

METHOD FOR THE SYNTHESIS OF METAL MOLYBDATES AND TUNGSTATES FROM MOLYBDENUM AND TUNGSTEN CARBIDES AND NITRIDES

Fields of use

Chemicals and materials

Current state of technology

Under development/lab tested

Type of cooperation

Commercial agreements with technical assistance

Intellectual property

Slovenian patent granted, European patent application filed

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Summary

The subject of this technology offer is a method for synthesis of metal molybdates and metal tungstates from molybdenum and tungsten carbides and nitrides. The conversion is done in the presence of a water solution of metal-containing reactive compounds. The main advantage of this process is that the conversion takes place at low temperatures while currently, most syntheses of molybdates and tungstates require high temperatures and sharp reaction conditions, such as solid reactions.

Description of the invention

Metal molybdates and tungstates are used in several areas, for example, catalysis, moisture sensors, for scintillation detectors, optical fibres and solidstate lasers, etc. The very exposed use case is the removal of lead from drinking water. To commercialize the technology further development is needed. The offered method is at the proof of concept level. Raw materials processing and final product need to be developed for the demonstration. The technology described is a replacement to the existing processes with a simpler and less expensive solution

Main Advantages

The main advantage and innovation of this method is in that it allows the synthesis of large amounts of metal molybdates and tungstates:

- at low temperature, and
- using reactive compounds dissolved in water.