



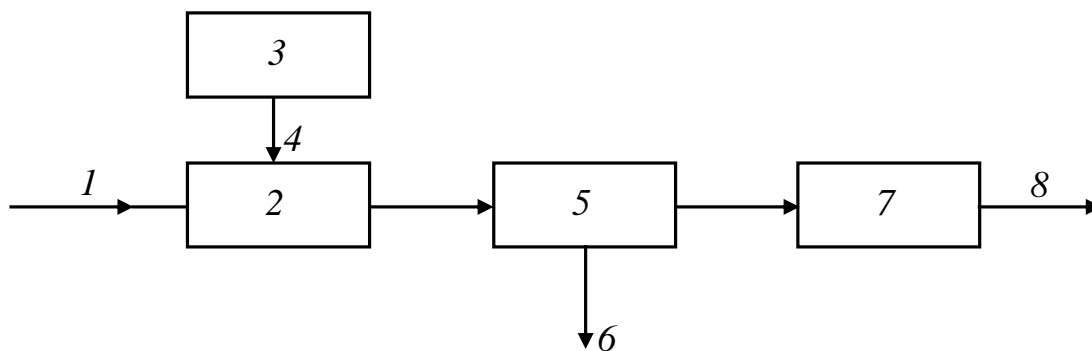
## TECHNOLOGY FOR THE EXTRACTION OF HEAVY METALS FROM MUNICIPAL WASTEWATER SLUDGE

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### ABSTRACT

Issues of reducing the level of technogenic safety of urban wastewater sludge as fertilizers are considered. It is noted that the technogenic and ecological problem requires an urgent solution through the formation of new effective methods of treatment (neutralization and dehydration) and further disposal of urban wastewater sludge. Sludge pads are a source of pollution of soil, groundwater and superficial water objects, and air. A new method has been developed for the removal of heavy metals from municipal wastewater sludge using humic substances, in which the extraction of heavy metals from municipal wastewater sludge is carried out with constant mixing of the sludge with humic reagents at a linear speed of 0.2-0.5 m/s with simultaneous processing ultrasound with a frequency of 2.5-5.5 kHz for 1-1.5 min. The technological scheme for extracting heavy metals from municipal wastewater sludge is shown in the scheme.



1 – domestic wastewater sludge; 2 – mixing device with ultrasonic treatment;  
3 – reagent facilities; 4 – supply of a humic reagent; 5 – sediment dehydration; 6 – concentrate;  
7 – germicidal lamps; 8 – sediment for disposal

Technological scheme for the extraction of heavy metals from sewage sludge. The results of the studies performed are presented in the table. Experimental data show that the treatment of municipal sewage sludge can effectively remove heavy metals with further utilization of fertilizer quality. Experimental data on the recovery of heavy metals from municipal sewage sludge.