

## **Methanol Diesel-15 fuel**

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### **About Methanol Diesel-15 fuel**

- It is a special fuel developed by the Indian Railways' Research Design and Standards Organisation (RDSO) in collaboration with the Indian Oil Corporation Ltd (IOCL).
- It is a cost-effective blended fuel containing 15% methanol, 71% mineral diesel, and 14% indigenously developed additives by IOCL.

### **What are the benefits of MD-15?**

- It offers superior performance, combustion, and emission characteristics compared to regular mineral diesel fuel.
- It has the potential to reduce diesel consumption by 15% and result in substantial annual savings.
- It significantly decreases harmful pollutant emissions, contributing to a cleaner and greener environment.

- The NO<sub>x</sub> emissions were significantly lower thus reducing the harmful pollutants, which causes smog and pollution,

## Key facts about Methanol

- It is also called methyl alcohol, wood alcohol, or wood spirit.
  - It is the simplest of a long series of organic compounds called alcohols, consisting of a methyl group (CH<sub>3</sub>) linked with a hydroxy group (OH).
  - It completely mixes with water.
  - Production
    - This fuel is generally produced by steam-reforming natural gas to create a synthesis gas.
    - Feeding this synthesis gas into a reactor with a catalyst produces methanol and water vapor.
  - Application: Used to make chemicals, to remove water from automotive and aviation fuels, as a solvent for paints and plastics and as an ingredient in a wide variety of products.
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## Q1) What is Nitrogen dioxide?

It is a reddish-brown gas with the chemical formula NO<sub>2</sub>. It is one of the most significant and harmful nitrogen oxides. NO<sub>2</sub> is a major component of smog and is a potent respiratory irritant. It is a byproduct of the reaction of nitric oxide (NO) with oxygen in the atmosphere.

**Source:** MD-15: The New Fuel that May Replace Diesel in Indian Railways' Locomotives, Save Rs 2,280 Crore

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Source: <https://vajiramandravi.com/current-affairs/methanol-diesel-15-fuel/>

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