WHAT IS CLAIMED IS:

1. A process, comprising the steps of:

(a) providing a mixed metal oxide first catalyst having the empirical formula: $MoV_aNb_bX_cZ_dO_n$ and an X-ray diffraction pattern showing the orthorhombic phase as the major crystal phase with main peaks with 2θ at 6.7°, 7.8°, 22.1°, and 27.2°, wherein X is Te, Z is Pd, a = 0.2 to 0.3, b = 0.1 to 0.3, c = 0.15 to 0.3, d = 0.005 to 0.02, and n is determined by the oxidation states of the other elements; wherein a catalyst precursor is dried and then calcined at a temperature from 550 to 650°C in an inert atmosphere consisting of nitrogen, argon, xenon, helium or mixtures thereof to produce the first catalyst; and

(b) calcining the first catalyst at ambient atmospheric pressure at a temperature from 100 to 550°C partly or wholly in an atmosphere that comprises water vapor to form a mixed metal oxide final catalyst.

2. The process of claim 1 further comprising: (c) grinding the mixed metal oxide final catalyst.

3. The process of claim 1 wherein the water vapor comprises from 0.01 to 100 volume percent, based on the total volume of gas in the atmosphere.

4. The process of claim 1 wherein the water vapor comprises from 0.5 to 10 volume percent, based on the total volume of gas in the atmosphere.

5. The process of claim 1 wherein the water vapor comprises from 1 to 3.5 volume percent, based on the total volume of gas in the atmosphere.

6. The process of claim 1 wherein calcining the catalyst precursor is done in 2 stages, wherein, in the first stage, the catalyst precursor is calcined in an inert or oxidizing environment at a temperature of from 200 to 330°C, for from 15 minutes to 40 hours, and in a second stage the material from the first stage is calcined in an inert atmosphere at a temperature of from 550 to 650°C for 0.1 to 25 hours.

7. The process of claim 1 wherein the first catalyst has the empirical formula: $MoV_aNb_bX_cZ_dO_n$ wherein a is 0.285, b is 0.164, c is 0.21, and d is 0.01.