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What is claimed is:

1. A method for producing a molybdenum dithiocarbamate composition, comprising the steps of:

preparing a di-tridecylamine (DTDA) intermediate from a butylene feedstock comprising greater than 50% 2-butylene, and

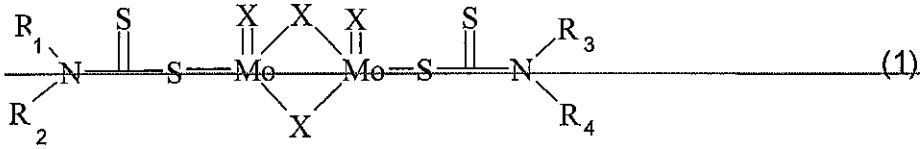
preparing a molybdenum dithiocarbamate composition from the DTDA intermediate.

2. The method of claim 1, wherein the butylene feedstock further comprises 1-butylene and isobutylene.

3. The method of claim 2, wherein the butylene feedstock comprises about 70% 2-butylene, about 20% ~~isobutylene~~ 1-butylene and about 10% isobutylene.

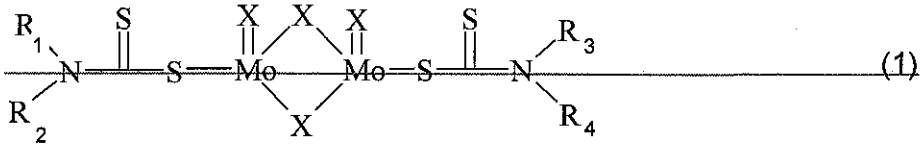
4. The method of claim 3, wherein the molybdenum dithiocarbamate composition has, on average, greater than 98% C_{13} as part of the substituent alkyl groups.

~~5. Novel molybdenum dithiocarbamates of formula (1), wherein R_1 to R_4 are C_{11}-C_{14} isoalkyl groups, and X represents oxygen and/or sulfur atoms, and R_1 to R_4 comprise, on average, greater than 98% C_{13}.~~



(1)

~~6. A lubricating composition comprising a major portion of a lubricating base, and about 0.01-3% of a di-tridecyl molybdenum dithiocarbamate of formula (1), wherein R_1 to R_4 are C_{11}-C_{14} isoalkyl groups, and X represents oxygen and/or sulfur atoms, and R_1 to R_4 comprise, on average, greater than 98% C_{13}.~~



(1)

~~7. The lubricating composition of claim 6, wherein the molybdenum dithiocarbamate is present at about 0.1-1%.~~

~~8. The lubricating composition of claim 7, wherein the molybdenum dithiocarbamate is present at about 0.25 to about 0.5%.~~

~~9. The lubricating composition of claim 6, wherein a C_{11}-C_{14} molybdenum dithiocarbamate component of the lubricating composition consists of greater than 90% of the di-tridecyl molybdenum dithiocarbamate wherein R_1 to R_4 comprise, on average, greater than 98% C_{13}.~~

~~10. The lubricating composition of claim 9, wherein the C_{11}-C_{14} molybdenum dithiocarbamate component of the lubricating composition consists of at least 95% of the di-tridecyl molybdenum dithiocarbamate wherein R_1 to R_4 comprise, on average, greater than 98% C_{13}.~~

~~11~~5. A method for preparing a lubricating composition, comprising the steps of:

preparing a di-tridecylamine (DTDA) intermediate from a butylene feedstock comprising greater than 50% 2-butylene,

preparing a ~~di-tridecyl~~ molybdenum dithiocarbamate composition from the DTDA intermediate, and

adding the ~~di-tridecyl~~ molybdenum dithiocarbamate to a lubricating base at 0.01-3% of the lubricating composition~~, such that a C_{11}-C_{14} molybdenum dithiocarbamate component of the lubricating composition consists of greater than 90% di-tridecyl molybdenum dithiocarbamate wherein R_1 to R_4 comprise, on average, greater than 98% C_{13}.~~