



NATIONAL FIBER
CEL-PAK INSULATION

Professional Cellulose for Cellulose Professionals

What are Borates?

National Fiber uses borate as the fire retardant in its Cel-Pak and Nu-Wool cellulose insulations. Both products are approximately 16% borate, by weight, the balance being clean, recycled paper that has been fiberized. So what are borates and where do they come from?

Borates are naturally occurring minerals formed from rocks and minerals containing Boron. Seawater also has naturally high levels of borates. Borates are mined around the world, with the largest mine located in the US near the town of Boron, California, in the Northwest Mojave Desert. More than 4 million tons were mined worldwide in 2007.

The primary use of borates is in impact and heat resistant borosilicate glass. They are also used to impart flame resistance to cellulose insulation, wood and cotton products, and furnishings. When heated, the borates melt into and protect the fibers by surrounding them with a protective glassy coating. Further heating of the borates causes decomposition, producing water as a byproduct.

Borates are commonly used in cosmetics, medically as an eye wash solution, as a water softener, and in many other products as a neutralizing or buffering agent. Borates are less toxic than table salt.

Due to their fungicidal properties, borates are used in many natural products, ranging from green lumber treatments and mildew resistant paints to coatings on organic fruit to prevent mold. Borates are also toxic to insects and are used widely in integrated pest management and control.

All of these properties make borates the natural choice for use in National Fiber's cellulose insulation, imparting significant benefits. Both our Cel-Pak and NuWool insulation are all borate additive products. For optimal performance, choose National Fiber's cellulose insulation for your next insulation project.

For further information, please contact our Technical Manager, Bill Hulstrunk, at technical@nationalfiber.com