# Reactive Dissolution of Metals and Metal Compounds with Solutions Containing Polyselenide Ions

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.

### **Technology ID**

2022-AGRA-69652

### **Further information**

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### 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

