

organic exhaust gas components, compounds sorbed on particles, moderately and scarcely volatile organic compounds (SOF), materials with a pungent odor, irritating materials, and ammonia, using an upstream NO_x reducing catalytic converter, with measurable blocking activity for minute high carbon particles, with a high oxidation activity for CO and a restricted oxidation activity for NO and SO₂ with a working range from the ambient temperature to 650°C., comprising a monolithic honeycomb structure having channels adapted for free flow of diesel exhaust gas therethrough of the active mass or of inert carrier material, coated with the active mass, the active mass preferably being composed of V₂O₅/WO₃/MoO₃ mixed oxides borne on sulfatized titanium dioxide, same being doped with platinum metal oxides at a concentration very low in comparison with oxidation catalytic converters, for increasing sorption and oxidation activity. The active mass is employed with 250-1400 g/l coating composition, whereas for oxidation catalytic converters 50-200 g/l of coating composition is typical. The significant inhibition of oxidation activity as compared with SO₂ and NO results from a dilution effect (low level of platinum metal; high active mass) and a possible multi-layer structure with a platinum-free or platinum-depleted covering layer. The enhancement of the sorption and oxidation activity is rendered possible by the employment of covering layers with a high pore volume on a honeycomb structure consisting of an active mass whose pore volume is moderately high for reasons of mechanical strength.

5591691

**METAL FOIL CATALYST MEMBERS
BY AQUEOUS ELECTROPHORETIC
DEPOSITION**

Friedman Semyon D; Kerkar Awdhoot V; Hughes Ernest W; Brezny Rast; Lau John Wing-Keung; Block Jacob Baltimore, MD, UNITED STATES assigned to W R Grace & Co -Conn

Flexible metal foil catalyst members suitable for use in catalytic devices for combustion engine emission control are prepared by electrophoretic deposition using an aqueous slurry of catalyst support particles. The deposited support layer is of uniform thickness and stable surface area. The catalyst support may then be impregnated with catalytic species and assembled into a catalytic device. The catalyst members from the invention are especially suitable for use in automotive applications, and more especially in electrically heated catalytic devices.

5597539

CATALYTIC PROCESS

Fakley Martin E; Valentin Friedrich H H Stockton on Tees, UNITED KINGDOM assigned to Imperial Chemical Industries PLC

PCT No. PCT/GB93/02196 Sec. 371 Date Jun. 26, 1995 Sec. 102(e) Date Jun. 26, 1995 PCT Filed Oct. 25, 1993 PCT Pub. No. WO94/11091 PCT Pub. Date May 26, 1994. A process for scrubbing volatile or odoriferous substances from a gas stream with aqueous liquor containing hypochlorite or hydrogen peroxide as an oxidant and recycling part of the resultant liquor after passage through a bed of catalyst for the decomposition of the oxidant is disclosed.

5597771

LAYERED CATALYST COMPOSITE

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The present invention relates to a layered catalyst composite of the type generally referred to as a three-way conversion catalyst having the capability

of substantially simultaneously catalyzing the oxidation of hydrocarbons and carbon monoxide and the reduction of nitrogen oxides. The structure of the layered catalyst composite of the present invention is designed wherein there is a first layer and a second layer. The first layer comprises a first support; at least one first palladium component and an oxygen storage component in intimate contact with the palladium component; optionally another first platinum group metal component; a zirconium component; at least one first alkaline earth metal components and at least one first rare earth metal component selected from the group consisting of lanthanum metal components and neodymium metal components. The second layer comprises a second support; at least one second palladium component; optionally another second platinum group metal component; at least one second alkaline earth metal component; at least one second rare earth component selected from the group consisting of lanthanum metal components and

neodymium metal components and a zirconium component.

5597772

**THERMALLY STABLE
RHODIUM/ALUMINA CATALYSTS**

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The invention relates to a method of making a rhodium containing phase of a catalyst system useful to treat the exhaust gases of an internal combustion engine. The method comprises hydrothermally pre-treating the alumina prior to its impregnation with a preferably low loading of rhodium. Preferably the alumina is alpha-alumina.