An essential part of industry—and everyday life

As an essential element, boron's unique properties make it the best choice for a wealth of applications across multiple industries. Refined boron and borates from U.S. Borax are indispensable to many of the products we depend on for modern living.

Adhesives, caulks, and sealants

Borates' ability to affect alkalinity and its chemical cross-linking capabilities make them an excellent component of starch adhesives and a peptizing agent in the manufacture of casein- and dextrin-bsed adhesives.

Borax Decahydrate
Neobor®
Optibor®
Sodium Metaborate

Batteries and capacitors

Borates are components in the electrolyte of lithium ion batteries and supercapacitors and have been investigated in the surface treatment of graphite anodes for lithium ion batteries.

Ammonium Pentaborate
Borax Decahydrate
Optibor®

Ceramics, enamels, and glazes

Borates can be incorporated into frits to make them insoluble and help reduce glass viscosity. This improves fit, luster, durability, and chemical resistance.

Borax Decahydrate
Boric Oxide
Dehybor®
Neobor®
Optibor®

Cleaners and detergents

By enhancing stain removal and bleaching capabilities, stabilizing enzymes, buffering alkalinity, softening water, and boosting surfactant performance, borates' cleaning uses extend beyond clothing and into the industrial workplace.

Borax Decahydrate
Dehybor®
Neobor®
Optibor®
Sodium Metaborate

Fire retardancy

Our products are used in a variety of fire retardant applications, including polymer-based applications, cellulose protection, lumber, and plywood.

Ammonium Pentaborate
Firebrake®
Neobor®
Optibor®
Polybor®

Glass and textile fiberglass

Heat resistant, chemical resistant, scratch and shock resistant, borosilicate glass—made with silica and boron trioxide—provides strength and durability.

Ammonium Pentaborate
Borax Decahydrate
Boric Oxide
Dehybor®
Neobor®
Optibor®

Industrial fluids and lubricants

Borates' anticorrosive, antimicrobial, and pH-balancing capabilities make them useful components in industrial fluid formulations.

Ammonium Pentaborate
Borax Decahydrate
Neobor®
Optibor®
Potassium Pentaborate
Sodium Metaborate

Insulation and polymers

In insulation fiberglass (glass wool), borates absorb infrared light, significantly increasing the performance of the insulation. Borates' fire-retardant properties are also used in cellulosic insulation products.

Ammonium Pentaborate
Dehybor®
Firebrake®
Neobor®
Optibor®

Metals and gold

Borates make excellent fluxes and help protect ferrous metals from oxidation. In refractories, they help stabilize and extend the useful life of bonded firebricks and castables. Borates help harden steel and are used in the production of numerous alloys, amorphous metals, and rare-earth magnets. Boron-hardened steel improves the safety of auto frames.

Ammonium Pentaborate
Boric Oxide
Dehybor®
Neobor®
Optibor®
Potassium Pentaborate

Nuclear energy

Borates play a key role in the operation of nuclear power plants and are essential in the safety and control of pressurized water reactors (PWRs). Boron carbide is also used in control rods, and borates are used as corrosion inhibitors and as a key safety feature of the emergency core cooling system.

Optibor®
Sodium Pentaborate

Oil and gas production

Borates' cross-linking capabilities make them useful in the oil and gas industry. High-viscosity oil-well fluids made with borates and other substances can help in oil recovery.

Borax Decahydrate
Dehybor®
Neobor®
Optibor®
Polybor®
Sodium Metaborate
Sodium Pentaborate

Pharmaceutical use

The pharmaceutical industry is highly regulated and our EP grade products conform to the current edition of the European Pharmacopoeia, are in full compliance with the Good Manufacturing Practice guidelines, and conform to Certificate of Suitability.

Borax Decahydrate
Optibor®

Wood protection and biocides

Borates and boron compounds are used in the creation of affordable, durable, and environmentally safe wood and wood products in order to protect them from fire, fungi, and pests.

Borogard® ZB
Optibor®
Polybor®
Tim-bor®

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