

## AMMONIA-CONTAINING WASTEWATER TREATMENT APPARATUS AND TREATMENT METHOD

### ABSTRACT

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The present invention addresses the issue of removing ammonia from ammonia-containing wastewater using a vapor-liquid separation membrane, to obtain a highly concentrated ammonium sulfate solution in a process for recovering the ammonia as an ammonium sulfate solution. This treatment device 1 for ammonia-containing wastewater is provided with: an ammonia removal device 16 having a vapor-liquid separation membrane 26, a first liquid chamber 24a situated adjacently to one surface of the vapor-liquid separation membrane 26, and a second liquid chamber 24b situated adjacently to the other surface, the ammonia removal device 16 removing ammonia from ammonia-containing wastewater flowed through the first liquid chamber 24a, producing a counter-flow, in relation to the ammonia-containing wastewater, of a sulfuric acid solution through the second liquid chamber 24a, and bringing the solution into contact with the removed ammonia, for recovery as an ammonium sulfate solution; an inlet side valve 56 for opening and closing the sulfuric acid solution inlet side of the second liquid chamber 24b, and an outlet-side valve 58 for opening and closing the outlet side; and a control means for closing the inlet-side valve 56 and the outlet-side valve when the flow of the sulfuric acid solution to the second liquid chamber 24b has stopped.

[Fig. 1]