CLAIMS:

1. A method for preparing methyl methacrylate from methacrolein and methanol; said method comprising contacting in a reactor a mixture comprising methacrolein, methanol and oxygen with a heterogeneous catalyst comprising a support and a noble metal, wherein said catalyst has an average diameter of at least 200 microns, liquid and gaseous reactants flow downward in the reactor and wherein the continuous phase in the reactor is a gas which has no more than 7.5 mol% oxygen at reactor inlets, and wherein base is not added to the reactor or to liquid streams entering the reactor.

2. The method of claim 1 in which the catalyst has an average diameter from 400 microns to 10 mm.

3. The method of claim 2 in which the catalyst is contained in a catalyst bed.

4. The method of claim 3 in which the catalyst bed is at a temperature from 40 to 120 °C and pH in the catalyst bed is from 4 to 10.

5. The method of claim 4 in which offgas from the reactor is recycled and combined with air or oxygen.

6. The method of claim 5 in which at least 90 wt% of the noble metal is in the outer 70% of catalyst volume.

7. The method of claim 6 in which the noble metal is selected from the group consisting of gold and palladium.

8. The method of claim 7 in which the support is selected from the group consisting of γ-, δ-, or θ-alumina.

9. The method of claim 8 in which methanol and methacrolein are fed to a reactor containing the catalyst bed in a molar ratio from 1:1 to 10:1, respectively.

10. The method of claim 9 in which at least 95 wt% of the noble metal is in the outer 40% of catalyst volume.