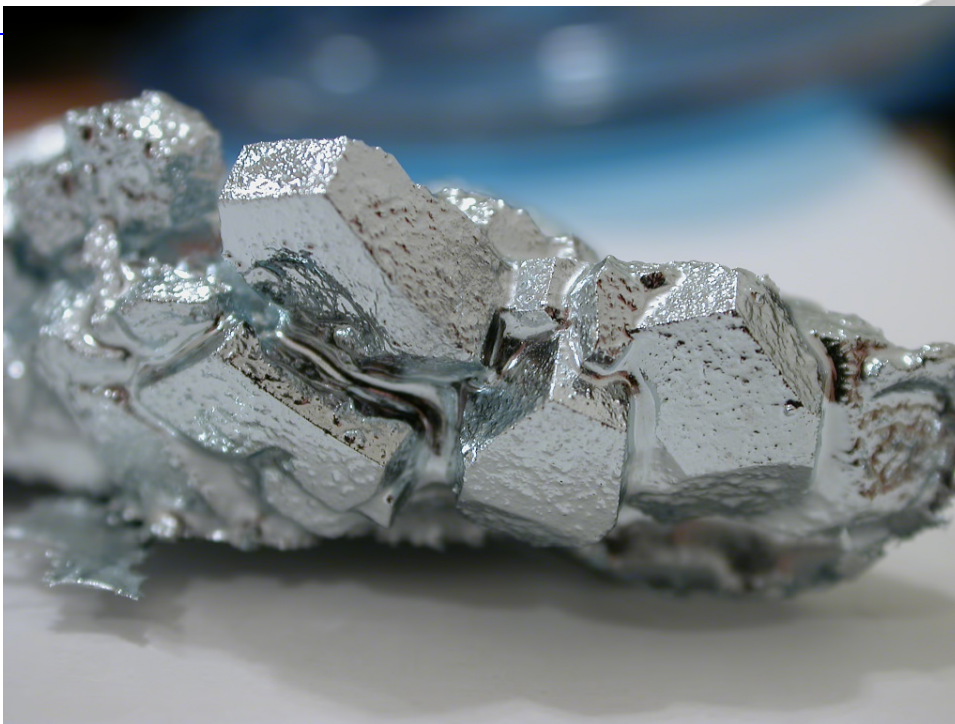




## Unusual Materials

[Source: TH](#)

- **Gallium (Ga):** It is a **non-radioactive metal** that **melts near room temperature** (similar to Cesium, Rubidium, and Mercury).
  - It exhibits the rare property of being **denser as a liquid than as a solid**, like **Silicon, Germanium, Bismuth, and Plutonium**.



- **Aerogel:** Aerogel is an **extremely light solid**, composed **mostly of air (over 99% by volume)**.
  - It is made by **removing the liquid component of a gel through supercritical drying**, preserving its porous structure.
- **Concrete:** Concrete is the **second most used material after water**. While **strong in compression, it has low tensile strength**, making it **susceptible to cracking**.
  - Scientists have explored **self-healing concrete using bacteria** which uses **Bacillus species** to produce **calcium carbonate** upon water exposure, **sealing cracks and enhancing durability**.
- **Aluminium Oxynitride (ALON):** ALON is a **transparent ceramic compound** made of aluminum, oxygen, and nitrogen. It is **extremely durable** and has been **tested to resist armor-piercing bullets**.
- **Tin (Sn): Stanene (Sn)** is a **one-atom-thick layer of tin atoms with a honeycomb structure**, similar to **graphene**.
  - It is expected to be a **topological insulator, conducting electricity along its edges** with minimal energy loss, while its **interior remains insulating**.

Read More: [Moiré Materials and Superconductivity](#)

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