

REVIEWER'S REPORT

Manuscript No.: IJAR-58597

Title: Abatement du chrome par electrocoagulation des eaux usées de tannerie.

Recommendation:

Accept as it is

Accept after **minor revision**

Accept after major revision

Do not accept (*Reasons below*)

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

Reviewer's ID: JPR-: **JPR-115**

Detailed Reviewer's Report

The manuscript investigates the removal of chromium from tannery wastewater using the electrocoagulation technique. The topic is environmentally relevant and addresses an important issue related to industrial wastewater treatment. The reported chromium removal efficiency is promising. However, the manuscript requires **major revision** before it can be considered for publication. The comments below are intended to improve the scientific quality and readability of the paper.

Major Comments

1. Novelty

The authors should clearly state the novelty of this study compared with previously published electrocoagulation research.

A comparison with recent literature (last 5 years) is required.

2. Language

The manuscript contains numerous grammatical, typographical, and formatting errors.

Professional English/French language editing is strongly recommended.

3. Abstract

The abstract should briefly mention:

- Experimental conditions
- Number of samples

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- Statistical analysis
- Practical significance

Avoid repeating methodology details.

4. Introduction

Include recent references (2021–2026).

Explain why electrocoagulation was selected over adsorption, membrane filtration, ion exchange, and other chromium removal technologies.

Clearly identify the research gap and study objectives.

5. Materials and Methods

Provide complete experimental conditions:

- Initial chromium species (Cr III or Cr VI)
- Electrode purity
- Electrode surface area calculation
- Current density
- Power consumption
- Electrode consumption
- Reactor dimensions

Mention the number of experimental replicates.

Describe quality assurance and quality control procedures.

Explain statistical analysis methods.

6. Results

Include error bars in all graphs.

Report mean $\pm$ standard deviation.

Statistical significance should be evaluated (ANOVA or appropriate statistical test).

Improve figure quality and captions.

Tables should contain units consistently.

7. Discussion

Compare the obtained chromium removal efficiency with previous published studies.

Explain the electrochemical mechanisms responsible for chromium removal.

Discuss the effect of:

- pH
- Current intensity
- Electrode distance

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- Electrolysis time

Discuss practical applications and limitations.

8. Conclusion

Avoid repeating the results.

Highlight:

Main scientific contribution

- Industrial applicability
- Economic feasibility
- Future research directions.

Minor Comments

- Correct spacing throughout the manuscript.
- Use SI units consistently.
- Standardize chromium notation (Cr, Cr(III), Cr(VI)).
- Correct inconsistencies in mg/L and mg/mL units.
- Improve figure numbering and table formatting.
- Check reference numbering.
- Ensure all abbreviations are defined when first introduced.
- Italicise scientific terms where appropriate.

Overall Recommendation

Recommendation: Minor Revision

The study addresses an important environmental problem and presents promising chromium removal efficiency through electrocoagulation. However, substantial improvements in experimental description, statistical analysis, discussion, literature review, language quality, and presentation are necessary before the manuscript can be considered for publication.