

## What is Mercury?

January 8, 2023 • vajiramandravi.com



### About Mercury's superconductivity

- In 1911, Dutch physicist **Heike Kamerlingh Onnes** discovered superconductivity in mercury.
- He found that at a very low temperature, called the threshold temperature, solid mercury offers no resistance to the flow of electric current.
- Scientists later classified mercury as a conventional superconductor because its superconductivity could be explained by the concepts of the **Bardeen-Cooper-Schrieffer** (BCS) theory.
- In BCS superconductors, vibrational energy released by the grid of atoms encourages electrons to pair up, forming so-called Cooper pairs.
- These Copper pairs can move like water in a stream, facing no resistance to their flow, below a threshold temperature.

### What is Superconductivity?

- A material can conduct **electricity without any resistance**. It is observed in many materials when they are cooled below a critical temperature.

## What is Mercury?

- It is a naturally occurring element that is found in air, water and soil.
  - It is released into the atmosphere through natural processes such as weathering of rocks, volcanic eruptions, geothermal activities, forest fires, etc.
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### Q1) What are superconductors?

A superconductor is a material that achieves superconductivity, which is a state of matter that has no electrical resistance and does not allow magnetic fields to penetrate. An electric current in a superconductor can persist indefinitely.

**Source:** [A clear picture of how mercury becomes a superconductor.](#)

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Source: <https://vajiramandravi.com/current-affairs/what-is-mercury/>

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