



## Algin

Stock #675-1 (100 capsules)

Algin is a non-digestible dietary fiber found in brown seaweeds such as kelp. Algin has the unique quality of being able to absorb large quantities of water—it can swell to approximately 25 to 35 times its original bulk in an alkaline environment. In the intestines, algin exerts a bulk laxative action, binding to toxins to inhibit their absorption, then promoting their excretion by drawing these substances out of the body.<sup>1-5</sup>

Researchers classify algin as a high-molecular-weight polysaccharide (the major polysaccharide in brown seaweeds) and a hydrophilic colloidal substance (*hydrophilic*—readily absorbs moisture; *colloid*—microscopic particles suspended in some sort of liquid medium).<sup>4-6</sup>

Algin has been shown to protect against radioactive and heavy-metal contaminants by binding (or chelating) with these toxins in the gastrointestinal tract and forming an insoluble “gel-like” salt (*sodium alginate*) that is then excreted in the feces. Research conducted in the early 1970’s found that algin absorbs radioactive materials, including strontium-90, barium, cadmium, manganese, mercury, tin and zinc. Additional studies have determined that algin exhibits a high specificity for the binding of strontium in particular.<sup>5,7,8</sup>

Strontium-90 is especially dangerous because it has a great affinity for calcium and can accumulate in foods and food substances that have a high calcium content (i.e. milk, green leafy vegetables, etc.). Exposure to strontium-90 results in a rapid accumulation of the isotope in bone tissue, ultimately becoming concentrated in bones (bone marrow) and teeth, where it continues ejecting electrons that cause radiation injury—because strontium-90 is so highly radioactive, it interferes with the production of new blood cells and eventually causes death. Increasing evidence points to a correlation between strontium-90 and the development of bone, breast and prostate cancers, leukemia, multiple myelomas, various childhood malignancies, increased infant mortality, and even asthma.<sup>8-13</sup>

Readings of strontium-90 in the milk and vegetation from farms in Minnesota were reported in 1959 (after nuclear weapons testing was suspended in 1958); and as recently as June 1997, the Environmental Protection Agency confirmed groundwater contamination with strontium-90 near Brookhaven National Laboratory in New York. Furthermore, in June of 1999, average strontium-90 readings near salmon spawning beds along the Columbia River’s Hanford Reach were reported at an average of 70 picocuries per liter of ground water—“at 8 picocuries per liter, the risk of bone cancer increases for someone steadily drinking that water.”<sup>13-15</sup>

Fortunately, algin is especially efficient at absorbing and reducing retention of strontium-90. Algin prevents the uptake of strontium-90 by stripping the metal ions from the calcium molecule and then harmlessly eliminating them from the body in the urine and feces. In 1991, scientists at the Institute of Radiation Medicine in Beijing, China found that sodium alginate reduced the absorption of strontium in human subjects by 78% and completely suppressed increases of serum strontium. Researchers concluded that sodium alginate is a suitable antidote against radiostrontium absorption on a long-term basis. Similar results were also achieved in a study conducted at the University of Montreal.<sup>8,16-18</sup>

As a non-digestible source of fiber, algin increases fecal bulk and has been used effectively to treat constipation (without producing irritation or side effects). Algin may also help reduce cholesterol levels by inhibiting bile acid absorption. In addition, algin appears to stimulate T-cell production and function.<sup>1,8,19</sup>

### References:

- 1 Stansbury ND, J. “Cancer Prevention Diet.” *Nutrition Science News*; August 1999.
- 2 Fremerman, S. “Kelp.” *Natural Health*; 1999; 29(9): 42.
- 3 Fitzgerald, F. “Detoxify for better health.” *Nature’s Impact*; April/May, 1998.
- 4 Lee PhD, W. *Kelp, Dulse and Other Sea Supplements*. New Canaan, CT: Keats, 1983.
- 5 Newall, C., et. al. *Herbal Medicines*. London, England: The Pharmaceutical Press, 1996.
- 6 Fetrow PharmD, C. & Avila PharmD, J. *Professional’s Handbook of Complementary & Alternative Medicines*. Springhouse, PA: Springhouse Corp., 1999.
- 7 Pizzorno ND, J. & Murray ND, M. *Textbook of Natural Medicine, 2nd ed*. London, England: Churchill Livingstone, 1999.
- 8 Mowrey PhD, D. *The Scientific Validation of Herbal Medicine*. New Canaan, CT: Keats Publ., 1986.
- 9 “Strontium.” British Columbia Institute of Technology - Burnaby, B.C., Canada; <http://nobel.scas.bcit.bc.ca/resource/ptable/sr.htm>
- 10 “Strontium.” *Encyclopedia Britannica*. Chicago, IL: Britannica.com Inc., 2000.
- 11 Gould, J., et. al. “Strontium-90 in baby teeth as a factor in early childhood cancer.” *International Journal of Health Services*; 2000, 30(3): 515-539.

- 12 Gengo, L. "Mommy, what do I get for this?" *Westchester County Weekly*; October 19, 2000; <http://www.westchesterweekly.com>.
- 13 "Hanford officials dispute scientist's strontium report." *Hanford News*; June 28, 1999, <http://www.hanfordnews.com/1999/june44.html>.
- 14 Ovington, J.D. and Lawrence, D.B. "Strontium 90 in maize field, cattail marsh and oakwood ecosystems." *Journal of Applied Ecology*; 1964, 1: 175-181.
- 15 "June 11 Update on Groundwater Contamination Near Underground Collection Tank." *Brookhaven National Laboratory Media Update*; #97-58, June 11, 1997.
- 16 Slat, B., et. al. "Reduction in the absorption and retention of strontium in rats." *Health Physics*; 1971, 21(6): 811-814.
- 17 Gong, Y.F., et. al. "Suppression of radioactive strontium absorption by sodium alginate in animals and human subjects." *Biomedical and Environmental Science*; 1991, 4(3): 273-282.
- 18 Wood, R. "Vegetables from the sea." *Natural Health*; 2000, 30(7): 104.
- 19 Sandberg, A S, et al. "Alginate, small bowel sterol excretion, and absorption of nutrients in ileostomy subjects." *American Journal of Clinical Nutrition*; 1994, 60(5), 751-756.