

induction coiling is wrapped and secured by a thermally insulating material. Upon engine start, current is electromagnetically induced in the catalytic bonding layer or the metallic network through the induction coiling. Furthermore, the specific heat capacity of the bonding layer is low, and its specific resistance can be predetermined; thus in heating quickly and efficiently, in tandem the catalyst is heated. The catalytic preheating is also made efficient by the insulating properties of the insulating layers.

5582802

**CATALYTIC SULFUR TRIOXIDE
FLUE GAS CONDITIONING**

Spokoiny Felix E; Krigmont Henry V Costa
Mesa, CA, UNITED STATES

A method and apparatus for the selective control of the sulfur trioxide concentration in flue gases, to enhance the ash removal efficiency of electrostatic precipitators, which includes supporting a catalyst in the path of the flue gas, positioning temperature modifying means in communication with the catalyst, passing the flue gas by the catalyst and selectively varying the temperature of the catalyst, with the temperature modifying means, to vary the amount of catalytic conversion of SO₂ in the flue gas to SO₃.

5582809

**CATALYST AND METHOD FOR
DENITRIZATION OF NITROGEN
OXIDES**

Rikimaru Hiroaki; Umaba Toshikatsu; Yoshikawa Yoshiyuki Osaka, JAPAN assigned to Sakai Chemical Industry Co Ltd; Mitsubishi Jukogyo Kabushiki Kais

A catalyst for reducing nitrogen oxides into nitrogen and water in the presence of a reducing agent, which comprises: (a) titanium; (b) at least one element selected from the group consisting of tungsten and molybdenum in a total amount of 10-25% by weight in terms of oxides; and (c) niobium in an amount of 0.1-2% by weight in terms of oxides.

5583081

**COPPER-CONTAINING ZEOLITE
CATALYSTS**

Price Geoffrey L; Kanazirev Vladislav Baton Rouge, LA, UNITED STATES assigned to Board of Supervisors of Louisiana State University and Agricultural and Mechanical College; Bulgarian Academy of Science

A catalyst useful in the conversion of nitrogen oxides or in the synthesis of nitriles or imines from amines, formed by preparing an intimate mechanical mixture of a copper (II)-containing species, such as CuO or CuCl₂, or elemental copper, with a zeolite having a pore mouth comprising 10 oxygen atoms, such as ZSM-5, converting the elemental copper or copper (II) to copper (I), and driving the copper (I) into the zeolite.

5585083

**CATALYTIC PROCESS FOR
FORMALDEHYDE OXIDATION**

Kielin Erik J; Brown Kenneth G; D'Ambrosia Christine M Norfolk, VA, UNITED STATES assigned to The United States as represented by the Administrator of the National Aeronautics and Space Administration; Rochester Gas & Electric Co

Disclosed is a process for oxidizing formaldehyde to carbon dioxide and water without the addition of energy. A mixture of formaldehyde and an oxidizing agent (e.g., ambient air containing formaldehyde) is exposed to a catalyst which includes a noble metal dispersed on a metal oxide which possesses more than one oxidation state. Especially good results are obtained when the noble metal is platinum, and the metal oxide which possesses more than one oxidation state is tin oxide. A promoter (i.e., a small amount of an oxide of a transition series metal) may be used in association with the tin oxide to provide very beneficial results.

5586433

**PROCESS AND APPARATUS FOR
SELECTIVE CATALYZED
NO-REDUCTION IN
OXYGEN-CONTAINING EXHAUST
GASES**

Boegner Walter; Kraemer Michael; Krutzsch Bernd; Wenninger Guente; Wirbeleit Friedric; Weisweiler Werner Remseck, GERMANY assigned to Daimler-Benz AG

A process and apparatus for the selective catalyzed NO_x reduction in oxygen-containing exhaust gases of internal-combustion engines. For improving the reduction of nitric oxides, hydrocarbons and air are supplied to the exhaust gas purifier and, for producing reactive short-chained unsaturated hydrocarbons, a defined quantity of fuel from the stored fuel intended for the fuel supply of the internal-combustion engine is catalytically cracked and is oxidized by the simultaneous supply of air. The resulting species are guided into the exhaust gas flow of the exhaust gases which are to be purified.

5587135

**PROCESS FOR THE CATALYTIC
DECOMPOSITION OF DINITROGEN
MONOXIDE IN A GAS STREAM**

Fetzer Thomas; Buechele Wolfgang; Wistuba Hermann; Otto Bernhard; Buerger Gert; Pijl Paul Speyer, GERMANY assigned to BASF Aktiengesellschaft

PCT No. PCT/EP94/00081 Sec. 371 Date Mar. 24, 1995 Sec. 102(e) Date Mar. 24, 1995 PCT Filed Jan. 13, 1994 PCT Pub. No. WO94/16798 PCT Pub. Date Aug. 4, 1994. A process for the catalytic decomposition of dinitrogen monoxide in a gas stream by contacting the gas stream at temperatures of 200° degrees-900°C. and pressures of 0.1 to 20 bar with a catalyst free of noble metals, the catalyst being prepared by combining a spinel CuAl₂O₃ with another spinel-forming metal component selected from the group consisting of tin, lead, zinc, magnesium, calcium, strontium and barium or mixtures thereof in elemental form or as an oxide or salt, and calcining at temperatures of 300°-1300°C. and under pressures of 0.1-200 bar in order to at least partially liberate the copper from the spinel by replacement with the other metal component.

5591414

**SORPTIVE CATALYST FOR THE
SORPTIVE AND OXIDATIVE
CLEANING OF EXHAUST GASES
FROM DIESEL ENGINES**

Jacob Eberhar; Harris Michae Tutzing, GERMANY assigned to MAN Nutzfahrzeuge Aktiengesellschaft

The invention relates to a sorption catalytic converter for the combined chemo-sorptive and oxidative cleaning of diesel engine exhaust gases with a high blocking activity for highly volatile