

**CATALYST FOR OXIDIZING METHYLBENZENES AND METHOD FOR
PRODUCING AROMATIC ALDEHYDE**

ABSTRACT

The present invention has for its object to provide a novel catalyst by use of which methylbenzenes can be oxidized in gaseous phase in the presence of molecular oxygen to give the corresponding aromatic aldehydes in high yields, a process for producing an aromatic aldehyde from the corresponding methylbenzene in a high yield by use of said catalyst, and a process for producing cyclohexanedimethanol which comprises hydrogenating phthalaldehyde among the aromatic aldehydes which can be obtained as above.

The present invention is directed to a catalyst for oxidation of methylbenzene

which is used for the production of the corresponding aromatic aldehyde by the gas-phase oxidation of a methylbenzene in the presence of molecular oxygen,

and has a composition of the following general formula (1):



wherein W represents a tungsten atom; X represents at least one kind of element selected from the group consisting of P, Sb, Bi and Si; Y represents at least one element selected from the group consisting of Fe, Co, Ni, Mn, Re, Cr, V, Nb, Ti, Zr, Zn, Cd, Y, La, Ce, B, Al, Tl, Sn, Mg, Ca, Sr, Ba, Li, Na, K, Rb and Cs; O represents an oxygen atom; a, b, c and x represent the numbers of atoms of W, X, Y and O, respectively; provided, however, the proportions of a, b and c are such that when a=12, b=0.5 to 10 and c=0 to 15; x represents a numerical value which is determined by the oxidized states of the elements other than oxygen.