. S1 – Temporal profiles of sulfate reduction and phosphate release with sewage sludge at different feed sulfate concentrations during *Test 1*.

Table S2 – Concentrations of total (tCOD) and soluble COD (sCOD) at the end of the sulfate reduction tests with hydrolyzed digestate at fed SO_4^{2-} concentration ranging from 0 to 6000 mg/L.

| Added SO ₄ ²⁻ concentration (mg/L) | tCOD (mg/L) | sCOD (mg/L) |
|--|--------------|--------------|
| 0 | 26,175±2,375 | $2,244\pm20$ |
| 2000 | 10,925±125 | 974±40 |
| 4000 | 14,050±2,625 | 699±5 |
| 6000 | 12,675±500 | 534±0 |