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(54) **MOLYBDENUM METAL POWDER AND PRODUCTION THEREOF**

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(58) **Field of Classification Search** 75/255, 75/369, 623

See application file for complete search history.

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(57) **ABSTRACT**

Molybdenum metal powder has surface-area-to-mass-ratios in a range of between about 1.0 meters^2/gram (m^2/g) and about 3.0 m^2/g, as determined by BET analysis, in combination with a particle size wherein at least 30% of the particles are larger than a size +100 standard Tyler mesh sieve. A method for producing molybdenum metal powder includes providing a supply of ammonium molybdate and a reducing gas; causing an exothermic reaction between the ammonium molybdate and the reducing gas at a first temperature to produce an intermediate reaction product and a supplemental reducing gas; causing an endothermic reaction between the intermediate reaction product and the reducing gas at a final temperature to produce the molybdenum metal powder.

15 Claims, 11 Drawing Sheets