

# Solvent system for solution processing of Selenide films

**A hydrazine-free solution method makes high-quality selenide films for electronics and solar.**

Researchers at Purdue University have developed an alternative method to form selenide films by the direct dissolution metal-chalcogenide in an amine-thiol solvent system. This approach eliminates the need for hydrazine, a toxic and dangerous material, and allows the use of a safer alternative that produces a high-quality film. This technology is useful for those who want to solution processed metal selenides into films for electronic applications, including solar cells.

## Advantages:

- Direct dissolution of metals and metal compounds
- Solution processing yielding high quality films
- Elimination of hydrazine

## Applications:

- Solution processing of selenide films
- Electronics and solar cell applications

## Technology Validation:

This technology has been validated through laboratory testing.

**TRL:** 2

## Intellectual Property:

Provisional-Gov. Funding, 2021-11-07, United States | Utility-Gov. Funding, 2023-03-29, United States

## Technology ID

2022-AGRA-69652

## Authors

Rakesh Agrawal

Swapnil Deshmukh

Jonathan William Turnley

## Further information

Will Buchanan

[wdbuchanan@prf.org](mailto:wdbuchanan@prf.org)

Jacob Brejcha

[jjbrejcha@prf.org](mailto:jjbrejcha@prf.org)

## View online

