

ABSTRACTHETEROPOLYACID-BASED CATALYSTS AND USE THEREOF  
FOR THE PREPARATION OF ALIPHATIC CARBOXYLIC ACIDS

A process for the preparation of aliphatic carboxylic acids by controlled oxidation of the corresponding alkanes with a source of oxygen, in the presence of a catalyst whose active phase is obtained from a heteropolyacid of formula (I):

$[A_x B_y]_z [C_d D_e O_x]^{z-}$  in which:

- A represents at least one monovalent cation chosen from hydrogen, an alkali metal or the ammonium ion;
- B represents  $VO^{2+}$ ,  $VO^{3+}$ , an alkaline-earth metal ion or an ion of a metal of groups VII A, VIII, I B, IV B and V B of the Periodic Table of the Elements;
- C represents Mo and/or W;
- D represents phosphorus, arsenic, antimony, silicon, germanium and/or boron;
- E represents vanadium and optionally at least one metal element chosen from groups V A, VII A and VIII or chromium;
- $f = a + \alpha b$  with  $\alpha$  depending on the charge of the ion B, which is equal to 2, 3 or 4;
- c is from 5 to 20-e inclusive;
- d is from 1 to 5 inclusive; and
- e is from 1 to 9 inclusive.