

Fuel and Chemicals from Methanol

TOPSØE CATALYSIS FORUM 2004



August 26-27, 2004

**Havreholm Castle
Hornbæk, Denmark**

HALDOR TOPSØE A/S

Introduction

The **TOPSØE CATALYSIS FORUM** has been created as a framework for an open exchange of views on catalysis in the fields of interest to Haldor Topsøe A/S. The idea is to discuss new reactions and new principles of catalysis in an attempt to jointly look beyond the horizon. In order to facilitate open discussions and to enable all participants to make use of the information received during the meetings in their future work, the meetings will be held on a non-confidential basis.

The **CATALYSIS FORUM** works through individual contacts and annual meetings focusing on a single topic.

“Fuel and Chemicals from Methanol”

This topic is chosen for the first forum because Topsøe today offers technologies and catalysts for an efficient production of methanol. New catalytic technologies utilizing methanol are therefore of strategic interest to Topsøe.

A very large market for methanol could materialize if it were used in connection with the production of synfuels. In this respect, MTG/TIGAS is a well-known technology. However, there might be other options: methanol or molecules produced from methanol could in principle be used as co-feed in F-T. The methanol-to-olefins technology is interesting as the demand for olefins and not least propylene is growing fast.

Formaldehyde, which is produced from methanol, is also an attractive molecule. It can be used as a building block for producing many interesting molecules - in a way, it can be considered as an activated CO molecule. Production facilities for producing formaldehyde are today relatively small and cheaper large-scale production is required for making formaldehyde interesting as feedstock for commodity chemicals. Depending on the future use of formaldehyde, it could be considered to use dehydrogenation of methanol instead of selective oxidation of methanol to produce formaldehyde.

The aim of the meeting is to shed light on and discuss the catalysis related to these aspects. This should be done with a very open mind since the idea is not just to review current knowledge, but also to produce the basis for radical innovations in the area.

Program

The Forum will be a two-day session where the first day is devoted to overview lectures that will form the basis for discussions that will take place after each lecture and also the following day, when three different groups will be formed to exchange views on specific themes.

Program

Wednesday, August 25

- Afternoon Pick-up at Copenhagen Airport of participants from abroad
Check-in Havreholm Castle
- Evening Informal dinner with participants from abroad (location to be announced later)

Thursday, August 26

- 07.30-09.00 Breakfast and arrival of local participants
- 09.00-09.15 Jens Rostrup-Nielsen, Haldor Topsøe A/S:
“Welcoming introduction”
- 09.15-09.45 Poul Erik Højlund Nielsen, Haldor Topsøe A/S:
“Methanol synthesis and downstream products”
- 09.50-10.40 Michael Stöcker, SINTEF, Oslo:
“Methanol to olefins”
- 10.40-11.00 Coffee break
- 11.00-11.50 Hans Schulz, University of Karlsruhe:
“Fischer-Tropsch”
- 12.00-13.30 Lunch buffet
- 13.30-14.20 Ferruccio Trifiro, University of Bologna:
“Selective oxidation of methanol to formaldehyde”
- 14.30-15.30 Robert Schlögl, Fritz Haber Institut der MPG:
“Selective dehydrogenation of methanol to formaldehyde”
- 15.30-16.00 Coffee break
- 16.00-16.50 Jens K. Nørskov, Technical University of Denmark:
“Input from theoretical methods?”
- 19.00- Dinner at Havreholm Castle.

Friday, August 27

- 07.30-09.00 Breakfast
- 09.00-09.15 Jens Perregaard, Haldor Topsøe A/S:
“Introduction to group discussions”
- 09.15-12.00 Group discussions
Group 1: Methanol to olefins
Group 2: Formaldehyde production
Group 3: Downstream formaldehyde
- 12.00-14.00 Lunch
- 14.00-16.00 General discussion

Participants

Besides the presenters, a few representatives from industrial collaboration partners may attend the meeting, but the majority of participants will be from Haldor Topsøe A/S. Up to 50 persons will be present for the presentations on the first day and approximately 25 persons will take part in the discussions on day two. The meeting is held on a non-confidential basis.

Scientific Committee

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