



Colorado School of Mines Office for Technology Transfer

Process for Preparing Palladium Alloy Composite Membranes for Use in Hydrogen Separation, Palladium Alloy Composite Membranes and Products Incorporating or Made from the Membranes

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Description: This invention and the subsequent patent applications describe a method for producing Palladium alloy composite membranes that are useful in applications that involve the need to separate hydrogen from a gas mixture. In the main invention, a Pd alloy composite membrane is realized in which the Pd alloy film is 1 μm or less in thickness and resistant to poisoning by sulfide compounds. Further, the Pd alloy composite membranes are applied to a number of applications, such a fuel reforming.

Potential Areas of Application

- Fuel cell application
- Hydrogenation and Dehydrogenation reactions
- Hydrocarbon reforming and coal gasification

Main Advantages of this Invention

- Resistant to H_2S poisoning
- Higher hydrogen flux due to thinner membrane than other Pd alloy membranes
- Cost savings also because of thinner membrane

Intellectual Property Status: Priority date: April 3, 2002

ID number: European Patent application US0310451
Australian Patent application 2003221816
US Patents 8,101,243 & 8,119,205

Opportunity: We are seeking an exclusive or non-exclusive licensee for marketing, manufacturing, and sale of this technology.

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