

CHEMICAL ENGINEERING

DM 630/Casale SA - Sustainable Aviation Fuels

Funded By	CASALE SA [P.iva/CF:492729855] MINISTERO DELL'UNIVERSITA' E DELLA RICERCA [P.iva/CF:97429780584]
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Context of the research activity	<p>The process of converting methanol into a jet fuel is known as MTJ, which can lead to a sustainable aviation fuel if the source of methanol is sustainable as well, and this can be achieved if it is produced from CO₂ and renewable hydrogen.</p> <p>Progetto finanziato dal PNRR a valere sul DM 630/2024 - CUP E14D24002400004</p>
Objectives	<p>The objective is to obtain a jet fuel like product, so the catalyst should ensure an appropriate balance between paraffins (favorable for the achievement of a good smoke point but detrimental for the freezing point) and aromatics (having the opposite effect than paraffins on the two afore-mentioned parameters). ZSM-5, which has an MFI structure, with a silicon to aluminum ratio of 40 (also referred as MFI-40) has an intermediate acidity which makes it a good candidate as a material to be screened selecting and optimizing the operative conditions of the tests.</p>
Skills and competencies for the development of the activity	<p>The phd candidate should possess good experimental experience, preferably with catalytic reactor systems, as well as process simulation skills to drive the scale up of the technology.</p>