



Collecting Recycled Cooking Oils or Greases for Biofuels

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Overview:

Recycled cooking oil and grease from food-processing in-line grease traps has been collected by independent renderers for many years. Unprocessed recyclable cooking oil may contain over 50 % impurities such as water, food particles, plastic utensils, etc. Most processed recycled cooking oils are sold as Yellow Grease.

Many independent renderers operate fleets of specialized trucks for transporting these various raw materials to plants for processing. They maintain the required waste transportation licenses in each state in which they operate and have implemented environmental protection and safety programs which protect communities from spills and other hazards of transporting waste materials.

Rendering and its Role:

At rendering facilities, these materials are unloaded, decanted, and the wastewater is processed. The raw materials are cooked and any solid fractions from the fat or oil are separated.

In most areas, a waste processor or waste disposal license is required to process these recyclable materials. The rendering industry has implemented a Code of Practice program in order to assure proper processing and testing of these food waste products. All biodiesel fuel that passes the American Society for Testing and Materials standards (ASTM D 6751) will be of high quality.

Each plant complies with various federal, state, and local requirements involving air emissions, wastewater processing, spill prevention, stormwater drainage, and handling food wastes.

Yellow Grease as Biofuel

Recycled cooking oils or greases are usually sold under the commodity name of Yellow Grease. However, Yellow Grease may also contain some animal fats, not just recycled vegetable oils. Yellow grease shipments have widely-varying melt points, free fatty acid (FFA), and moisture, insoluble impurities, and unsaponifiables (MIU) values depending on the incoming oils used in the various restaurants and the storage conditions. Recycled oils require additional processing to remove contaminants and may also contain sulfur compounds that may preclude their use in making biodiesel to be used with newly-mandated Ultra Low Sulfur Diesel.

Higher levels of saturation for animal fats and higher FFA levels for recycled cooking oils dictate additional biodiesel processing in order to produce finished biofuel that meets ASTM specifications.

Safety and Environmental Issues

Biodiesel production is inherently dangerous due to the handling of fats and oils feedstocks, alcohol reactants, and strong acids and bases, sometimes under pressure or high temperatures. Potential collectors or users of these materials should fully research safety and handling issues to gain a full knowledge of oil and grease handling and biodiesel processing. In addition to safety issues, the production of biodiesel also generates disposal concerns with byproduct glycerin, unreacted feedstocks, and off-spec product.

Theft is a Problem for Renderers

Even though in most states it is illegal to steal inedible grease, and unlawful to transport inedible grease without a license, increased prices for biofuel feedstocks have led to many thefts of recycling equipment and spent cooking oil and grease. Some people see an oil collection barrel behind a restaurant and consider it an open invitation to fill up their bus. News media often run stories about "entrepreneurs" that run their vehicles on biodiesel home-made from recycled grease that actually belongs to an independent renderer by contract with the restaurant.

Other Legal Considerations

Using recycled cooking oil and grease as a neat fuel for cars or making biodiesel at home is technically illegal in a number of ways. In some states, it is illegal to have caustic and other chemicals in residential and other areas not zoned for such activities. In addition to violating some state and local laws, federal and state fuel taxes are avoided. It is known that the Internal Revenue Service (IRA) of the U.S. is interested in pursuing those motorists who are not paying their federal fuel taxes. Theft of spent cooking oil and grease results in millions of dollars of loss to the IRS each year.

Recommendation:

States should consider strengthening laws to prevent theft of renderers' recycling equipment and cooking oil and grease. Threats to the profitability of renderers' grease and oil recycling operations will also endanger communities' efforts to maintain a clean environment.