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(54) **METHOD FOR PRODUCING MOLYBDENUM METAL POWDER**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 334 days.

This patent is subject to a terminal disclaimer.

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See application file for complete search history.

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(57) **ABSTRACT**

Method for producing molybdenum metal powder. The invention includes introducing a supply of ammonium molybdate precursor material into a furnace in a first direction and introducing a reducing gas into a cooling zone in a second direction opposite to the first direction. The ammonium molybdate precursor material is heated at an initial temperature in the presence of the reducing gas to produce an intermediate product that is heated at a final temperature in the presence of the reducing gas, thereby creating the molybdenum metal powder comprising particles having a surface area to mass ratio of between about 1 m^2/g and about 4 m^2/g, as determined by BET analysis, and a flowability of between about 29 s/50 g and 86 s/50 g as determined by a Hall Flowmeter. The molybdenum metal powder is moved through the cooling zone.

9 Claims, 34 Drawing Sheets