



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 pharmaceuticals, bricks, paper, jewelry, putty, paint, plastics, 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 revisited as the result of a California law requiring warnings to be placed on crystalline silica

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 trip wires set to go off at the slightest hint of carcinogenic potential -- is fundamentally flawed.

Crystalline silica can boast a reputation dating back to 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 student went on to work for the Western Consortium for Public Health in Berkeley, CA, 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

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## Sand: Are You Listing It As A Pesticide?

containers, which has caused a mild panic in the 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

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

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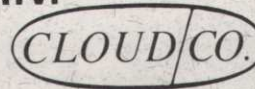
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Good putting quality demands dry, firm conditions. If properly struck golf shots are not holding the green, you may also need to take a look at your fairway management programs. Mowing heights above 3/4" in the fairways will tend to produce "flier" lies and reduce the ability to impart spin on the ball. If the height of cut is less than 3/4", the problem may be that the fairways are not mowed often enough.

Golfers have to take more responsibility for their golf game and quit blaming the green or the superintendent. Although putting green maintenance has an influence, it is unreasonable to expect the

superintendent to adjust the golf course to suit a particular person's style of play. The handicap system should equalize skill levels, and the superintendent should provide a well groomed course with consistent playing conditions as a test of golfing skill.

So, the next time someone asks "Why don't the greens hold?" you may need to remind them that they are *putting greens*, not *landing areas*.

Recently seen on an automobile bumper sticker on a bay area freeway:

*Are you  
an environmentalist  
or do you work  
for a living?*

**SAND**

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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 substance's 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, sandboxes, and our favorite beach resorts around the nation.

(From: GCSAA Government Relations Briefing, 4/93, via Agrichemical Notes, Penn State.)

Ref: Environmental Toxicology Newsletter, May 1994

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