Hydroisomerisation is typically done on a bifunctional catalyst having both metal dehydrogenation function and acidic function, for example platinum or palladium catalysts together with molecular sieves such as SAPO-11. Isomerisation selectivity of the catalyst is important, *i.e.* typically hydrocracking that also occurs to a certain extent during hydroisomerisation is suppressed, if during hydrotreatment it is not desired to reduce the average molecular weight of feed. This involves a balance between metal dehydrogenation function and acidic functions, which is sensitive to elements that can shift this balance. It is speculated that amines neutralise strong acid sites, leading to low catalyst acidity and activity. Sulfur is known to poison the metal dehydrogenation function of noble metal catalysts.

One of the common feed impurities include nitrogen, which are well-known constituents of oil of fossil and of renewable origin. In crude oil average contents of 940 w-ppm and contents as high as 7500 w-ppm has been reported (Manrique *et al.* (1997) *Basic Nitrogen Compounds in Crude Oils: Effect on Mineral Dissolution During Acid Stimulation Processes*, SPE-37224-MS; https://www.onepetro.org/conference-paper/SPE-37224-MS). It is also not uncommon that animal fat can contain 1000 ppm nitrogen or even higher. The typical way of handling undesirable impurities in feedstocks, such as nitrogen impurities, is to purify the feedstock prior to hydrotreatment. It is simple to remove the water-soluble nitrogen compounds through degumming. However, in animal fat, a major part of the nitrogen compounds are oil soluble, and much more difficult to remove than the water-soluble nitrogen compounds.

US 2011/0094149 A1 (to IFP Energies Nouvelles) describes methods of hydrotreating feeds from renewable sources in two catalytic zones using a molybdenum catalyst, where the gaseous and liquid effluent from the beds having a higher temperature than the inlet, due to the exothermic nature of the hydrotreatment reaction, is used directly as recycle to heat fresh feed to the catalytic zones. US 2011/0094149 A1 exemplifies the invention using good quality palm oil and soy oil having a small nitrogen impurity of 15 and 23 ppm, respectively, and mentions that feeds from renewable sources generally contain