wherein at least a part of the at least one C_4 compound is supplied as feed to the gas phase oxidation of at least one of process steps a1).

16. The process according to claim 15, wherein the methanol obtained in process step aa1) is supplied to process step h).

~~17. A device for production of at least one of methacrylic acid and a methacrylic acid ester, comprising at least the following components in fluid-conducting communication with each other:~~

~~A1) a gas phase oxidation unit,~~

~~A2) a quench unit,~~

~~A3) a first extraction unit,~~

~~A4) a first separation unit,~~

~~A5) optionally, a first esterification unit,~~

~~B) a crystallisation unit for crystallisation of water from an aqueous phase,~~

~~C) optionally, a second separation unit.~~