

ABSTRACT**A METHOD OF RESTORING CATALYTIC ACTIVITY OF A SPENT HYDROPROCESSING CATALYST, A SPENT HYDROPROCESSING CATALYST HAVING RESTORED CATALYTIC ACTIVITY, AND A HYDROPROCESSING PROCESS**

Disclosed is method for restoring catalytic activity to a hydroprocessing catalyst that has become spent due to its use or to the deposition of carbon thereon. The method includes a carbon reduction step whereby carbon is removed from the spent hydroprocessing catalyst in a controlled manner to within a specifically defined concentration range. Following the carbon removal step, the resulting catalyst, having a reduced concentration of carbon, is subjected to a chelation treatment whereby the resulting carbon-reduced catalyst is contacted with a chelating agent and aged for a time period necessary for realizing the benefit from the controlled carbon reduction step. In a preferred embodiment, the catalyst resulting from the chelation treatment is subjected to a sulfurization treatment involving the incorporation of elemental sulfur therein and contacting therewith an olefin.

Figure 1