

Methanol Applications

Clean Fuel, Essential Chemical Building Block

Methanol is a clean burning fuel that is derived from diverse conventional and renewable energy sources. Also known as methyl alcohol or 'wood alcohol,' it is an essential building block for thousands of chemical components used every day in industrial applications and in our homes.

Chemical Feedstock

Methanol is a versatile, clear, biodegradable liquid produced from a variety of sources which abound in the U.S. including conventional energy sources like coal and natural gas as well as innovative renewable sources like municipal waste, landfill gas, agricultural and timber waste, and even from CO₂ from industrial or power plant emissions and the atmosphere.

Advantages as a Clean Energy Source

- Methanol, which **can be produced from a number of diverse sources** throughout the U.S., reduces dependence on foreign oil and the need for expanded drilling operations.
- A 2010 interdisciplinary report by the Massachusetts Institute of Technology (MIT) entitled *The Future of Natural Gas* states that **methanol is the best use of natural gas in transportation technology** and "is the liquid fuel that is most efficiently and inexpensively produced from natural gas."
- Adding methanol to gasoline **drastically reduces the emissions of toxins** such as benzene, hexane and xylene.
- Methanol-fueled trucks and buses emit **almost no particulate matter** and **notably less nitrogen oxides** than their diesel-fueled counterparts.
- Vehicles powered by methanol engines **can reduce greenhouse gas emissions by 25 to 35 percent** compared to traditional gasoline, and emissions are also less reactive, **reducing urban ozone**, a major component of smog.

Applications

- A **clean-burning fuel** which can be blended **directly into gasoline**, or used as a fuel additive to reduce emissions.
- A key component in the production of **renewable biodiesel fuels**.
- Used to produce dimethyl ether (DME), a **clean-burning fuel**, which can be blended with liquefied petroleum gas (LPG) as an alternative home heating fuel, or used directly as a **diesel fuel replacement**.
- Essential **hydrogen carrier fuel to power light-weight fuel cells** for consumer electronics and military applications.
- Methanol is used by municipal and private **treatment facilities to clean wastewater**, eliminating harmful nitrates that lead to 'dead zones' in sensitive waterways.
- Essential chemical building block for hundreds of **consumer products** in our daily lives such as plastics, windshield wiper fluid, CDs and DVDs, building materials, and a variety of health and pharmaceutical products.