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Development of technology for production of new types, eco-safe fire-extinguishing powders based on local mineral raw materials

Salome Tkemaladze[1], **Lali Gurchumelia**[2] and **Olga Chudakiva**[3]
[1]Ivane Javakhishvili Tbilisi State University, Georgia
[2]TSU Rafael Agladze Institute of Inorganic Chemistry and Electrochemistry, Georgia
[3]G Tsulukidze Mining Institute, Georgia

The main goal of our work was to develop of technology for production of new types, halogen less, eco-safe, high-efficient and universal fire-extinguishing powders on the basis of local mineral raw materials. The technology for production of these powders is simple and significantly differs from the serial production technology. Such fire-extinguishing powders are prepared according to the mechanical treatment and mixing of raw materials, which do not require modification with expensive, halogen-containing hydrophobizing additives. On the one hand, it simplifies technological process of production of powder and on the other hand decreases prices of powder. On the basis of experimental results, it is stated that, the received powders are characterized with high performance characteristics and high fire-extinguishing capacity. Thus, they are halogen-free, eco-safe, highly efficient, universal and far cheaper (1.2-2 times cheaper) than imported analogues. Therefore, the received powders will be effectively used for extinguishing of all classes of fires in underground and aboveground objects within large temperature range or, in such low temperatures where CO_2, water and Freon cannot be used.

Biography

Salome Tkemaladze is currently pursuing her Master's degree. She is a Chemist working at GTU Vladimir Chavchanidze Institute of Cybernetics (Georgia). Her scope of scientific interests includes: chemical science, analytical chemistry, chemical expertise and chemical engineering. She has eight publications, and she has participated in the grant project #216770- "New type fire-extinguishing powders and foam-suspensions based on local mineral raw materials" funded by the National Science Foundation and also participated in some international conferences and congresses which were held in Elenite Holiday Village, Bulgaria; Lisbon, Portugal and Tbilisi, Georgia. She has some years of experience in the study and evaluation of fire-extinguishing and fire-protective materials.

tkemaladze.s@yahoo.com

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