NEW NOBLE METAL-FREE CATALYST FOR THE PRODUCTION OF PROPYLENE OXIDE

PATENTED TECHNOLOGY

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ABSTRACT

The **Institute of Materials** of the **University of Alicante** has developed a new and cost-effective catalyst without noble metals to obtain propylene oxide from the selective oxidation of propylene.

The catalytic system is characterized by not making use of dangerous or highly contaminating agents, and by not producing high quantities of reaction by-products. In addition, it shows a high selectivity towards propylene epoxide in the selective oxidation of propylene.

Companies interested in acquiring this technology for commercial exploitation are sought.

TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

The catalytic system described above has the following advantages:

- Free of noble metals, reducing the cost of the catalyst and therefore the overall cost of producing propylene oxide from propylene.
- Conversions and selectivities similar to those obtained with noble metals (specifically, gold) are obtained.
- It does not use dangerous or highly contaminating agents.
- No large quantities of by-products are produced in the reaction.

INNOVATIVE ASPECTS

The main innovative aspect of the catalytic system is that it is based on Nickel, presenting itself as a sustainable alternative for the industrial production of PO at low cost and without the use of noble metals.

MARKET APPLICATIONS

This invention falls within the general field of chemical engineering and, in particular, concerns a noble metal-free catalyst comprising an inorganic carrier and nickel nanoparticles. This catalyst is useful for the selective oxidation reaction of propylene in the gas phase.

COLLABORATION SOUGHT

Companies interested in acquiring this technology for commercial exploitation through technology transfer agreements are sought.

Company profile searched:

Catalyst manufacturing companies interested in obtaining cost-effective catalysts based on non-noble metals (Ni) with a high selectivity towards propylene epoxide in the selective oxidation of propylene.