

REVIEWER'S REPORT

Manuscript No.: IJAR-59436

Title: Influence of Polystyrene Latex Carryover on Pyrolysis Mass Spectral Response.

Recommendation:

Accept as it is ☐☐☐☐

Accept after minor revision ☒☐☐☐

Accept after major revision ☐☐☐☐

Do not accept (*Reasons below*) ☐☐☐

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality		√		
Clarity		√		
Significance		√		

Reviewer ID: JP085

Reviewer's Comment for Publication.

The article investigates whether residual polystyrene latex (PSL) particles from previous testing can interfere with the detection of a biological simulant. Four verification tests were performed. The results suggest that PSL carryover can change the mass spectrum and affect the instrument's classification. The authors also report improved results after strengthening the cleaning procedure.

Strength:

1. The article addresses an important problem in analytical testing.
2. The research objective is clearly stated.
3. The authors performed four verification tests.
4. Mass spectra were compared to investigate the interference.
5. Microscopy was used to observe residual particles.
6. The authors suggested practical improvements to the cleaning procedure.
7. The discussion is supported by relevant scientific references.

Weakness:

1. The study is based on only six systems, and only one system showed the original problem.
2. The number of repeated experiments is limited.
3. Cleaning was deliberately omitted in Tests 2–4, which does not fully represent routine testing conditions.
4. The chemical identity of the observed particles was not directly confirmed.
5. Quantitative spectral data and statistical analysis are not sufficiently reported.
6. The study does not clearly explain how much PSL residue is required to affect classification.
7. The revised cleaning procedure needs more detailed validation through repeated testing.

Overall assessment:

The article addresses a useful technical problem and presents evidence that PSL carryover may interfere with pyrolysis mass spectrometry. However, the limited number of tests, lack of quantitative analysis,

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and incomplete validation of the revised cleaning procedure weaken the conclusions. Further experimental evidence and clearer reporting are required.

Recommendation: Manuscript accepted for publication after minor revision.