NEW CATALYST FOR EFFICIENTLY REMOVING CHLORINATED VOLATILE ORGANIC COMPOUNDS IN GASEOUS STREAMS

PATENTED TECHNOLOGY

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ABSTRACT

The Carbon Materials and Environment research group in University of Alicante has developed a mixed oxide based catalyst for the effective elimination of chlorinated volatile organic compounds (specially 1,2-dichloroethane) in gaseous streams at low temperatures (250-500ºC).

This is a low cost, active and stable catalyst which is insignificantly deactivated in the presence of chlorine. The catalyst is totally developed at laboratory scale and protected by patent. The researchers are looking for industries licensing this technology.

ADVANTAGES AND INNOVATIVE ASPECTS

The major advantages of this catalytic system relative to others commercially available in the market are:

- High efficiency.
- High stability and durability.
- Low production cost.
- Low amounts of catalyst are required for working properly.
- Secondary pollutants (nitrogen oxides) are not generated.
- Gaseous streams at low working temperatures (250-500ºC) can be treated.

INNOVATION ASPECTS

The main innovative aspect of the new Ce-Pr mixed oxides catalysts is their suitability for an efficient combustion of chlorinated VOCs (especially 1,2-dichloroethane).

These novel catalytic systems are able to actively operate in gaseous streams at temperatures between 250-500ºC for a long time without undergoing deactivated significantly.

MARKET APPLICATIONS

This stable catalytic system for the effective combustion of chlorinated VOCs has an important application in the emission control in the following industrial activities:

- PVC production.
- Cleaning of textile products.
- Cleaning of metallic pieces.
- Dispersion of plastics and elastomers.
- Paintings.
- Enamel and varnishes.
- Waste gases from chemical plants.
- Solvent evaporation.
- Water and soil decontamination.

COLLABORATION SOUGHT

The research group is looking for companies interested in acquiring this technology for its commercial exploitation.