[0006] In US2007/0032670, promoters and solubilizers are added to an impregnating solution which includes neat potassium nitrate, manganese EDTA ($K_2MnEDTA$) solution and diammonium EDTA solution. One equivalent of diammonium EDTA is added with the manganese promoter in order to increase the stability of the manganese-containing ion in the impregnation solution.

[0007] EP 480,537A1 discloses preparing a solid manganese complex of tetrahydrate of ethylene diamine tetraacetatomanganic II-acid ($H_2MnEDTA$), which can be then introduced into the impregnation solution. EP 480,537A1 discloses that the metal-containing promoter(s), including manganese may be present as complexes in the impregnating solution containing silver, prior to being associated with the carrier. Such complexes may conveniently be derived by including one or more complexing agents effective to form a complex with at least one metal species (a) in the silver-containing impregnating solution or (b) in a solution containing a metal-containing promoter precursor in an amount effective to enhance the solubility and/or solubility stability of the metal-containing promoter in the impregnating solution or solution precursor. The term "solubility stability" is defined as the measure of the ability of a metal-containing promoter to remain in solution over time: the longer the time in solution, the more solubility stable the metal-containing promoter is. The enhancement in solubility and/or solubility stability of the metal-containing promoter solutions, as described in EP 480,537A1, refers to solutions *not* containing metal-containing promoters in the complexed form.

[0008] Typically a stoichiometric amount of manganese-containing component corresponding to the desired target level is provided in an impregnation solution for impregnating a support. However, many times the impregnated support or the catalyst may not have the desired target level of manganese or they exhibit variability in the amount of manganese. If the resultant catalyst exhibits variability of the order of 10% or more from the desired target level, the performance of the catalyst is adversely affected. Therefore a much simplified, commercially viable, and yet reliable way of providing manganese component in supported silver catalyst is desirable.

SUMMARY

[0008a] In one aspect, there is provided a method of making manganese-containing supported sliver catalyst intermediate comprising the steps of:

(i) preparing a first solution comprising a manganese component and a complexing agent, wherein a pH of the first solution at any time during or after step (i) is less than or equal to 7;

(ii) combining the first solution with a second solution comprising silver to form an impregnation solution; and

(iii) impregnating a support with at least a portion of the impregnation solution to form the catalyst intermediate, wherein the impregnation solution has a pH of greater than 7.

[0008b] In another aspect, there is provided a vapor phase process for the continuous production of ethylene oxide comprising contacting in a vapor phase ethylene with oxygen or an oxygen-containing gas in the presence of a manganese-containing supported silver catalyst prepared from manganese-containing supported silver catalyst intermediate as defined above.

BRIEF DESCRIPTION