

Ni CATALYST SUPPORTED ONTO SILICA FROM VOLCANO ASH PREPARED BY FACILE METHOD AND ITS APPLICATION

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ABSTRACT

Research on the use of Merapi volcanic ash as a carrier catalyst needs to be developed. Seeing some previous studies which reveal that the largest content of volcanic ash is silica, the researchers are interested in using silica from volcanic ash as a metal carrier. Silica has several advantages, including being stable in acidic conditions, high porosity, large surface area, and resistance to high temperatures, and is more widely available in Indonesia.

In particular, applications of mesoporous materials have been widely reported as either as drug delivery systems, stationary phase in high performance liquid chromatography (HPLC) columns, or as, metal supports in nickel and molybdenum based catalysts. The transition metal catalyzed olefin hydrogenation reaction is very important in the chemical industry. In addition, nickel is very economical and very active as a catalyst, compared to precious metals such as platinum, ruthenium, or rhodium, Ni-based catalysts have been used. The easiest way to improve the quality of a nickel catalyst is to include certain additives or supports in it. This research was conducted on a series of catalysts with the aim of increasing the performance and resistance of the catalyst.

Kata Kunci: volcanic ash, silica, nickel, catalyst, hydrogenation