

## 三次処理に用いる凝集処理に関する一考案

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### 概 要

本研究では二次処理水質を明らかにするとともに、ジャーテスターを用いた凝集試験を実施した。得られた成果は以下のようにまとめられる。

- ① JARUS型合併処理浄化槽の二次処理水質は平均でSS6.3mg/l, BOD12.6mg/l, COD15.6mg/l, T-N24.3mg/l, T-P3.1mg/l, PO<sub>4</sub>-P2.8mg/lであった。
- ② Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>の最適添加濃度は40~50mg/lで、三次処理水質は平均値で、BOD 5 mg/l以下, CODおよびTOC10mg/l以下, T-P0.5mg/l以下, PO<sub>4</sub>-P0.1mg/l以下を示した。
- ③ Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> 1 mgの添加に伴い0.950mgの汚泥が生成し、最適添加量である50mgの添加によって47.5mgの汚泥が余分に生成することが示された。二次処理水 1 m<sup>3</sup>を凝集処理した場合、実装置の運転実績より沈殿槽におけるSS除去率を約80%, 濃縮汚泥濃度を約1%とすると3.8 lの汚泥が余分に発生することが明らかとなった。

# A Study of Chemical Coagulation in Tertiary Treatment

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## Abstract

In this study, the quality of secondary treatment effluent is researched and chemical coagulation is experimented by jar tests. As the result of the experiment, the following points have been clarified.

- ① In the secondary treatment effluent of JARUS type JOHKASOU, the average concentration of SS, BOD, COD, T - N, T - P and  $\text{PO}_4 - \text{P}$  were 6.3, 12.6, 15.6, 24.3, 3.1 and 2.8mg/l, respectively.
- ② The dosage of coagulant used in formation of good floc and good quality of supernatant was in the range of 40 to 50mg/l as  $\text{Al}_2(\text{SO}_4)_3$ . In the tertiary treatment effluent the concentration of BOD, COD, TOC, T - P and  $\text{PO}_4 - \text{P}$  were less than 5, 10, 10, 0.5 and 0.1 mg/l, respectively.
- ③ The 0.950mg SS were produced by the dosage of 1 mg as  $\text{Al}_2(\text{SO}_4)_3$ . In the case of the optimum coagulating dosage that was 50mg as  $\text{Al}_2(\text{SO}_4)_3$ , SS concentration of 47.5 mg was increased. In the actual facility, the sludge volume of 3.8l per  $\text{m}^3$  of secondary treatment effluent treated will be increased because the removal rate of SS was about 80 percent in the final settling chamber and the settled sludge concentration was usually about 1 percent in the storage chamber.

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