



CARBON-SUPPORTED BORON CATALYSTS FOR OXIDATIVE DEHYDROGENATION OF ALKANES

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The Invention

UW-Madison researchers developed a carbon-supported boron catalyst for the selective and active oxidative dehydrogenation (ODH) of alkanes to produce alkenes (e.g., olefins comprising two or more carbons). The use of a carbon support is made possible via a nitric acid treatment to generate oxidized activated carbon (OAC). Following activation, the OAC is treated with boric acid to generate a boron impregnated OAC. A final treatment step results in the robust, selective, and cost-efficient boron/OAC catalyst. This discovery builds up the researchers' prior work, which includes a range of boron-containing catalysts for ODH.

Key Benefits

- Outperform conventional catalysts
- Improved induction period compared to other boron-containing catalysts
- Substantially higher olefin selectivity and alkane conversion rates
- Improved byproduct mix
- Significantly less expensive to implement at scale
- Ready for industrial-scale implementation
- Stable over the long term

Additional Information

For More Information About the Inventors

- [Ive Hermans](#)

Tech Fields

- [Materials & Chemicals : Synthesis](#)

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854