

The invention relates to chemistry, particularly to nanotechnologies. The process for preparation of nanocrystalline powders of molybdenum dichalcogenides comprises their synthesis. The synthesis of nanocrystalline powders of molybdenum dichalcogenides with layered structures of 2H type is carried out from powders of molybdenum elements and chalcogens in stoichiometric ratio of 1:2 at a temperatures of 820-840 K with further burning of obtained nanocrystalline powders with layered structures of 2H type at a temperatures of 820-1120 K. The use of the invention allows obtaining nanocrystalline powders due to simple technology.