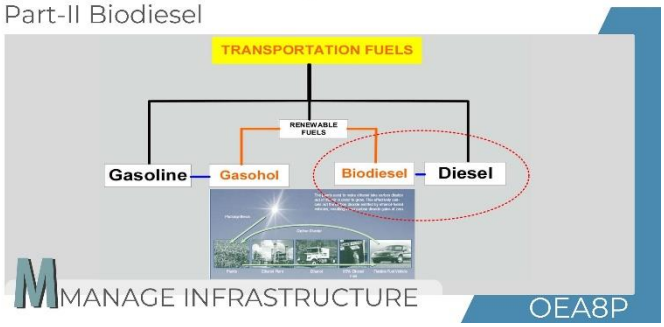
Biofuels-A Perspective

Part-II Biodiesel



Topic ID	**OEA8T**
Title	**Biofuels-A Perspective Part-ii Biodiesel**
Category	**M-Manage Infrastructure**
eLearning Level	**Basic**

Introduction

Biodiesel is a type of diesel fuel. It is obtained from animals or plants. It contains long-chain fatty acid esters composed of chemically reactive lipids.

These lipids are derived from vegetable oil, soybean oil, or animal fat. Propyl, ethyl and, methyl esters are obtained from them. Present distribution infrastructure and diesel engines can both use biodiesel.

Hence, it is known as drop-in biofuel. Biodiesel may be blended with Petro diesel or used alone. It can also be utilized as heating oil.

This topic will discuss biodiesel properties as well as feedstock. In addition, there will be a discussion about biodiesel blend recipes, production, transportation, storage, etc.

Biodiesel Blends

Blended products of Petro diesel and biodiesel are distributed in the retail business line of diesel fuel. Here, the term "B factor" is used to describe blending percentage.

For example, the rating of B2 indicates ninety-eight percent petrodiesel and two percent biodiesel.

B5 means ninety-five percent petrodiesel and five percent biodiesel.

B20 means eighty percent petrol diesel and twenty percent biodiesel, and B100 is labeled as a hundred percent biodiesel.

Diesel equipment may use the blended product with a biodiesel percentage of less than twenty. B100 is pure biodiesel. Engines need to be modified to use it. This helps to address the issue of performance/maintenance.

Usage of Biodiesel

Many rail engines may use B20 or B5. These engines are 29,000 psi high-pressure engines. In old vehicles, biodiesel may damage hoses and gaskets because the solvent properties of biodiesel and Petro diesel are different. In addition, biodiesel may cause residue deposits in fuel lines, resulting in clogging of fuel filters. Hence, before using biodiesel blends, a train must change its fuel filter. A British Rail Class 220 was the first train to run on a biodiesel blend (B20). Later, the British Royal Train could use B100.

Disneyland operates its park trains on soy-based biodiesels. In addition, United Airlines operated commercial planes using biofuel obtained from algae. In boilers, biodiesel is used as heating oil. Bioheat fuel refers to fuel made by mixing heating oil and biodiesel. Because biodiesel can dissolve the crude oil, it is used for cleaning oil spills. In addition, there are diesel-fueled generators used as a backup by the refinery. Many of such generators are being fueled by biodiesel.

Various Feedstock

Soybean oils and rapeseed oils are commonly used for biodiesel generation. Jatropha, mustard, palm oil, sunflower, etc., are some other crops. Animal fat is another source, including chicken fat, yellow grease, lard, tallow, etc. Algae can be utilized without land displacement. In coastal areas, halophytes are grown using saltwater. Their yield is the same as soybean.

Summary

Achieve energy security is the main purpose of biodiesel production. It is considered a substitute for fossil fuel.

Mode of eLearning	Available?
Free Course	No
Refresher Course	No
Pick N Choose (Custom Curriculum)	Yes
Advanced Level Course	Yes
Structured MCOR Curriculum	Yes