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TOPIC APPLICATIONS OF BORON GROUP

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- A regular utilization of Boron is in fiberglass. There has been a fast development in the market for borosilicate glass: most remarkable among its uncommon qualities is a much more noteworthy resistance to Thermal expansion than normal glass.
- Another Commercially extending utilization of boron and its Subordinates is in ceramics. A few boron Compounds, Particularly the oxides, have exceptional and profitable properties That have prompted to Their Substitution for different materials That are less helpful. Boron might be found in ceramic panhandles, pots, plates, vases, due to its insulating properties.
- Aluminium is frequently utilized as a part of Construction materials, electrical gadgets, particularly as a transmitter in links, and in apparatuses and vessels for cooking and Safeguarding food. Aluminum's absence of reactivity with food items makes it especially helpful for Canning.
- Aluminium is a part of alloys utilized for making lightweight bodies for flying machine. Cars additionally fuse aluminium in Their structure and body Some of the time, and There are Comparative applications in military gear and vehicles.
- Gallium arsenide has been utilized as a part of Semiconductors, enhancers, Solar cells (for instance in Satellites) and passage diodes for FM transmitter circuits.

Gallium amalgams are utilized for the most part for dental purposes. Gallium ammonium chloride is utilized for

The leads in transistors. A noteworthy use of gallium is in LED lighting.

- Indium might be found on platings, phosphors, bearing, display gadgets, warm reflectors, and atomic control bars. Indium tin oxide has found an extensive variety of utilizations, including glass coatings, solar panels, road lights, electrophore-tic displays (EPDs) plasma display boards (PDPs)

REACTIONS OF BORON

pure crystalline boron is very unreactive. However, it is attacked at high temperatures by strong oxidizing agents such as a mixture of hot concentrated H_2SO_4 and HNO_3 , or by sodium peroxide in contrast. finely divided amorphous boron (which contains between 2% and 5% of impurities) is more reactive. It burns in air or dioxygen.

Some reactions of amorphous boron

Reaction	Comment
$4B + 3O_2 \rightarrow 2B_2O_3$	At high temperature
$2B + 3S \rightarrow B_2S_3$	At $1200^\circ C$
$2B + N_2 \rightarrow 2BN$	At very high temperature
$2B + 3F_2 \rightarrow 2BF_3$	At high temperature
$2B + 3Cl_2 \rightarrow 2BCl_3$	
$2B + 3Br_2 \rightarrow 2BBr_3$	
$2B + 3I_2 \rightarrow 2BI_3$	
$2B + 6NaOH \rightarrow 2Na_2B_2O_3 + 3H_2$	When fused with alkali
$2B + 2NH_3 \rightarrow 2BN + 3H_2$	At very high temperature
$B + M \rightarrow M_xB_y$	Many metals form borides (not groups) often nonstoichiometric

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