

# Review of: "Flame Photometry: For the Determination of Alkali Metals in Commercially Sold Fireworks"

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Potential competing interests: No potential competing interests to declare.

## Valuation of the Article: "Flame Photometry: For the Determination of Alkali Metals in Commercially Sold Fireworks"

### Strengths of the Article

- **Relevance of the topic:** The article addresses an important environmental issue related to pollution from fireworks.
- **Clear methodology:** The experimental procedures, including sample preparation and flame photometry analysis, are well described.
- **Method validation:** The study includes an evaluation of the effect of different components on the determination of alkali metals.
- **Practical application:** The results are applied to the analysis of commercial fireworks samples.

### Weaknesses and Suggestions for Improvement

- **Sample size limitations:** The study is limited to a relatively small number of commercial samples, which may limit the generalizability of the findings. A larger sample size would provide more robust results.
- **Interferences:** While the effect of different components is considered, a more comprehensive study of potential interferences from other elements present in fireworks would be beneficial.
- **Comparison with other methods:** Comparing the results obtained by flame photometry with those from other analytical techniques, such as inductively coupled plasma atomic emission spectroscopy (ICP-AES), would help assess the accuracy and precision of the method.
- **Environmental impact:** Although the article mentions the environmental impact of fireworks, it would be valuable to quantify the environmental impact of the released metals and propose mitigation measures.
- **Safety considerations:** The article should emphasize the safety precautions taken during the handling of fireworks and the chemicals used in the analysis.

### Conclusions

The article presents a promising approach for determining alkali metals in fireworks using flame photometry. However, there is room for improvement, such as increasing the sample size, considering additional interferences, and comparing the results with other analytical techniques. Overall, the study contributes to a better understanding of the chemical composition of fireworks and their environmental impact.