



Isobutanol Blending with Diesel

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India is now exploring **isobutanol blending with diesel** after unsuccessful [ethanol-diesel trials](#), highlighting the government's push for biofuels to support farmers, reduce oil imports, and ensure sustainable energy use.

- **Isobutanol:** It is a four-carbon alcohol ($C_4H_{10}O$), flammable, colorless, and traditionally used as a solvent in paints, coatings, and chemical industries. It is produced both from petrochemical processes and fermentation of biomass.
- **Properties (vs. Ethanol):** Higher energy density than ethanol (closer to diesel).
 - It has lower hygroscopicity (absorbs less water than ethanol), reducing risks of corrosion in engines and pipelines.
- **Isobutanol Blending Trials:** [Automotive Research Association of India \(ARAI\)](#) is testing 10% isobutanol-diesel blends.
 - Isobutanol is also being explored as an **independent fuel** and in **Compressed Natural Gas (CNG)-isobutanol flex-fuel options** for tractors and agri-machinery.
- **Benefits for India:** Isobutanol enhances energy security while promoting a cleaner alternative to fossil fuels. Supports India's [National Biofuel Policy \(2018\)](#) goals of energy transition and farmer income support.

Read more: [India Achieves 20% Ethanol Blending in Petrol](#)

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