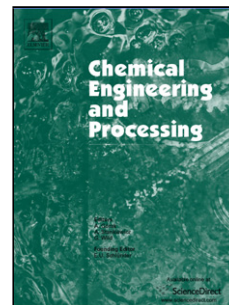


Accepted Manuscript

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PII: S0255-2701(17)30610-4
DOI: <https://doi.org/10.1016/j.cep.2018.02.011>
Reference: CEP 7193

To appear in: *Chemical Engineering and Processing*

Received date: 30-6-2017
Revised date: 2-2-2018
Accepted date: 10-2-2018

Please cite this article as: Margarita Ermilova, Alexey Kuchеров, Natalia Orekhova, Elena Finashina, Leonid Kustov, Andrey Yaroslavtsev, Ethane oxidative dehydrogenation to ethylene in a membrane reactor with asymmetric ceramic membranes, *Chemical Engineering and Processing* <https://doi.org/10.1016/j.cep.2018.02.011>

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Ethane oxidative dehydrogenation to ethylene in a membrane reactor with asymmetric ceramic membranes

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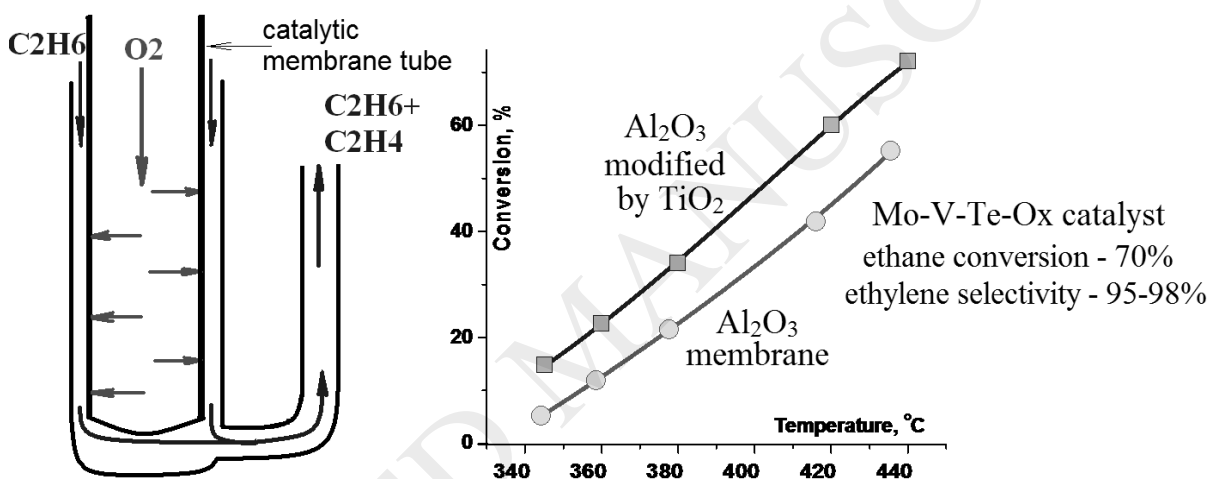
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Graphical abstract



Highlights

- Catalytic layers on alumina porous tubes were used for ethane oxidation to ethylene.
- The using of the membrane reactor increases efficiency of ethylene production.
- Ethane conversion of 70% with ethylene selectivity of 95-98% could be achieved.
- The best results were obtained for alumina membranes covered with TiO₂ layer.
- High oxygen/ethane ratios may be used for the process in the membrane reactor.

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