

# Comprehensive Research on Microsilica

PMF znak ovdje



**Study programme Chemistry, Faculty of Natural Sciences and Mathematics, University of Banja Luka active project**

**Date of start September 13, 2018**

**Project duration: 1 year**

## **Project summary:**

Microsilica (MS) is a by-product of the silicon metal production with particle size in the range of 30–300 nm. Microsilica, with silicon dioxide content of more than 85%, is commonly used as an additive in Portland cement concretes and fire proof material to improve their properties due to amorphous nature and extremely high surface area.

How to better utilize Microsilica resource, especially to low quality Microsilica is one of the main issues of R-S Silicon Company that will be addressed in this project. Project is divided into three different sequences to provide more comprehensive results and to give the company future ability to decide in which direction to go. This project proposal also has an intention to bring together several industries and to join them together around possible Microsilica application.

First part of the project will deal with use of plant secondary metabolites in crop protection. The question to be answered is can we adsorb plants active compounds on microsilica to be applied it in the crops protection. Second part of the research deals with carbon - microsilica composites as a sorbent for the water filtration. It is expected that microsilica particles could be combined with wooden cellulose waste (active carbon) to make good and cheap material for water filtration. Third part of the project will deal with the fillers in poly(dimethylsiloxane) based polyurethanes, poly(urea-urethane)s and poly(ester-urethane)s. Question to be answered is: Can we improve properties of selected polymers by adding microsilica particles?

**Members of the project team:**

Name	Affiliation	Email	Type
Saša Zeljković, Associate Professor	Faculty of Science, Banja Luka, Dep. of Chemistry	<a href="mailto:sasa.zeljkovic@pmf.unibl.org">sasa.zeljkovic@pmf.unibl.org</a>	PI
Milica Balaban, Assistant Professor	Faculty of Science, Banja Luka, Dep. of Chemistry	<a href="mailto:milica.balaban@pmf.unibl.org">milica.balaban@pmf.unibl.org</a>	CI
Suzana Gotovac Atlagić, Assistant professor	Faculty of Science, Banja Luka, Dep. of Chemistry	<a href="mailto:suzana.gotovac.atlagic@unibl.org">suzana.gotovac.atlagic@unibl.org</a>	CI
Biljana Kukavica, Associate Professor	Faculty of Science, Banja Luka, Dep. of Biology	<a href="mailto:biljana.kukavica@pmf.unibl.org">biljana.kukavica@pmf.unibl.org</a>	CI
Ivan Samelak	Faculty of Science, Banja Luka, Dep. of Chemistry	<a href="mailto:ivan.samelak@pmf.unibl.org">ivan.samelak@pmf.unibl.org</a>	RA
Dino Hasanagić	Faculty of Science, Banja Luka, Dep. of Biology	<a href="mailto:dino.hasanagic@pmf.unibl.org">dino.hasanagic@pmf.unibl.org</a>	RA
Sanja Šehovac	Faculty of Science, Banja Luka, Dep. of Chemistry	<a href="mailto:sanja.sehovac@pmf.unibl.org">sanja.sehovac@pmf.unibl.org</a>	RA
Savka Janković	Faculty of Science, Banja Luka,	<a href="mailto:savka.jankovic@pmf.unibl.org">savka.jankovic@pmf.unibl.org</a>	RA

	Dep. of Chemistry		
Dragana Milisavić	Faculty of Science, Banja Luka, Dep. of Chemistry	<a href="mailto:dragana.milisavic@pmf.unibl.org">dragana.milisavic@pmf.unibl.org</a>	RA

Type: PI = Principal Investigator, CI = Co-investigator, RA = Research Assistant.

**External links:**

<http://rssilicon.com/>