

ABSTRACT

APPARATUS AND METHOD FOR RECYCLING

BACKGROUND OF THE INVENTION

Provided is a recycling apparatus and method. The apparatus is connected to a semiconductor cleaning apparatus engaged in cleaning semiconductor substrates with an ammonia-containing cleaning solution. The recycling apparatus recovers ammonia from a waste solution discharged from the cleaning apparatus and purifies the waste solution for re-use of the recovered ammonia in the cleaning apparatus. The recycling apparatus features a solids removal means for removing solids from the waste solution, a rectification column for rectifying the waste solution from which the solids have been removed, the column yielding concentrated aqueous ammonia at the column top, a first pipework for feeding the waste solution discharged from the semiconductor cleaning apparatus to the solids removal means, a second pipework for feeding from the solids removal means the waste solution from which the solids have been removed to the rectification column, and a third pipework for removing from the rectification column and feeding to the cleaning apparatus the concentrated aqueous ammonia. The invention enables ammonia that has already been used for cleaning during semiconductor device fabrication to be re-used for that same purpose.

Figure 1