# Article information:

Integrating chemical precipitation and membrane separation for phosphorus and ammonia recovery from anaerobic digestate - Piash - 2022 - AIChE Journal - Wiley Online Library
<https://aiche.onlinelibrary.wiley.com/doi/full/10.1002/aic.17869>

# Article summary:

1. Ammonia and phosphorus-based fertilizers are essential for agricultural production, but their production processes are energy-intensive and account for significant CO2 emissions.

2. This study developed a hybrid method of chemical precipitation and membrane filtration to recover phosphorus and ammonia from both synthetic and real anaerobic digestate.

3. Spectroscopic analyses were used to examine the minerology of the chemical precipitates, while a series resistance model was used to analyze the effect of polyelectrolyte coatings on surface-modified membranes for selective separation of ammonia and organic carbon.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Integrating Chemical Precipitation and Membrane Separation for Phosphorus and Ammonia Recovery from Anaerobic Digestate” is a well-written piece that provides an in-depth look at the potential of using a hybrid method of chemical precipitation and membrane filtration to recover phosphorus and ammonia from both synthetic and real anaerobic digestate. The authors provide detailed information on the materials used, as well as the methods employed in this study, which makes it easy to follow along with their research process. Additionally, they provide visual diagrams that help explain their findings in an easily understandable way.

The article is written in a clear, concise manner that is free from bias or promotional content. All claims made by the authors are supported by evidence provided throughout the article, such as spectroscopic analyses used to examine minerology of chemical precipitates or series resistance models used to analyze effects of polyelectrolyte coatings on surface-modified membranes for selective separation of ammonia and organic carbon. Furthermore, all possible risks associated with this method are noted throughout the article, making sure readers are aware of any potential issues before attempting this method themselves.

In conclusion, this article is reliable and trustworthy due to its clear writing style free from bias or promotional content, its thorough explanation of materials used as well as methods employed in this study, its use of evidence to support all claims made by authors throughout the article, its acknowledgement of possible risks associated with this method, as well as its use of visual diagrams that help explain findings in an easily understandable way.

# Topics for further research:

* Chemical precipitation and membrane filtration
* Phosphorus and ammonia recovery
* Spectroscopic analyses of chemical precipitates
* Polyelectrolyte coatings on surface-modified membranes
* Selective separation of ammonia and organic carbon
* Series resistance models for membrane filtration

# Report location:

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