



## Newsletter No.3 Decembar 2025

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### O projektu

Zakonodavstvo o bezbednosti na radnom mestu i procesima je ključno za obezbeđivanje dobrobiti za skoro 170 miliona radnika širom Evrope. Oblast bezbednost na radu i u tehnološkim procesima (WPS) doživela je značajan rast, intenziviranje i promene poslednjih godina. Kako konkurencija postaje sve intenzivnija a resursi oskudniji, kompanije su pod pritiskom da preispitaju svoja ulaganja, uključujući i ona u bezbedonosne mere. Na žalost, ekonomski pritisci u mnogim zemljama dovode do smanjenja ili nestanka WPS obrazovanja na akademskom nivou. Modul Safety4EU ima za cilj da unapredi obrazovanje iz oblasti WPS na Univerzitetu u Nišu (UNI) korišćenjem inovativnog pristupa nastavi i učenju, prilagođenog potrebama naprednih studenata osnovnih studija, studenata master studija UNI, kao i mladih profesionalaca u sektoru bezbednosti i zdravlja na radu.

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### Ciljevi projekta

- Glavni specifični ciljevi projekta su:
- Doprinos boljoj akademskoj pokrivenosti EU WPS politika, propisa, standarda i najboljih praksi
  - Podsticanje akademskog unapređenja WPS naglašavajući njen značaj
  - Efikasna primena IT servisa i alata za rešavanje konkretnih WPS problema
  - Unapređenje saradnje između akademske zajednice, profesionalaca i društva u celini
  - Proširenje dometa EU vrednosti i WPS na širu publiku
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### **Tim zadužen za realizaciju Modula**

Koordinator projekta: Dr Milan Protić, vanr. prof. Fakulteta zaštite na radu u Nišu

Predavači:

- Dr Milan Gocić, red. prof. Građevinsko-arhitektonskog fakulteta u Nišu
- Dr Evica Stojiljković, red. prof. Fakulteta zaštite na radu u Nišu
- Dr Snežana Živković, red. prof. Fakulteta zaštite na radu u Nišu
- Dr Tamara Rađenović, doc. Fakulteta zaštite na radu u Nišu
- Dr Ana Vukadinović, doc. Fakulteta zaštite na radu u Nišu
- Dr Srđan Glišović, red. prof. Fakulteta zaštite na radu u Nišu
- Dr Miomir Raos, red. prof. Fakulteta zaštite na radu u Nišu
- Dr Viša Tasić, naučni savetnik Instituta za rudarstvo i metalurgiju Bor
- Dr Dejan Vasović, vanr. prof. Fakulteta zaštite na radu u Nišu.

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### **Kursevi na Safety4EU modulu**

Safety4EU modul koherentno je strukturiran i sistemski vođen. U okviru modula predviđeni su sledeći kursevi:

- Uvod u Evropske integracije
  - EU regulativa u oblasti bezbednosti na radu i u tehnološkim procesima
  - Analiza podataka, programiranje i interpretacija
  - Bezbednost u tehnološkim procesima – Učenje iz studija slučaja
  - Opasnosti i konsekvence u industriji
  - Disperzioni modeli i modeli izvora
  - Ergonomski rizici
  - Uvod u mašinsko učenje u oblasti bezbednosti na radu i u tehnološkim procesima
  - Kvantitativna ocena rizika
  - On-line merenje u radnoj sredini za identifikaciju opasnih supstanci
  - Psihosociološki rizici u radnoj sredini
  - Ekonomski aspekti u bezbednosti na radu i u tehnološkim procesima
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## Realizacija Modula

Modul je realizovan kroz dvanaest kurseva sa preko 120 časova predavanja.





### Rad u laboratoriji

U Laboratoriji za zaštitu od požara na Fakultetu zaštite na radu u Nišu <https://www.znrfak.ni.ac.rs/FPL/> za polaznike kursa izveden je niz ilustrativnih eksperimenata.



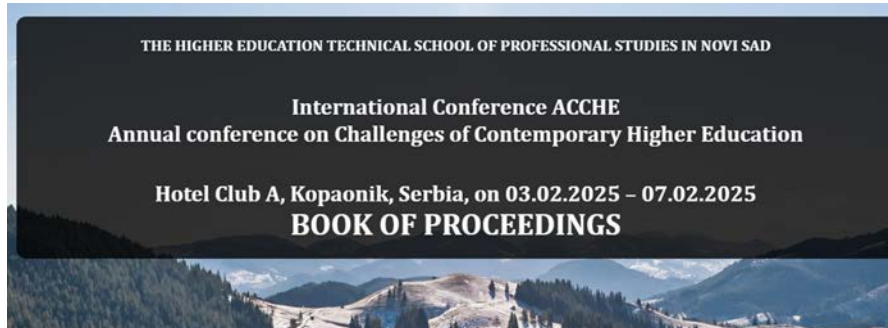
### *Dodela sertifikata*

*Nakon odslušanih predavanja i odbrane svojih istraživačkih radova, dvadeset pet polaznika modula je dobilo sertifikate.*



### Diseminacija projekta

Tokom 2025. godine vršena je intenzivna diseminacija projekta. Publikovani su radovi na konferencijama i u časopisima sa IF. Neki od radova prikazani su u nastavku.



Kopaonik, Serbia, 03. – 07.2.2025.

### BRIDGING THE GAP BETWEEN THEORY AND PRACTICE IN PROCESS SAFETY ENGINEERING: SIMULATION-BASED LEARNING FOR THERMAL RUNAWAY REACTIONS

*Milan Protić<sup>1</sup>, Milan Gocić<sup>2</sup>, Ana Bijelić<sup>3</sup>, Miomir Raos<sup>4</sup>*

**Abstract:** One of the pressing issues in educating new generations of engineers is bridging the gap between theory and practice. This is particularly important in process safety engineering, where future engineers are expected to work in real industrial facilities, often facing life-threatening conditions that require immediate action. Performing process safety simulations allows students to explore different “what if” scenarios in the safety of a classroom environment. This study presents a detailed methodology for modeling thermal runaway behavior, using the esterification of acetic anhydride with methanol as a case study. This highly exothermic reaction, is simulated under adiabatic conditions to represent a cooling system failure scenario. The methodology was validated by comparing the simulated temperature profile with experimental data from previous studies, showing strong agreement, particularly in predicting the reaction's steady-state temperature. This methodology can be applied to other exothermic reactions, making it a versatile resource for improving process safety in chemical manufacturing.

**Key words:** Runaway reactions, Modeling, Safety, AVEVA Process simulation, Python, Esterification, Exothermic reactions



The 56<sup>th</sup> International October Conference on Mining and Metallurgy  
22-25 October 2025, Bor Lake, Bor, Serbia  
[www.ioc.tfbor.bg.ac.rs](http://www.ioc.tfbor.bg.ac.rs)

DOI: 10.5937/IOC25450P

Original scientific paper

## FLAMMABILITY ASSESSMENT OF ACOUSTIC INSULATION MATERIALS USING MASS LOSS CALORIMETRY

Milan Protić<sup>1a</sup>, Momir Prašćević<sup>1b</sup>, Nikola Mišić<sup>1c</sup>, Miomir Raos<sup>1d</sup>, Viša Tasić<sup>2a</sup>

<sup>1</sup> University of Nis, Faculty of Occupational Safety in Nis, Carnojeвица 10A, 18000 Nis, Serbia

<sup>2</sup> Mining and Metallurgy Institute Bor, Alberta Ajnštajna 1, 19210 Bor, Serbia

<sup>1a</sup> milanprotic@gmail.com, 0000-0003-4957-7882

<sup>1b</sup> momir.prascevic@znrfak.ni.ac.rs, 0000-0002-7017-1038

<sup>1c</sup> nikola.misic@znrfak.ni.ac.rs, 0000-0003-2314-4851

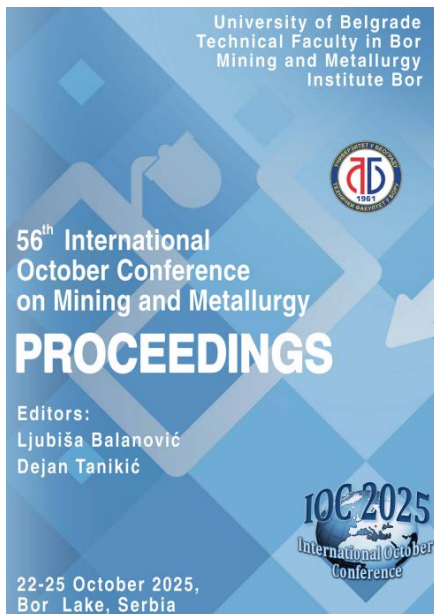
<sup>1d</sup> miomir.raos@znrfak.ni.ac.rs, 0000-0001-5586-0276

<sup>2a</sup> visa.tasic@irmbor.co.rs, 0000-0001-6710-6529

### Abstract

Acoustic insulation materials are widely used across construction and industrial applications, primarily valued for their noise attenuation capabilities. However, their flammability characteristics are rarely evaluated despite their potential impact on fire safety. This study investigates the fire behavior of three representative sound-insulating materials through cone calorimetry, using a mass loss calorimeter under a constant radiant heat flux of 50 kW/m<sup>2</sup> in accordance with ISO 13927:2023. The tested samples, differing in thickness and structural rigidity (labeled as 10 mm soft, 4 mm hard, and 6 mm soft), exhibited notably high flammability metrics. Time to ignition ranged from 10 to 12 seconds, with peak heat release rates (HRR) exceeding 200 kW/m<sup>2</sup> in all cases and reaching a maximum of 275.6 kW/m<sup>2</sup> for the slimmest sample. Mass loss rates and total heat release values further confirmed the materials' low resistance to sustained combustion. The findings emphasize the need to incorporate flammability testing into routine evaluation protocols for acoustic materials, especially in contexts where fire exposure is a relevant hazard.

**Keywords:** acoustic insulation materials, flammability testing, heat release rate, mass loss calorimeter





Protić, M. Z., *et al.*: Evaluating the Effect of a Modified Air Purifier on Air ...  
THERMAL SCIENCE: Year 2025, Vol. 29, No. 6A, pp. 4503-4512

4503

## EVALUATING THE EFFECT OF A MODIFIED AIR PURIFIER ON AIR QUALITY IN AN APARTMENT IN NIŠ, SERBIA

by

**Milan Z. PROTIĆ<sup>a</sup>, Aca V. BOŽILOV<sup>a</sup>, Viša M. TASIĆ<sup>b</sup>,  
Ivan M. LAZOVIĆ<sup>c</sup>, Nikola Z. MIŠIĆ<sup>a</sup>, and Bojan A. RADOVIĆ<sup>b</sup>**

<sup>a</sup>Faculty of Occupational Safety Niš, University of Niš, Niš, Serbia

<sup>b</sup>Mining and Metallurgy Institute Bor, Bor, Serbia

<sup>c</sup>Vinča Institute of Nuclear Sciences, National Institute of the Republic of Serbia,  
University of Belgrade, Belgrade, Serbia

Original scientific paper

<https://doi.org/10.2298/TSCI250122089P>

*Niš, Serbia residents constantly face the severe and pressing issue of air pollution, particularly from suspended particulate matter fractions  $PM_{10}$  and  $PM_{2.5}$ . Conditions worsen significantly during the heating season, as the predominant combustion of wood, pellets, and solid fossil fuels in residential dwellings causes particulate matter concentrations to rise abruptly, exceeding levels more than twice as high as those during the non-heating season. Outdoor pollution easily infiltrates indoors and, together with indoor pollution, drastically degrades the quality of indoor air. Deteriorated indoor air quality poses a significant health risk, as individuals spend a lot of time indoors. This study evaluates the impact of a commercially available air purifier on reducing concentrations of  $PM_{10}$  and  $PM_{2.5}$*

*Tokom 21. Međunarodne konferencije "Man and Working Environment" – SEMSIE 2025 organizovane od 22. do 26. septembra 2025. godine u Sokobanji održana je specijalna sesija "Application of virtual labs (dynamic process simulation software) for simulating and testing different process safety scenarios".*





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*Konkurs za upis treće generacije polaznika na Žan Mone modul "Bezbednost na radu i u tehnološkim procesima u Evropi sledeće generacije - Safety4EU" je u toku i biće otvoren do 06.02.2026. godine.*

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Univerzitet u Nišu objavljuje konkurs za upis treće generacije polaznika na modul **"Bezbednost na radu i u tehnološkim procesima u Evropi sledeće generacije - Safety4EU"** u školskoj 2025/2026. godini u okviru projekta Žan Mone kao deo ERASMUS+ programa.

### **POTREBNA DOKUMENTACIJA ZA PRIJAVU**

- Popunjen prijavni formular;
- Fotokopija uverenja o statusu studenta sa prepisom položenih ispita i osvojenim ESPB bodovima ili fotokopija diplome o završenim osnovnim, master ili integrisanim akademskim studijama.

Prijave dostaviti elektronskom poštom na adresu [\*\*safety4eu@gmail.com\*\*](mailto:safety4eu@gmail.com)

**Rok za podnošenje prijava je **petak, 06.02.2026. godine.****

Pravila i uslove konkursa pogledajte [ovde](#)

Prijavni formular preuzmite [ovde](#)

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