

Smog-Eating Photocatalytic Coating

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Smog-Eating Photocatalytic Coating Latest News

Recently, the Delhi government and Indian Institute of Technology (IIT) Madras collaborated to study “smog-eating” photocatalytic coatings on roads.

About Smog-Eating Photocatalytic Coating

- It is designed to **neutralize harmful gases** like **nitrogen dioxide and volatile hydrocarbons** that contribute to toxic air.
- **Compound used:** It usually uses **titanium dioxide** as a coating which has advantages for being low-cost and chemically stable.
 - Titanium dioxide is also known for its compatibility with traditional construction materials.
 - It has been “demonstrated that TiO_2 -based photocatalytically active construction materials can be useful for **gaseous depollution and environmental cleaning processes**.”
- **Working:** Photocatalytic activity helps **fight pollution by breaking down harmful substances** and organic waste into less toxic or harmless matters using light energy, thereby making air and water cleaner.

What is Smog?

- Smog is used to refer to a **type of air pollution** caused by a **combination of smoke** (and other pollutants) **and fog**.
- Smog encompasses a broad category of air pollutants created through a multitude of processes that relate specifically to the atmospheric conditions of the formation region.
- **Two distinct types of smog are recognized**
 - **Sulfurous smog:** It results from a **high concentration of sulfur oxides** in the air and is caused by the use of sulfur-bearing fossil fuels, particularly coal.
 - **Photochemical smog:** It occurs most **prominently in urban areas** that have large numbers of automobiles..

Source: **IE**

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