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Borato de sodio - Na₂ [B₄O₅ (OH)₄] · 8H₂O

¿Qué es el borato de sodio?

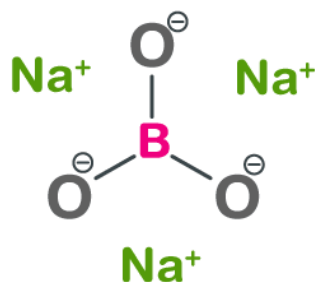
Na₂ [B₄O₅ (OH)₄] · 8H₂O es un importante compuesto de boro y una sal de ácido bórico con el nombre químico de borato de sodio. También se llama bórax o tetraborato de disodio o tetraborato de sodio. Fue descubierto por primera vez en el siglo VIII d.C. en los lechos de los lagos secos del Tíbet. Fue importado a través de la Ruta de la Seda a la Península Arábiga.

El bórax en su polvo es un cristal suave de incoloro a blanco. Es completamente soluble en agua y etilenglicol (<https://byjus.com/chemistry/ethylene-glycol/>). Se disuelve moderadamente en metanol, dietilenglicol y ligeramente soluble en acetona. A medida que aumenta la temperatura, su solubilidad en agua aumenta significativamente. Se utiliza principalmente como componente en detergentes, esmaltes y cosméticos. Se usa ampliamente en la fabricación de soluciones tampón, como compuesto antifúngico, como retardante del fuego, como fundente en metalurgia, como agente texturizante en la cocina, como insecticida.

Propiedades del borato de sodio - Na₂ [B₄O₅ (OH)₄] · 8H₂O

Na ₂ [B ₄ O ₅ (OH) ₄] · 8H ₂ O	Borato de sodio
Peso molecular del Na ₂ [B ₄ O ₅ (OH) ₄] · 8H ₂ O	201,22 g / mol (anhidro)
Densidad del borato de sodio	1,73 g / dm ³
Punto de ebullición del borato de sodio	1.575 ° C
Punto de fusión del borato de sodio	743 ° C

SODIUM BORATE STRUCTURE

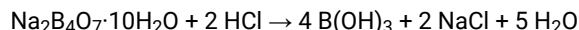


Na₂ [B₄O₅ (OH)₄] · 8H₂O Usos (borato de sodio)

- El borato de sodio se utiliza en la industria alimentaria como aditivo alimentario.
- Utilizado como retardante de fuego.
- Se utiliza para prevenir la pudrición de la madera en barcos
- Utilizado como agente de curado para pieles de serpiente.
- Utilizado en piscinas para controlar el pH.
- Used as an ingredient in vitamin supplements.
- Used in laundry cleaning products.
- Used in household cleaning products.
- Used in borax method.
- Used in forge welding by blacksmiths.

Sodium borate Reactions

Sodium tetraborate can be converted to boric acid by reacting with hydrochloric acid(HCl) (<https://byjus.com/chemistry/hydrochloric-acid/>). The reaction is as follows:



The decahydrate obtained is sufficiently stable and is used as a standard for acid base titrimetry.

When Sodium borate is added to a flame, it gives off a yellow green colour. Due to this reason it is not used in fireworks as it liberates yellow coloured sodium.

Health hazards

Over-exposure to borax dust causes respiratory irritation. Swallowing may cause gastrointestinal distress which includes nausea, diarrhoea, abdominal pain, and persistent vomiting. When it affects the human brain and vascular system it results in dullness and headache. Overexposure to boric acid also causes developmental and reproductive health issues.

Learn more about the Structure, physical and chemical properties of Na₂[B₄O₅(OH)₄]·8H₂O from the experts at BYJU'S.

Related Chemical Compounds	
Barium carbonate (BaCO ₃) (https://byjus.com/chemistry/barium-carbonate/)	Potassium oxide (K ₂ O) (https://byjus.com/chemistry/potassium-oxide/)
Sucrose (C ₁₂ H ₂₂ O ₁₁) (https://byjus.com/chemistry/sucrose/)	Óxido de sodio (Na ₂ O) (https://byjus.com/chemistry/sodium-oxide/)
Tetracloroetileno (C ₂ Cl ₄) (https://byjus.com/chemistry/tetrachloroethylene/)	Hidróxido de cobre (Cu(OH) ₂) (https://byjus.com/chemistry/copper-hydroxide/)

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