Title (en)

METHOD FOR SELECTIVELY REMOVING BASIC NITROGEN COMPOUNDS FROM LUBE OILS USING TRANSITION METAL HALIDES AND TRANSITION METAL TETRAFLUOROBORATES

Publication

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Application

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Priority

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Abstract (en)

[origin: EP0086293A1] <FOO ID=00.1>Periodic Table according to "The Handbook of Chemistry and Physics", published by the Chemical Rubber Publishing Company, Cleveland, Ohio, USA.</FOO> A method is disclosed for the selective removal of basic nitrogen compounds (BNC) from natural and synthetic hydrocarbon feedstocks, which method comprises mixing the feedstock oil with a nonaqueous solution of anhydrous nonpolymeric Group IVb<FOR ID=00.1>*</FOR>, Group Vb, Group VIb, Group VIIb, the non-noble (iron group) metals of Group VIII, copper, zinc, cadmium, and mercury halides (except TiCl4 or FeCl3) or tetrafluoroborates, complexed with non-aqueous polar solvents under conditions of agitation and mild heating whereby the basic nitrogen compounds exchange with the polar solvent to complex with the above-recited metal halides and metal tetrafluoroborates. The oil is then decanted to separate it from the metal halides: BNC complexes and the decantate washed with a polar solvent, which preferably includes water, and dried. The basic nitrogen compound-metal halide or metal tetrafluoroborate complex dissolves in the polar solvent, and that which is in the oil is removed by the polar solvent wash. The preferred polar solvent for the wash step is water. The anhydrous nonpolymeric metal halide or metal tetrafluoroborate-nonaqueous polar solvent complex can be used as such, or they can be impregnated onto a support material.

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C10G 21/06; C10G 29/00

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