

B

Properties: Boron, element symbol B, is a non-metallic element, crystalline boron is black in appearance, second only to diamond in hardness, brittle texture. It is unaffected by water, bromine and chlorine at certain temperatures. Low conductivity at room temperature, high conductivity at high temperature, can increase the conductivity after doping trace carbon. Can interact with oxygen, nitrogen, sulfur, halogens and carbon at high temperatures. Can be directly chemically synthesized with many metals to produce metal borides.

Uses: Semiconductor material doping source

· Identifier

Chemical formula	B
CAS No.	7440-42-8
EINECS No.	231-151-2

· Physical and chemical properties

Molecular weight	10.81 g/mol	Flash point	/	Reactivity	Stable in air and at room temperature
Appearance	Black particles	Melting point	2076°C	Solubility	Insoluble in water, hydrochloric acid, ethanol and ether
Density	2.34 g/cm ³	Boiling point	3927°C	Storage	Shady and cool, well-ventilated

· Metal impurities

Impurities	Unit	Specification	impurities	Unit	Specification
Na	ppmw	≤0.2	Ni	ppmw	≤0.1
Mg	ppmw	≤0.1	Cu	ppmw	≤0.1
Al	ppmw	≤0.1	As	ppmw	≤0.5
K	ppmw	≤0.2	Sb	ppmw	≤0.1
Ca	ppmw	≤0.2	Au	ppmw	≤0.2
Ti	ppmw	≤0.1	Pb	ppmw	≤0.1
Cr	ppmw	≤0.1	/	ppmw	/
Fe	ppmw	≤0.2	Combined total impurities	ppmw	≤1

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