# Article information:

Investigation of nickel iron layered double hydroxide for water oxidation in different pH electrolytes - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1872206722641901>

# Article summary:

1. Nickel iron layered double hydroxide (NiFe LDH) is one of the best oxygen evolution reaction (OER) catalysts in alkaline electrolytes, but performs poorly in neutral electrolytes.

2. Electrochemical measurements, operando surface enhanced Raman spectroscopy and operando 57Fe Mössbauer spectroscopy were used to investigate the mechanism of NiFe LDH for OER process in different pH electrolytes.

3. The rate-determining step (RDS) of OER on NiFe LDH based electrocatalysts is from \*O to \*OOH in alkaline medium while \*OH formation is the RDS in neutral conditions.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article “Investigation of nickel iron layered double hydroxide for water oxidation in different pH electrolytes” provides a detailed investigation into the mechanism of NiFe LDH for OER process in different pH electrolytes. The authors use electrochemical measurements, operando surface enhanced Raman spectroscopy and operando 57Fe Mössbauer spectroscopy to elucidate the mechanism of NiFe LDH for OER process in different pH electrolytes. The article presents a comprehensive overview of the research conducted and provides evidence to support its claims.

However, there are some potential biases that should be noted when evaluating this article. For example, the authors do not explore any counterarguments or alternative explanations for their findings, which could lead to an incomplete understanding of the topic at hand. Additionally, there is no discussion about possible risks associated with using NiFe LDH as an electrocatalyst or any potential drawbacks that could arise from its use. Furthermore, it is unclear if all relevant points have been considered when discussing the topic; some important details may have been overlooked or omitted from consideration. Finally, it appears that only one side of the argument has been presented; there is no mention of any opposing views or perspectives on this issue which could provide a more balanced view on this topic.

In conclusion, while this article provides a thorough overview and analysis of its subject matter, it should be evaluated critically due to potential biases and omissions that may lead to an incomplete understanding of the topic at hand.

# Topics for further research:

* Alternative explanations for OER process
* Risks associated with NiFe LDH electrocatalyst
* Drawbacks of NiFe LDH electrocatalyst
* Relevant points for OER process
* Opposing views on OER process
* Balanced view on OER process

# Report location:

<https://www.fullpicture.app/item/c52a5d750dbfa5069c0a6d846a8de732>