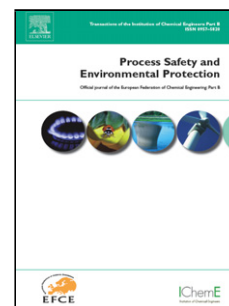


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## Sustainability of a non-edible vegetable oil based bio-lubricant for automotive applications: A review

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### Highlights

- Non-edible vegetable oil based lubricants are sustainable alternatives to Mineral oil.
- Non-edible oil shows better properties like lubricity, viscosity, anti-wear.
- The use of eco-friendly lubricants would result in less degradation of the environment.

### Abstract:

Lubricants act as anti-friction media and help in reducing wear of the components in contact during motion of the machine parts. Around the globe, petroleum based reserves are going to deplete which could result in price hike and create concern about environmental pollution. The researchers are focusing on developing and using an eco-friendly lubricant derived from renewable resources. Non-edible vegetable oil based bio-lubricants are eco-friendly lubricants due to their biodegradability, non-toxicity and zero greenhouse gas emission. This study presents the potential use of non-edible vegetable oil for the production of bio-lubricants. In this study, resources, properties, benefits, and application of non-edible vegetable oil based bio-lubricants as alternatives were discussed. It also includes the description of the global lubricant market and future scope. Non-edible vegetable oil based bio-lubricants have enhanced lubricity, high viscosity, good anti-wear property, high viscosity index, increases equipment service life, high load carrying ability, low evaporation rate, low emission of metal traces into the atmosphere.

**Keywords:** Mineral oil; Bio-lubricant; Viscosity; Biodegradable; Non-toxic

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