

BORON

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Boron	
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Metalloid	

Arabic word buraq and the Persian word burah, meaning borax

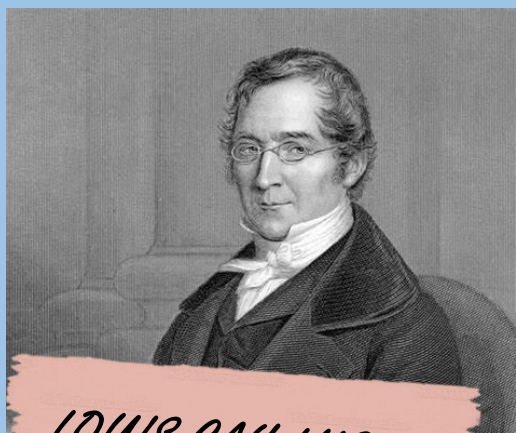
USES

- Boron is used in pyrotechnics and flares to produce a green color.
- Boron has also been used in some rockets as an ignition source.
- Boron-10, is a good absorber of neutrons and is used in the control rods of nuclear reactors, as a radiation shield and as a neutron detector.
- Boron filaments are used in the aerospace industry because of their high-strength and lightweight.
- It is essential for all green plants



DISCOVERY

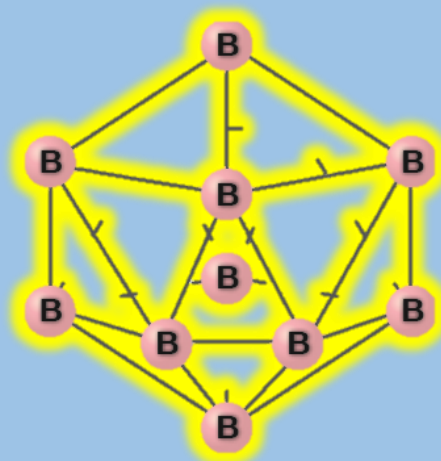
Boron was discovered by Joseph-Louis Gay-Lussac and Louis-Jaques Thénard, French chemists, and independently by Sir Humphry Davy, an English chemist, in 1808. They all isolated boron by combining boric acid (H_3BO_3) with potassium. Today, boron is obtained by heating borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$) with carbon, although other methods are used if high-purity boron is required.



LOUIS GAY-LUSSAC

FUN FACTS

- Bullet proof vests and tank armor make use of Boron Carbide.
- Boron and Boron compounds when put to flame test actually produce a bright green light. Ever wondered what gave the green light in firecrackers .
- Boric acid is used as a preservative, an insecticide and even as pH buffer.
- Boron has the ability of transmitting portions of IR or Infrared light .



PROPERTIES

- Pure crystalline boron is a black, lustrous semiconductor; i.e., it conducts electricity like a metal at high temperatures and is almost an insulator at low temperatures.
- It is hard enough to scratch some abrasives, such as carborundum, but too brittle for use in tools.
- It constitutes about 0.001 percent by weight of Earth's crust.
- Boron occurs combined as borax, kernite, and tincalconite the major commercial boron minerals, especially concentrated in the arid regions of California, and as widely dispersed minerals such as colemanite, ulexite, and tourmaline.

Boron is in the graphite of pencils, which students use everyday

ATISHAY JAIN
XI-C , ROLL
NO.-2

Boron
makes the
fire green