

Sand Commonly Used in Bunkers Said to Cause Cancer

If you made the mistake of thinking federal regulations had gotten just about as bizarre as they can get, please read on. A federal classification could require golf courses to warn employees of the dangers of bunker sand.

Crystalline silica—the primary ingredient of sand, rocks, most of the earth's crust and dust in the air—is classified as a carcinogen.

Initially, that might not sound like such a big deal, until you consider that crystalline silica is known to cling to root vegetables and other foods, is widely used to filter most of the nation's drinking water supplies, and is played and frolicked in by millions each year on beaches and in backyard sandboxes. It also can be found in everyday products as common as pharmaceutical, bricks, paper, jewelry, putty, paint, plastic, household cleaners and a host of others.

That's right, one of the most predominant ingredients used to manufacture common household items could be killing us, according to several scientists, health organizations and the Occupational Safety and Health Administration (OSHA).

In fact, crystalline silica has been categorized as a carcinogen for several years, but has been held up lately by a growing number of critics as an example of how the regulatory process sometimes gets caught up in its own web. It has been revised as the result of a California law requiring warnings to be placed on crystalline silica containers, which has caused a mild panic in that state and beyond.

But before you build a plastic bubble for you and your family to live in for the rest of your lives, read on.

Critics are beginning to yell that the official lumping of beach sand in the same carcinogenic category as dioxin suggests that the regulatory system tends to cry wolf when it comes to cancer. Further, it illustrates broader concerns among scientists that the traditional method of massively dosing rats to assess cancer risk—combined with tripwires set to go off

at the slightest hint of carcinogenic potential—is fundamentally flawed.

Believe it or not, crystalline silica can boast a reputation dating back to the 1500s, when heavy dust exposure was determined to cause lung disease in miners. Regulations regarding dust exposure were put in place, the incidence of the disease dropped markedly, and little more thought was given to crystalline silica.

Until 1982. That was when a graduate student at the University of North Carolina made a splash by proposing that silica can cause cancer. The student cited research being conducted at the Los Alamos National Laboratory in New Mexico, where high doses of silica were repeatedly injected into the lungs of 36 rats, of which six developed tumors. This, the graduate student said, "struck me as quite powerful."

The then-graduate student went on to work for the Western Consortium for Public Health in Berkeley, Calif., which has formed alliances with similar organizations, such as the International Agency for Research on Cancer, an arm of the World Health Organization. Needless to say, the item snowballed until it reached its current status.

But more and more critics of the classification are becoming more vocal in their opposition to it and to the process that resulted in the classification.

The process gives no weight to studies indicating that substances do not cause cancer. The listing of silica as a probable human carcinogen was based chiefly on five rat studies. But at least five similar studies in hamsters and mice found no evidence of cancer.

Further, the researcher whose studies the NCU graduate student found to be "powerful" concluded as recently as 1990 that "there is a great deal of uncertainty" about the substances link with cancer and even decried "repeated overreaction to every positive experimental observation."

And it goes on. Researchers are forming a line to take their turn pointing out holes in the classification and the process that created it, most notably, the one used by OSHA.

In OSHA's defense it should be pointed out that the Labor Department requires just one study indicating a substance is carcinogenic to trigger cancer-warning rules. Because of this and the international health agency's classification of silica as a probable carcinogen, OSHA's hazard communication standard automatically was tripped. This means that companies must warn employees about workplace materials containing more than 0.1 percent of crystalline silica, which could include many golf course bunkers around the nation.

For more information, contact OSHA or GCSAA.

Cancer Classification Process Called Flawed

EPA should not assign cancer classification to or reach other safety conclusions about chemicals until they have passed through the final stage of risk assessment, say members of an industry group.

According to the group, cancer classification should fall under "risk characterization" considerations, not "hazard identification," as it currently does. In fact, a new classification system with a smaller number of better defined terms that focuses on likely effects in humans is needed, they said.

The group, The Society of Risk Analysis, made the remarks at a workshop recently held in cooperation with the federal and California Environmental Protection Agency. The workshop was held to consider ways to improve risk characterization and to use biological data in qualitative and quantitative risk assessments.