

ABSTRACT

HYDRODESULFURIZATION CATALYST FOR HYDROCARBON OIL, PROCESS OF PRODUCING SAME AND METHOD FOR HYDROREFINING

The present invention provides a hydrodesulfurization catalyst that exhibits a high desulfurization activity when used in hydrotreatment of hydrocarbon oil, in particular straight-run gas oil. The catalyst comprising at least one type of metal component selected from Groups VIA and VIII in the periodic table, supported on a silica-titania-alumina support where the total of the diffraction peak area indicating the crystal structure of anatase titania (101) planes and the diffraction peak area indicating the crystal structure of rutile titania (110) planes is 1/4 or less of the diffraction peak area indicating the aluminum crystal structure ascribed to γ -alumina (400) planes, as measured by X-ray diffraction analysis, the catalyst having (a) a specific surface area (SA) of 150 m²/g or greater, (b) a total pore volume (PVo) of 0.30 ml/g or greater, (c) an average pore diameter (PD) of 6 to 15 nm (60 to 150 Å), and (d) the ratio of the pore volume (PVp) of pores having diameters within ± 30 percent of the average pore diameter (PD) being 70 percent or greater of the total pore volume (PVo).

Fig.1