



*Proudly Operated*  
by **Battelle** Since 1965

**Battelle Number(s):**

13596

Patent(s) Issued

Available for licensing in all fields

Available Technologies

# Synthesis of Arsenic Sulfide Chalcogenide Nanowires

## SUMMARY

A vapor phase sublimation-condensation process was used to synthesize nanowires of arsenic sulfide,  $\text{As}_2\text{S}_3$ . The resulting material is an amorphous semiconductor of uniform composition that is transparent in the IR spectrum.

Although the initial work was for  $\text{As}_2\text{S}_3$ , the method is readily applied to create similar microstructures from other chalcogenide materials.

Potential uses:

- \* Infrared detectors
  
- \* Infrared optics
  
- \* Infrared optical fibers



### Patents & Intellectual Property

- » Patent #: 7,211,296

### Technology Portfolio(s)

- » Chemistry
- » Materials Synthesis and Functionalization

### Potential Industry Applications

- » Chemicals

---

**Eric C. Lund**  
Pacific Northwest National Laboratory  
(509) 375-3764  
eric.lund@pnnl.gov  
<http://availabletechnologies.pnnl.gov>



Proudly Operated by **Battelle** Since 1965