

BIZEOLCAT

BIFUNCTIONAL ZEOLITE BASED CATALYSTS AND INNOVATIVE PROCESS FOR SUSTAINABLE HYDROCARBON TRANSFORMATION

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Table of Content

WHAT'S NEW?	2
BIZEOLCAT PATENT	2
ALKANE DEHYDROGENATION NANOCATALYST AND PROCESS FOR ITS PREPARATION	2
BIZEOLCAT STANDARDIZATION WORKSHOP	2
BIZEOLCAT PUBLICATIONS OVERVIEW	3
BIZEOLCAT EVENTS	4
JULY 31 TO AUGUST 4, 2022 15 TH INTERNATIONAL CONFERENCE ON CATALYSIS IN MEMBRANE REACTORS.....	4
GORDON RESEARCH CONFERENCE IN GREEN CHEMISTRY 'CHEMICAL SCIENCES DRIVING SUSTAINABILITY	4
HYDROGEN POWER THEORETICAL & ENGINEERING SOLUTIONS INTERNATIONAL SYMPOSIUM - HYPOTHESIS 2022	5
EUROMEMBRANE 2022	5
EUROPEAN GLOBAL CONGRESS ON CATALYSIS, CHEMICAL ENGINEERING & TECHNOLOGY-.....	5
8TH GENERAL ASSEMBLY	6

WHAT'S NEW?

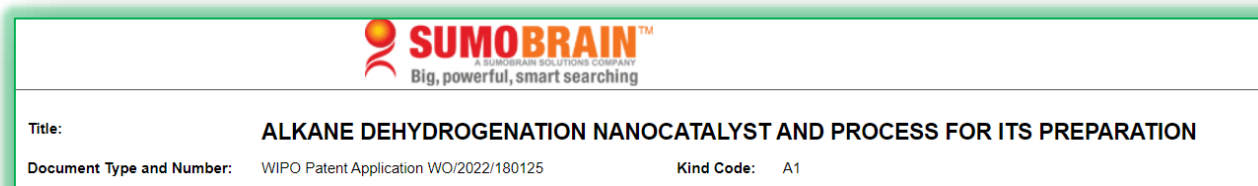
This is the [last issue of Bizeolcat](#) newsletter. Last year of the project was another challenging year as the first part has remained tainted by the coronavirus pandemic and we were able to attend in person only our last meeting on 13- 14 December 2022. The Consortium has completed the research and achieved the desired objectives even in this difficult situation. Please enjoy the reading of our final outreach!

Bizeolcat Patent

ALKANE DEHYDROGENATION NANOCATALYST AND PROCESS FOR ITS PREPARATION

Our partners from [Eurecat](#) successfully designed and developed the synthetic procedure of new catalysts for application in [dehydrogenation reactions](#) and confirmed it is possible to synthesise [highly active, selective and stable catalysts in a simple, reproducible and scalable way](#). This is the first patent of Eurecat in this field, even Eurecat as Technology Centre has more than 150 patents.

The Chemical Technologies Unit where the patent was developed is a young team specialized in giving solutions to complex chemical challenges and with the support provided by the multidisciplinary Eurecat Units, with special mention to Valorisation Unit, we were able to become the patent application a reality. Eurecat is now searching for opportunities for the exploitation of the patent.



This patent would never be possible without the collaboration of Bizeolcat partners. Find more at: [Sumobrain](#)

Bizeolcat Standardization workshop

BIZEOLCAT has promoted the creation of a Workshop in CEN, the European Standards Organization. A CEN Workshop is not a single-day event, but more accurately a working group set up to elaborate a kind of standardization document called CEN Workshop Agreement, CWA.

The CEN Workshop proposed and led by BIZEOLCAT was focused on [“Preparation of nanocatalysts for non-oxidative dehydrogenation of light alkanes”](#), and started officially last 5th October, after a 30-days period for appointments and public commenting. The resulting CWA 17944:2022 ‘Valorization of light hydrocarbons - One-pot method for the preparation of nanocatalysts for non-oxidative dehydrogenation (nODH) of light alkanes’ has been recently published by CEN on early December and can be freely downloaded from the following URL:

https://www.cencenelec.eu/media/CEN-CENELEC/CWAs/RI/cwa17944_2022.pdf

Methodology included in the CWA is a result of the project and has been patented by EURECAT. The fact of including this methodology in an European standardization document will give visibility to this project result and support its exploitation by the owner of the patent, who granted the intention of giving if required licenses in FRAND conditions (fair, reasonable, and non-discriminatory), according to CEN rules on this field. This is a

way to transfer knowledge from the project to other stakeholders.

From the point of view of the European and international petrochemical industry, the main receivers of this information, this is an opportunity of creating awareness and considering the development and industrial upscaling of this new methodology, which has shown at laboratory scale its technical and economic benefits in comparison with existing catalysts and synthesis methods.

The use of this standardization track for transferring knowledge from the research and innovation projects to other researchers and, mainly, the industry players, is recognized by the European Union as one of the 'Transfer channels' identified in the European Policy for Knowledge Valorisation, which aims to ensure that data, research results and innovation are transformed into sustainable products,

processes and services that bring economic value and benefit society.

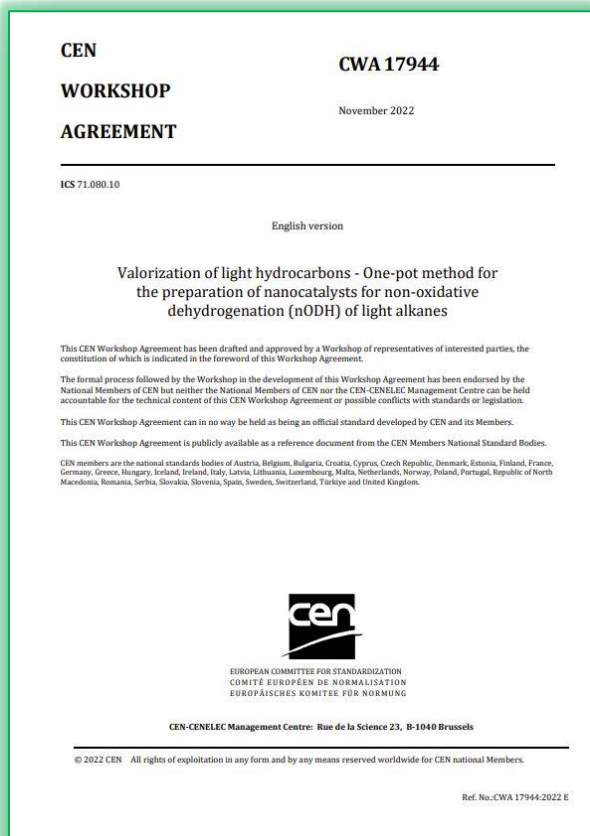
Bizeolcat publications overview

Bizeolcat research has been published on high ranked Journals with an average cite score higher than 81%. At the end of the project, Bizeolcat scientific publications achieved 78 citations between 2019 and 2022. There are new manuscripts being



drafted

expected to be published in the coming months





Other 2 papers are submitted. All publication links and information are available at the project's website: [Publications](#)

BIZEOLCAT EVENTS

Particular intensive have been the last 6Months to efficiently disseminate the achieved results in Bizeolcat. Here there are all the events attended:

July 31 to August 4, 2022 15th International Conference on Catalysis in Membrane Reactors



Tokio, Japan

July 31 to August 4, 2022 At the event, our Partner from TU/e presented 2 research works about "Membrane Reactors" and "Chemical processes".

Gordon Research Conference in Green Chemistry 'Chemical Sciences Driving Sustainability

24 to 29 July 2022 in Castelldefels Spain

Laia Gil presented an oral and poster communication about "Innovative nanocatalysts for sustainable non oxidative dehydrogenation of propane" referring to the research of the BiZeolCat project. She was awarded for one of the best posters in the Conference.



Hydrogen Power Theoretical & Engineering Solutions International Symposium - HYPOTHESIS 2022

Taipei, Taiwan September 26-29 2022.

The purpose of the HYPOTHESIS series is to provide a forum where representatives from industry, public laboratories, universities, and governmental agencies can meet, discuss and present the most recent advances in hydrogen technology. The conference addressed all aspects, theoretical, experimental and prototype developments, of hydrogen as an energy carrier. Our partner [TU/e](#) participated with a work on “Fluidized bed membrane reactor for the direct dehydrogenation of propane: proof of concept”.

EUROMEMBRANE 2022

Sorrento, Italy on November 20-24, 2022

Euromembrane 2022 edition celebrates the 40th year since the foundation of European Membrane Society whose overall goal was (and is today) to promote education and communication among membrane scientists and technologists at the European and International levels. Our Partner from [TU/e](#) presented a work on “Transient kinetic model for Pd-based membranes deactivation in propane dehydrogenation processes”.



European Global Congress on CATALYSIS, CHEMICAL ENGINEERING & TECHNOLOGY-

Rome 15-16 November 2022



[ERIC](#) presented a showcase of projects ERIC is involved in as a partner or coordinator. The showcase includes Bizeolcat project aims and scopes and the achieved results.

8th GENERAL ASSEMBLY

13-14 December 2022- In person



The 8th General Assembly has been held in person at [Eurecat](#) site in Tarragona (SP) and the



main objective of the meeting concerned the focus on the achieved results of the project.



The meeting highlighted that Important scientific breakthrough is achieved in optimizing alkanes conversion in a broad range of valuable chemicals.

[Tüpraş](#) was responsible for the catalyst scale up and pilot reactor tests of propane / butane dehydrogenation and propane aromatization reactions. [A final online event has been planned to disseminate all the Bizeolcat results in March 2023. A dedicated communication by email, socials and website channel will follow the present](#)

[newsletter, containing all the details to participate.](#)

BIZEOLCAT Website

Visit the BIZEOLCAT project at the address – www.bizeolcat.eu and follow the project on [LinkedIn](#), [Twitter](#) and [YouTube](#).

Let us have your comments!

The next issue of the Newsletter will be released in June 2022

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Bizeolcat 2019

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