WE CLAIM:

1. A rhenium-promoted epoxidation catalyst comprising at least one catalytic species and a promoting amount of rhenium deposited on a shaped porous body, wherein the shaped porous body comprises less than 20% of its total pore volume being present in pores having diameters of less than one micron, and a surface area of at least 1.0 m^2/g.

2. The catalyst of claim 1, further comprising an additional promoter

, wherein the additional promoter comprises molybdenum, tungsten, lithium, sulfur, manganese, rubidium, cesium, sodium or combinations of these.

3. The catalyst of claim 1, wherein less than 15% of the total pore volume of the shaped porous body comprises pores having diameters of less than one micron.

4. The catalyst of claim 1, wherein the percentage of the total pore volume of the shaped porous body present in pores having diameters of between 1 micron and 5 microns is at least 75%.

5. The catalyst of claim 1, wherein the shaped porous body comprises a surface area of greater than 1.3 m^2/g.

6. A process for making a rhenium-promoted epoxidation catalyst comprising:

a) selecting a shaped porous body comprising less than 20% of its total pore volume being present in pores having diameters of less than one micron, and a surface area of at least 1.0 m^2/g; and

b) depositing at least one catalytic species and a promoting amount of rhenium on the shaped porous body.

7. The process of claim 6, wherein less than 15% of the total pore volume of the shaped porous body comprises pores having diameters of less than one micron.

8. The process of claim 6, wherein the percentage of the total pore volume of the shaped porous body present in pores having diameters of between 1 micron and 5 microns is at least 75%.

9. A process for the epoxidation of an alkylene, comprising reacting a feed comprising one or more alkylenes and oxygen in the presence of the catalyst of claim 1.

10. A process for preparing a 1,2-diol, a 1,2-diol ether, a 1,2-carbonate, or an alkanolamine comprising converting an alkylene oxide prepared by the process of claim 9 into the 1,2-diol, 1,2-diol ether, a 1,2-carbonate, or alkanolamine.

We claim:

1. A rhenium-promoted epoxidation catalyst comprising at least one catalytic species and a promoting amount of rhenium deposited on a shaped porous body, wherein the shaped porous body comprises less than 20% of its total pore volume being present in pores having diameters of less than 1 micron, and a surface area of at least about 1.3 m^2/g, wherein the catalyst exhibits a higher activity and/or selectivity when used in an epoxidation process than a catalyst supported on shaped porous bodies having a greater percentage of their total pore volume in pores having diameters of less than one micron.

2. The catalyst of claim 1, further comprising an additional promoter.

3. The catalyst of claim 2, wherein the additional promoter comprises molybdenum, tungsten, lithium, sulfur, manganese, rubidium, cesium, sodium or combinations thereof.

4. The catalyst of claim 3, wherein the additional promoter comprises cesium.

5. The catalyst of claim 1, wherein less than about 15% of the total pore volume of the shaped porous body comprises pores having diameters of less than 1 micron.

6. The catalyst of claim 5, wherein the percentage of the total pore volume of the shaped porous body present in pores having diameters of between about 1 micron and about 5 microns is at least about 85%.

7. The catalyst of claim 1, wherein the percentage of the total pore volume of the shaped porous body being present in pores having diameters of between about 1 micron and about 5 microns is at least about 80%.

8. The catalyst of claim 1, wherein the shaped porous body comprises alpha-alumina.

9. The catalyst of claim 8, wherein the alpha-alumina is fluoride affected.

10. A process for making a rhenium-promoted epoxidation catalyst comprising:

a) selecting a shaped porous body comprising less than 20% of its total pore volume being present in pores having diameters of less than 1 micron, and a surface area of at least about 1.3 m^2/g; and

b) depositing at least one catalytic species and a promoting amount of rhenium on the shaped porous body.

11. The process of claim 10, wherein less than about 15% of the total pore volume of the shaped porous body comprises pores having diameters of less than 1 micron..

12. The process of claim 10, wherein the percentage of the total pore volume of the shaped porous body present in pores having diameters of between about 1 micron and about 5 microns is at least about 80%.