



Low-Cost Sensor to Detect Toxic Sulfur Dioxide

Source: PIB

Scientists at the **Centre for Nano and Soft Matter Sciences (CeNS)**, Bengaluru, have developed a **low-cost, highly sensitive sensor** capable of detecting [sulfur dioxide \(SO₂\)](#) at extremely low concentrations.

- Scientists fabricated a sensor combining **nickel oxide (NiO)** and **neodymium nickelate (NdNiO₃)**. NiO acts as a gas receptor, and NdNiO₃ functions as a transducer, transmitting detection signals.
 - It can detect SO₂ concentrations as low as 320 Parts per billion (ppb), surpassing many commercial sensors.
 - The sensor offers real-time SO₂ detection with a user-friendly threshold alert system (**green: safe, yellow: warning**), making it ideal for **public health use in industrial and urban spaces**.
- **Sulfur dioxide (SO₂)**: It is a **colorless, water-soluble toxic gas** primarily emitted from vehicles and industrial activities. Even minute exposure can cause respiratory issues, including asthma attacks and long-term lung damage.

Read more: [Particulate Matter & SO₂ Control](#)

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