

Introduction to the Pretreatment Process

The pretreatment process is designed to upgrade a wide range of complex waste oils and fats into refined feedstocks suitable for advanced biofuel production. It applies a sequence of thermal, mechanical and chemical treatment steps that remove impurities, improve quality parameters and achieve consistent specifications required by downstream renewable fuel facilities.

The process begins with pre-purification, where bulk contaminants are separated and the feedstock is conditioned for further treatment. It then proceeds through drying to remove moisture, adsorption to capture polar and non-polar contaminants, and filtration to eliminate solids and residual impurities. A final deacidification step reduces free fatty acids and improves overall stability.

Through this integrated sequence, the process significantly reduces chlorides, metals, nitrogen, sulphur, phosphorus, and other critical contaminants. It enables the handling of a broad spectrum of challenging feedstocks while delivering high-quality treated material that meets the requirements for sustainable fuel pathways such as HVO, SAF, and co-processing applications.