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Zeolite/magnetite composites as catalysts on the Synthesis of Methyl Esters (MES) from cooking oil (Conference Paper) [\(Open Access\)](#)

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Abstract

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The using of zeolite/magnetite composite as a catalyst for the synthesis of methyl esters (MES) of cooking oil has been performed. In this study the natural magnetite was extracted from the iron sand of Semarang marina beach and milled by high energy Milling (HEM) with ball: magnetite ratio: 1:1. The composites prepared from natural zeolite and natural magnetite with zeolite: magnetite ratio 1:1; 2:1; 3:1 and 4:1. Preparation of methyl ester was catalyzed by composite of zeolite/magnetite through transesterification reaction, it was studied on variation of catalyst concentration (w/v) 1%, 3%, 5% and 10% to feed volume. The reaction product are mixture of methyl Oleic (MES), methyl Palmitic (MES) and methyl Stearic (MES). Character product of this research include density, viscosity, acid number and iodine number has fulfilled to SNI standard 7182: 2015. © Published under licence by IOP Publishing Ltd.

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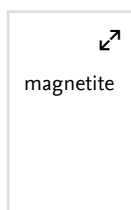
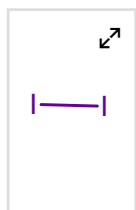
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