

Using Nanocatalysts to Help Clean Air



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Iran Delco produces automotive catalytic converters containing precious metal nanoparticles to reduce exhaust gas emissions. The use of Iran Delco's nanocatalysts in cars could exert a tremendous effect on reducing exhaust emissions.

22,000 inhalations and exhalations, equivalent to 16 kilograms of air, account for the approximate total number of breaths an individual takes on a daily basis. That is why in the presence of pollutants in the air, diseases such as asthma and shortness of breath could pose a serious threat to people's health in society.

"These exhaust catalysts have been designed to remove exhaust gases and are able to reduce emissions from car engines by over 90%. Car catalysts have been in use in the automotive production line since the 1980s and are now installed in all automobiles using fossil fuels," said Navid Molavizadeh, Deputy CEO of [IranDelco](#).

"Factory-produced cars are automatically equipped with such catalysts, but these catalysts might gradually lose their functionality over time with usage. Currently, there is lack of sufficient surveillance in replacing old and used catalysts with new ones," he said.

"We have succeeded in earning certification for the production of these nanoscale catalysts. During the manufacturing process, precious sub-20 nm metal nanoparticles are used, which results in a significant boost in their performance," reported the director of research and development of IranDelco, Laden Kamalzadeh.

These catalysts employ nanoparticles of precious metals like platinum and palladium, which could reduce pollution by up to 90%. The catalysts convert exhaust gases into harmless

substances, hence having a dramatic impact on enhancing air quality.

Davood Akbari, Production Manager of IranDelco Company, states: "the existing production line of IranDelco Company is one of the largest automotive production lines of catalytic converters in the Middle East and all its equipment and components are devised and manufactured using the intrafirm technical knowledge. This company has the potential to produce all assortments of catalysts used in domestically made cars and motorcycles."