The Ethenolysis Biorefinery offers direct commercial access to 1-decene and methyl-9-decenoate via Olefin Metathesis from renewable rape seed methyl ester: a status report

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Abstract

Verbio is pioneering renewable and sustainable solutions for mobility, chemical and pharmaceutical industry, food, feed, cosmetics, and agriculture. In its biorefineries in Europe, North America and India, Verbio processes biomass and residues from regional agriculture into climate-friendly fuels, green energy and renewable components for the chemical industry.
Reacting to the growing market needs in the chemical industry for biobased, renewable and chemicals with a low CO2 footprint, Verbio SE has developed a process to produce methyl-9-decenoate, 1-decene and C18 diacids derivatives from renewable rapeseed methyl ester by ethenolysis / olefin metathesis.
The new process VerBioChem, provides access to these medium chain alpha olefins in an environmentally friendly and economically attractive way from readily available rape seed methyl ester. Furthermore, the metathesis platform can be used to produce a number of useful C18 diacids e.g. Dimethyl-9-octadecenedioate or Dimethyl Octadecanediaote by homo cross metathesis as new biobased building blocks for the chemical and especially the polymer industry.
Currently, Verbio builts an ethenolysis production plant with 60 kta product capacity in Germany as well as a commercial scale metathesis catalyst production facility in Hungary. Overall Verbio will invest 80-100 Mio € into the project in Bitterfeld Germany. The commercial production will start in 2026.
Here we will provide insight into the ethenolysis technology, the available catalysts from XiMo Hungary kft, the renewable products spectrum, as well as give an update on the construction of the ethenolysis production plant. This investment shows Verbio's believe that XiMo Hungary kft's olefin metathesis catalysts as well as Verbio's new renewable products provide a commercially attractive opportunity and give access to a new relevant reaction space for the Chemical industry.