CLAIMS:

1. A homogeneous process for the hydrogenation of carboxylic acids and/or derivatives thereof in the presence of a catalyst comprising:

   (a) ruthenium, ~~rhodium, iron, osmium or palladium~~; and

   (b) an ~~organic~~ tridentate phosphine;

   wherein the hydrogenation is carried out in the presence of more than 1 % by weight water.

2. A homogeneous process according to Claim 1 wherein the carboxylic acids and/or derivatives thereof are present as solvent.

3. A homogeneous process according to Claim 1 wherein a solvent is present and the water is present as an additive therein.

4. A homogeneous process according to Claim 3 wherein the water is present in an amount of more than 1% to the solubility limit of the water in the solvent.

5. A homogeneous process according to Claim 3 wherein the water is present in an amount greater than the solubility limit of the water in the solvent and the excess water forms an aqueous phase.

6. A homogeneous process according to Claim 1 wherein water is generated in situ.

7. A homogeneous process according to Claim 2 wherein the product of the reaction forms the solvent.

8. A homogeneous process according to Claim 1 wherein the water is a solvent for the reaction.

~~9. A homogeneous process according to any one of Claims 1 to 8 wherein the catalyst is a ruthenium/phosphine catalyst system.~~

~~10. A homogeneous process according to Claim 9 wherein the phosphine component of the catalyst system is a tridentate phosphine.~~

~~11.~~9. A homogeneous process according to any one of Claims 1 to ~~10~~ 8 wherein the phosphine component of the catalyst system is tris-1,1,1-(diphenyl-phosphinomethyl)ethane.

~~12.~~10. A homogeneous process according to any one of Claims 1 to ~~11~~ 9 wherein the reaction is carried out in the absence of a promoter for the catalyst.

~~13.~~11. A homogeneous process according to any one of Claims 1 to ~~12~~ 10 wherein the reaction is carried out in the absence of halide.

~~14.~~12. A homogeneous process according to any one of Claims 1 to ~~13~~ 11 wherein the reaction temperature is in the range of from about 150°C to about 350°C.

~~15.~~13. A homogeneous process according to any one of Claims 1 to ~~9~~ 12 wherein the reaction pressure is in the range of from about 250 psig to about 2000 psig.

~~16.~~14. A homogeneous process according to Claim ~~10~~ 13 wherein the pressure is from about 800 psig to about 1200 psig.

~~17.~~15. A homogeneous process according to any one of Claims 1 to ~~16~~ 14 wherein the catalyst is regenerated in the presence of the water and hydrogen.

~~18.~~16. A process for regenerating a catalyst comprising:

(a) ruthenium, rhodium, iron, osmium or palladium; and

(b) an organic phosphine;

wherein the regeneration is carried out in the presence of hydrogen and water and at a temperature of from 150°C to 350°C.

~~19. — A process according to Claim 18 wherein the regeneration is carried out at a temperature of from about 150°C to about 350°C.~~