

ABSTRACT

A catalyst containing, as an essential component, molybdenum; bismuth; and cobalt, in which, with respect to a peak intensity at $2\theta = 25.3^\circ \pm 0.2^\circ$ in an X-ray diffraction pattern obtained by using $\text{CuK}\alpha$ rays as an X-ray source, a changing rate (Q1) per 1000 hours of reaction time represented by the following formulae (1) to (4) is 16 or less.

$$Q1 = \{(U1/F1 - 1) \times 100\} / T \times 1000 \quad (1)$$

$F1 = (\text{peak intensity of catalyst before oxidation reaction at } 2\theta = 25.3^\circ \pm 0.2^\circ) / (\text{peak intensity of catalyst before oxidation reaction at } 2\theta = 26.5^\circ \pm 0.2^\circ) \times 100 \quad (2)$

$U1 = (\text{peak intensity of catalyst after oxidation reaction at } 2\theta = 25.3^\circ \pm 0.2^\circ) / (\text{peak intensity of catalyst after oxidation reaction at } 2\theta = 26.5^\circ \pm 0.2^\circ) \times 100 \quad (3)$

$T = \text{time (hr) during which oxidation reaction is carried out} \quad (4)$