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## REVIEWER'S REPORT

Manuscript No.: IJAR-50706

Date: 18-03-2025

**Title: Integrated Risk Assessment of Laboratory Safety Compliance: Evaluating Chemical and Microbial Exposure in Indoor Air Quality at the Rubber Research Institute of Nigeria**

### Recommendation:

Accept as it is.....**YES**.....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

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

**Reviewer's Name:** Dr Aamina

**Reviewer's Decision about Paper:** **Recommended for Publication.**

**Comments** (*Use additional pages, if required*)

### Reviewer's Comment / Report

#### Abstract

The abstract effectively summarizes the study's objectives, methods, key findings, and recommendations. The identification of VOCs, heavy metals, and microbial contaminants in laboratory environments is well-articulated. The results provide critical insights into occupational health risks, highlighting the presence of acetone, xylene, and toluene, as well as heavy metals exceeding recommended exposure limits. The microbial contamination analysis further strengthens the study's relevance, emphasizing the potential health hazards posed by airborne bacteria. The conclusion effectively ties together the findings and offers actionable recommendations to enhance laboratory safety. The abstract is well-structured, providing a comprehensive yet concise overview of the research.

#### Keywords

The selection of keywords is appropriate and aligns well with the study's focus, ensuring relevance for indexing and retrieval in academic databases.

#### Introduction

The introduction provides a strong foundation for the study, highlighting the occupational health risks associated with laboratory environments. The discussion on VOCs, heavy metals, and microbial

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contaminants effectively establishes the context for the research. The references to regulatory agencies such as WHO, USEPA, and OSHA add credibility to the discussion. The review of existing literature underscores the study's significance, particularly in addressing the gap in research concerning the combined risk assessment of chemical and microbial hazards. The rationale for conducting the study at the Rubber Research Institute of Nigeria is well-justified, emphasizing the need for empirical data in developing regions where monitoring frameworks may be inadequate.

### Overall Assessment

The manuscript is well-organized and presents a comprehensive analysis of laboratory safety compliance concerning chemical and microbial exposure. The study effectively integrates quantitative assessments of VOCs, heavy metals, and microbial contaminants, offering valuable insights into occupational exposure risks. The findings contribute significantly to the field of environmental health and laboratory safety, providing a strong basis for regulatory interventions and improved biosafety protocols. The discussion is well-supported by relevant literature, and the research methodology is clearly outlined.

The study is a significant contribution to laboratory safety research, particularly in regions where comprehensive risk assessments are limited. The conclusions are well-grounded in the data, and the recommendations provide practical measures for mitigating identified risks.