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(71) Applicants: SYNTHOS S.A. [PL/PL]; ul. Chemikow 1,
32-600 OSWIECIM (PL). ECOVYST INC. [US/US]; 300
Lindenwood Drive, Malvern, Pennsylvania 19355 (US).

(72) Inventors: **ROGOZA, Jaroslaw**; c/o Synthos S.A., ul.
Chemikow 1, 32-600 OSWIECIM (PL). **JANKOWIAK,
Ewelina**; c/o Synthos S.A., ul. Chemikow 1, 32-600
OSWIECIM (PL). **SITKO, Magdalena**; c/o Synthos
S.A., ul. Chemikow 1, 32-600 OSWIECIM (PL).
SKOWRONEK, Szymon; c/o Synthos S.A., ul. Chemikow
1, 32-600 OSWIECIM (PL). **SHAH, Parag Rasiklal**; 25
White Pine Ct., Lafayette Hill, Pennsylvania 19444 (US).
HU, Yatao Rachel; 1403 Treeline Drive, Malvern, Penn-
sylvania 19355 (US).

(74) Agent: EISENFÜHR SPEISER PATENTANWÄLTE
RECHTSANWÄLTE PARTGMBB; Johannes-Brahms-
Platz 1, 20355 Hamburg (DE).

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(54) Title: CATALYST FOR THE PRODUCTION OF 1,3-BUTADIENE GIVING A HIGH YIELD BASED ON A SUPPORT COM-
PRISING ALUMINIUM AND SODIUM

(57) Abstract: The present invention relates to a supported catalyst comprising a support and 0.1 to 10 wt.% of tantalum, calculated as Ta₂O₅ and based on the total weight of the catalyst, wherein the supported catalyst further comprises from 50 to 350 ppm of aluminium and from 300 to 500 ppm of sodium, based on the total weight of the catalyst, respectively. Moreover, the invention relates to a catalyst reaction tube for the production of 1,3- butadiene comprising at least one packing of the supported catalyst as defined herein, to a reactor for the production of 1,3-butadiene comprising one or more of the catalyst reaction tubes as defined herein, and to a plant for the production of 1,3-butadiene comprising one or more of the reactors as defined herein. The invention also relates to a process for the production of 1,3-butadiene as defined herein and to a process for the production of the supported catalyst as defined herein. Finally, the present invention relates to the use of the supported catalyst as defined herein for the production of 1,3-butadiene from a feed comprising ethanol and acetaldehyde and to the use of aluminium in an amount in a range of from 50 to 350 ppm in a supported catalyst for the production of 1,3-butadiene from a feed comprising ethanol and acetaldehyde for increasing the yield of 1,3-butadiene.

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