

CULTURE DEVICE AND METHOD FOR CONTROLLING CULTURE DEVICE**ABSTRACT**

A culture device is a culture device that cultures a microorganism or a cell that uses a raw material gas containing a combustible gas for proliferation or production of an organic substance, the culture device including a culture tank that accommodates a culture solution, a raw material gas supply unit that supplies the raw material gas to the culture tank, and a composition ratio control mechanism that measures a composition ratio of a mixed gas in a space above a liquid surface of the culture solution in the culture tank and supplies an adjustment gas into the space in accordance with the measured composition ratio of the mixed gas to maintain the composition ratio of the mixed gas in the space at a target value outside a preset explosive range, in which, in a case where a circular equivalent diameter of a cross section orthogonal to a height direction of the culture tank is defined as D_{Am} and a maximum height of the liquid surface is defined as H , a dimension of the culture tank satisfies a condition of $H/D_{Am} \geq 2$.