

เสถียรภาพของตัวเร่งปฏิกิริยาโคบอลต์แมกนีเซียมออกไซด์บนตัวรองรับไทเทเนียมออกไซด์
และอลูมิเนียมออกไซด์ในปฏิกิริยาออกซิเดชันแบบเลือกเกิดของ
1-โพรพานอล และ 2-โพรพานอล

นางสาวสิริญา ใจหาญ



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STABILITY OF Co-Mg-O/TiO₂ AND Co-Mg-O/Al₂O₃ CATALYSTS ON THE
SELECTIVE OXIDATION OF 1-PROPANOL AND 2-PROPANOL

Miss Sirinya Chaiharn

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Department of Chemical Engineering

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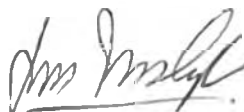
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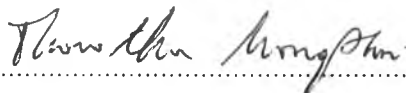
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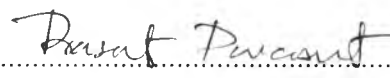
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(STABILITY OF Co-Mg-O/TiO₂ AND Co-Mg-O/Al₂O₃ CATALYSTS ON THE SELECTIVE OXIDATION OF 1-PROPANOL AND 2-PROPANOL)

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การศึกษาเสถียรภาพของตัวเร่งปฏิกิริยาโคบอลต์-แมกนีเซียมออกไซด์บนตัวรองรับไทเทเนียมออกไซด์และอลูมิเนียมออกไซด์ โดยใช้ปฏิกิริยาออกซิเดชันแบบเลือกเกิดของสารประกอบ 1-โพรพานอล และ 2-โพรพานอล ที่อุณหภูมิ 300 และ 500 องศาเซลเซียส เป็นเวลา 48 ชั่วโมงเป็นปฏิกิริยาทดสอบ จากการตรวจสอบโดย XRD พบว่ามีเพียงโครงสร้างของตัวเร่งปฏิกิริยา 1Mg8CoTi, 8Co1MgAl และ co-8Co1MgAl เท่านั้นที่เปลี่ยนแปลงไปเมื่อผ่านการทำปฏิกิริยาที่อุณหภูมิ 500 องศาเซลเซียส 48 ชั่วโมง อย่างไรก็ตามการเปลี่ยนแปลงนี้ไม่ส่งผลกระทบต่อค่าการเปลี่ยนและค่าการเลือกเกิดของตัวเร่งปฏิกิริยา การตรวจสอบตัวเร่งปฏิกิริยาที่ใช้แล้วแสดงว่ามีปริมาณคาร์บอนเกาะอยู่บนพื้นผิวของตัวเร่งปฏิกิริยา โดยพบว่าตัวเร่งปฏิกิริยาที่ผ่านการทำปฏิกิริยาที่ 500 องศาเซลเซียส มีปริมาณคาร์บอนเกาะอยู่มากกว่าที่ 300 องศาเซลเซียส

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SIRINYA CHAIHARN : STABILITY OF Co-Mg-O/TiO₂ AND Co-Mg-O/Al₂O₃ CATALYSTS ON THE SELECTIVE OXIDATION OF 1-PROPANOL AND 2-PROPANOL.

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The stability of Co-Mg-O catalysts supported on Al₂O₃ and TiO₂ are investigated. The selective oxidations of 1-propanol and 2-propanol at 300°C and 500°C for 48 h are used as test reaction. After being on stream at 500°C for 48 h, only 1Mg8CoTi, 8Co1MgAl and co-8Co1MgAl show some structure change as detected from the XRD. This structure change, however, does not significantly affect the conversion and selectivity of the catalyst. The characterization of used catalyst shows that some carbonaceous compounds deposited on the catalyst surface. The catalysts used at 500°C have carbonaceous compounds deposited more than the catalysts used at 300°C.

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