



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF CLIMATE CHANGE MITIGATION AND MONITORING

Frequently Asked Questions Regarding Using Cooking Oil and Straight Vegetable Oil as Motor Vehicle Fuels October 2023

Are used cooking oil and straight vegetable oil considered biodiesel?

Used cooking oil (e.g., restaurant grease) and straight vegetable oil are not considered biodiesel. According to the United States Environmental Protection Agency (USEPA), biodiesel is a renewable fuel produced from agricultural resources such as vegetable oils which are then modified through a process called "esterification." Esterification uses alcohol (ethanol or methanol) to remove the glycerin from the cooking/vegetable oil, making it thinner, lighter, and cleaner burning. The resulting biodiesel fuel must meet the requirements of ASTM D6751 (www.astm.org/standards/D6751.htm). Cooking oil from restaurants and straight vegetable oil have not been processed into esters and are not biodiesel.

Can used cooking oil and straight vegetable oil be used as motor vehicle fuels?

Used cooking oil and straight vegetable oil are not registered by the USEPA as motor vehicle fuels and are therefore not legal for use in on-road motor vehicles. Fuel registration rules are in place in order to help protect public health and the environment from harmful gas and particulate matter emissions from motor vehicles. See [Registration Guidelines for Fuels and Fuel Additives | US EPA](#).

In general, used cooking oil and straight vegetable oil are thicker, heavier, and do not combust as well as regular motor vehicle fuel and are therefore likely to cause higher vehicle emissions than other types of motor vehicle fuel. Biodiesel, on the other hand, is well tested and proven to reduce some cancer-causing emissions such as particulate matter. For more information, see [Renewable Fuel Standard Program | US EPA](#).

What about kits that allow your car to run on cooking oil?

Vehicles converted to enable the use of used cooking oil or straight vegetable oil as fuel sources must use conversion systems certified by the USEPA as approved alternative fuel conversions and use fuel that has been registered with the USEPA as a motor vehicle fuel. The conversion certification process ensures that the vehicle's emission levels do not exceed federal standards. To date, the USEPA has not certified any cooking oil or straight vegetable oil conversions. Installation of non-certified conversion kits is considered emission control system tampering in violation of Section 203(a)(3) of the federal Clean Air Act. Furthermore, these conversions may violate vehicle warranties and affect the operation of particulate controls such as Diesel Particulate Filters.

Questions?

Contact Dan Birkett, USEPA at birkett.daniel@epa.gov or 212-637-3701. You can also contact NJDEP's Bureau of Mobile Sources at (609) 292-7953.