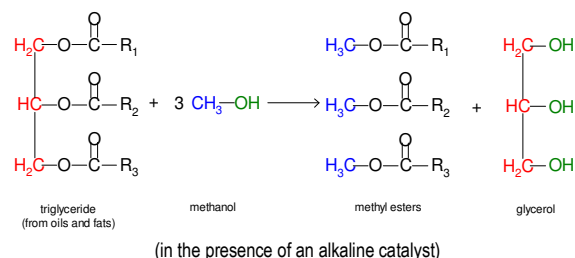


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**Professional Responsibility in Health and Safety**

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Increases in automotive fuel prices have prompted motorists to search for alternate cheaper fuels including Biodiesel. Whilst biodiesel can be made simply if done properly, production by the unwary has resulted in a spate of health and safety incidents. As this is a chemical process, when should our professional responsibility end? At the process design stage or later?



## Health and Safety in Biodiesel Manufacture

1. A simple process to convert vegetable and animal oils into an alternative and “green” fuel for diesel engines has resulted in a rapid increase in the number of producers of biodiesel in the last 3 – 4 years, particularly in small companies and amongst the general public. However, the manufacture of bio-diesel can be hazardous if suitable precautions are not taken, as it involves the storage, handling and use of hazardous substances. Unfortunately, a significant number of the new biodiesel producers have little / no experience of chemical processing. In addition, the benefits have prompted some equipment manufacturers to produce conversion kits that have become hazardous when used. In some cases the instructions have been found to be inadequate, so that the hazards have not been fully understood by the end user. A number of serious accidents and injuries have already occurred around the world and there is concern that, as the number of producers grows, this trend may increase.
2. In order to avoid this happening in the UK, HSE is producing free basic guidance on the measures necessary to achieve safe production of biodiesel through their website, and detailed instructions for enforcement staff to assess such processes. The guidance is being produced by a small group of safety professionals (Regulatory and Specialist Inspectors) consisting of experienced post-graduate Chemists and Chemical Engineers.
3. The manufacture of biodiesel is an example of how in the UK professional responsibility in health and safety matters extends beyond the design and supply of a process. The goal is to ensure that any person carrying out the process will remain safe as they should be competent and adequately trained, and that other people and the environment remain unharmed and unaffected by the activity.
4. This presentation reviews the basic process, identifying the main physical and chemical hazards that need to be assessed to produce a safe process operation. Some of the incidents are also discussed. In addition, the presentation considers some typical equipment arrangements and the risks they may present.