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**METHANOL SYNTHESIS OVER COPPER CATALYST
PROMOTED WITH METAL OXIDES**

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พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสี่เหลี่ยมนี้เพียงแผ่นเดียว

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วิทยานิพนธ์นี้ศึกษาถึงผลของชนิด และ ปริมาณของโลหะออกไซด์ที่สามารถเพิ่มประสิทธิภาพของตัวเร่งปฏิกิริยาทองแดงในการสังเคราะห์เมธานอล ตัวเร่งปฏิกิริยาทองแดงจะถูกเตรียมขึ้นโดยวิธีโค-อิมเพกเนชันบนอลูมิน่า แก๊สสังเคราะห์ที่ใช้ในการศึกษาประกอบด้วย CO และ H₂ ในอัตราส่วน 33/67 ปฏิกิริยาอยู่ในช่วงของอุณหภูมิระหว่าง 250 ถึง 400 องศาเซลเซียส และที่ความดัน 20 บาร์ พบว่า ได้ผลผลิตเมธานอลสูงสุดที่อุณหภูมิระหว่าง 300 ถึง 350 องศาเซลเซียส ขึ้นกับชนิดของโลหะออกไซด์ ผลผลิตเมธานอล และความสามารถในการเลือกเกิดผลผลิตสูงสุด พบได้จากการใช้โลหะออกไซด์ของซีเรียม/ทองแดง ในอัตราส่วนของ ตัวเร่งปฏิกิริยาที่ประกอบด้วย ซีเรียม 1 เปอร์เซ็นต์ ต่อ ทองแดง 1.31 เปอร์เซ็นต์ การฉีดแก๊สไนตรัส สามารถเพิ่มผลผลิตเมธานอลได้ในระยะเวลาอันสั้น แต่ หลังจากฉีดประมาณ 1 นาที แล้วพบว่าได้ผลผลิตต่ำลง

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ลายมือชื่ออาจารย์ที่ปรึกษาร่วม

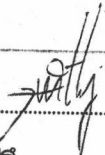
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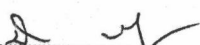
The present work investigated effect of type and amount of metal oxides which can promote the efficiency of copper catalysts used for methanol synthesis. The copper catalysts on Al_2O_3 support were prepared by co-impregnation method. The reactant gas used in the research contained CO and H_2 at a ratio of 33/67. The reaction was carried out between 250-400°C at a total pressure of 20 bar. It was observed that the methanol yield reached a maximum at temperature between 300 and 350°C, depending on the metal oxides. The highest yield and selectivity towards methanol were obtained from the catalyst contains 1%Ce 1.31%Cu. Pulse injection of N_2O could increased methanol yield in short time, but after injection for about 1 min. the yield decreased.

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Kunawut Wattanakij

April, 1996.

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