**Commentary Article**
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# Waste Engine Oil Recycling

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## Commentary

### Oils

Non polar chemical substance which is viscous liquid at ambient temperatures is known as oil. The oil can be either hydrophobic or lipophilic. It contains of high carbon and hydrogen content and usually flammable and surface active. Most of the oil is liquid in nature at room temperatures which states that oils are unsaturated lipids, when exposed to cold conditions it turns to solid form. There are different kinds of oils available in market which includes animal oil, vegetable oil, hair oil, heating oil used as fuel, mineral oil which is used for medical purpose, engine oil, motor oil etc. Some oils are prepared specially; those are used in some religious ceremonies and rituals as purifying agents.

### Recycling

Conversion of waste materials into new materials and objects, this process is known as recycling. The disposed waste can save the material and help in lowering the greenhouse gas emissions. This recycling process is the key component for waste reduction and is the third component to 3 R's; those are "Reuse, Reduce, and" waste disposal.

### Waste Engine Oil Recycling

Waste engine oil is very high pollutant material which requires a responsible management. When this oil is dumped into the ground or into water streams it may cause damage to the environment. This will lead to soil and ground water contamination. Thus recycling of such contaminated materials will be more useful in reducing engine oil costs. Recycling of the used engine oil can be done in two methods, vacuum distillation and hydrogenation. By programming these methods it removes most of the contaminants present in the waste oil. An appropriate and cheap alternative to burn incineration is to recycle the waste oil. The waste oil is a blend of combustion product such as water, fuel, road dust which forms complex and corrosive organic acids. Reusing and recycling used oil provides great environmental benefits. Several recycling techniques are proposed for refining of used lubricating oils. The techniques include: acid/clay treatment, solvent extraction, vacuum distillation and clay treatment, vacuum distillation and hydrogenation process and membrane filtration technology. The high degree of danger that used engine oil poses to the environment has led to the development of several recycling technologies. Each of these techniques has several advantages and disadvantages, depending on its specifics. The acid/clay method is no longer encouraged globally because it generates toxic waste, but other technologies (solvent extraction and vacuum distillation) are developed industrially in different countries and are in a continuous process of improvement.

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