OTHER USAGES OF BORON

Preparation of fire retardant emulsion paints. Fire resistance in paper. Emulsifying agent in polishes. The preservation of rubber latex. Boron is used to control pH in a range of processing solutions. Boron is used in all dry powder fire extinguishers. Boron compounds are used in anodizing bath and in the electrolyte itself.

Boron is useful in the soaking of hides and skins, for stripping vegetable tans and for neutralizing chrome tans.

Boron is also used with salt in the control of red heat in sheep skins.

Use of boron based Fibre Glass to reinforce concrete as a substitute of steel and aggregates is growing.

Sodium Metaborate ($NaBO_2$) is used in photography as a buffering agent.

Another application for boron compounds is the production of sodium borohydrate from boric acid which can be used as the hydrogen source in a new generation of fuel-cells. In this manner, borates fight global warming through clean fuel cell technologies that feature borates as a hydrogen carrier.

Boron compounds are used as stabilizers and bonding agents in refractory and refractory cements to increase insulation/refractory properties of the concretes, bricks and other construction materials.

Borates hold the key to controlling dust mites, the predominant cause of asthma attacks in children.

Borates help protect homes from insects and the elements in wood preservatives and insulation materials.

Borates hold premise in fighting cancer through boron neutron capture therapy.

Boron also is used in the production of foot powders, eye lotions, bath salts, hair creams, shampoos, and emulsification and buffering ointments.

The boron isotope is used for neutron screening and also for the control of nuclear reactions. All the known type of nuclear power

stations use boron compounds.

Boron containing ceramics are also used to contain oil spills and encapsulate nuclear wastes.

Boron is used in radiation shielding to absorb fast neutrons in nuclear reactors. Boron-10, one of the naturally occurring isotopes of boron, is a good absorber of neutrons and is used in the control rods (steel and aluminium alloys consisting of 2% boron) of nuclear reactors, as a radiation shield and as a neutron detector.

In some Nuclear Power Stations, boric acid is added into the cooling water in order to prevent exceeding reactivity. To minimize radiation effects Borated concrete, with a high concentration of boron can also be used.

Finally and briefly; Boron is used in Nylon sizing, Paint, Paper, Plastics, Polishes, Refractory, Rubber, Catalysts, Cement and Concrete, Photography, Fire extinguishing, Electrolytic Capacitors, Leather and Skins, Pharmaceuticals, Cosmetics, Buffers in the manufacture of dyestuffs, Dying of nylon carpets, Absorbent to neutrons, Control of nuclear reactions