

Material to produce separation membranes and fuel cell electrodes

DISCLOSURE OF INVENTION

CSIC and other partner have developed a new material for the manufacture of gas separation membranes, specifically hydrogen, at high temperature. The hydrogen obtained has a high purity, allowing its use as a vehicle fuel.

On the other hand, through the use of this membrane, the efficiency of hydrocarbon transformation processes can be improved and CO₂ can be captured in fossil fuel energy generation processes, through the called pre-combustion process.

INDUSTRIAL APPLICATION SECTORS

Companies to introduce new material in their production processes or companies dedicated to the production of selective membranes or materials for such manufacturing.

TECHNICAL ADVANTAGES AND BUSINESS PROFITS

From the use of fossil fuels to generate energy, and through the use of membranes made with this material, highly purified hydrogen can be obtained. The high purity of the hydrogen obtained would allow its use in fuel cells integrated in vehicles, being an alternative to current fuel systems.

The developed material consists of a mixed oxide with ionic and electronic conductivity. It can be obtained by different methods and the structure of the material can be modified to adapt to different production needs and optimize the selection process. The selective membranes made with this material are completely dense and their manufacture is carried out by conventional ceramic methods.

- Simultaneous increase in the efficiency of hydrogen separation and the performance of different chemical processes.
- Easily adaptable process in industries.
- Increases the efficiency in the use of fossil fuels to generate energy.
- Useful membrane for pre-combustion processes.
- Production of highly purified hydrogen (100% selectivity) for different uses, including fuel for vehicles.

DEVELOPMENT STATUS OF TECHNOLOGY

The technology described above is plenty developed. The research group that has developed it has extensive experience implementing this type of systems in companies in the sector.

INDUSTRIAL PROPERTY RIGHTS

The technology to produce separation membranes is protected by patent.

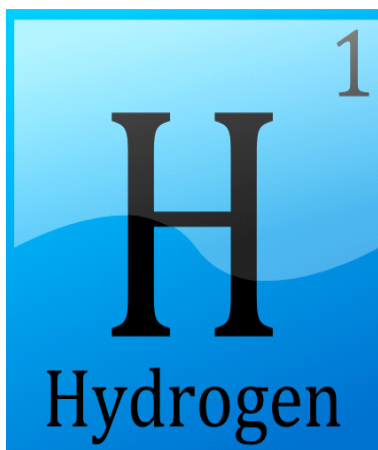
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TYPES OF COLLABORATION

Interested partners to establish Wanted:

- License Agreement, manufacturing or marketing.
- Companies interested in implementing their facilities.

RELATED IMAGES



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