



October 2005 e-Newsletter:

The Not So Splendid Splenda™ (Sucralose)

Most of this newsletter is directly quoted from: Weird Science: How Splenda Was Discovered, Date: 10/14/05 Author: Dr. Janet Starr Hull, Source: www.SplendaExposed.com

The dangers of Aspartame and Saccharine are both well known, but when it comes to the new and much adored Splenda™, most people don't know what they're consuming. We're told that it's derived from sugar, which is intended to make us feel more comfortable about eating it. Television ads are geared toward children in a fantasy-like setting, we're encouraged to bake with it as if it were real sugar, and more and more low-carb processed foods now contain sucralose.

The diet industry has given real sugar a bad name, and created a perceived "need" for artificial sweeteners, but putting anything into your body that is **not "real" food is never** a good thing! Nature designed us to consume real sugar. The problem is overdosing your pancreas with vast amounts of sugar, like too many of us do because of the cravings.

Even the manufacturers of Splenda™ have to admit that real sugar is safer for the body than any sweetener **created in a laboratory**. They state: "No artificial sweetener made in the laboratory is going to be neither natural to the body nor safer than unprocessed sugar," they state.(1)

Splenda marketers stress that sucralose is "made from sugar but is derived from this sugar through a process that selectively substitutes three atoms of chlorine for three hydrogen-oxygen groups on the sucrose molecule." Chlorine (a poisonous green gas) is a Halogen. Halogens are powerful elements that help dissolve one substance into another. Five closely related halogens change the sweetness of the sugar molecule, with chlorine being one of the most effective.

While the Splenda marketers pronouncement of how sucralose is derived is true, it is a **deceptive simplification**, implying that sucrose is a simple benign sugar substituted with chlorine, thereby, safe for consumption. According to research on the hydrolysis of sugars, **just the process of inserting chlorine into the sugar molecule (hydrolysis means breaking it into smaller molecules) ultimately allows these chemicals to penetrate the intestinal wall.**(2)Chlorine has to be chemically altered, to be very tightly bound so that it doesn't **break down inside the human body**. But if the **chlorine in sucralose breaks free before it is completely excreted from your body, doesn't it make the contents of sucralose a carcinogen because chlorine causes cancer in humans and other animals?**

Splenda™ (sucralose) is created using a complex process involving **dozens of chemicals you and I can barely pronounce (and certainly should never consume)**. Basically, the chemists force chlorine into an **unnatural chemical bond** with a sugar molecule, resulting in a sweeter product, but at a price: a **huge amount of artificial chemicals must be added to keep sucralose from digesting in our bodies**. To illustrate the alarming "**chemical soup**" required to create sucralose, here is the actual process for producing sucralose:According to the Splenda International Patent A23L001-236 and PEP Review #90-1-4 (July 1991), sucralose is synthesized by this five-step process:(3)

1. sucrose is tritylated with **trityl chloride** in the presence of **dimethylformamide** and **4-methylmorpholine** and the **tritylated** sucrose is then **acetylated** with **acetic anhydride**,
2. the resulting **TRISPA (6,1',6'-tri-O-trityl-penta-O-acetylsucrose)** is chlorinated with **hydrogen chloride** in the presence of **toluene**,
3. the resulting **4-PAS (sucrose 2,3,4,3',4'-pentaacetate)** is heated in the presence of **methyl isobutyl ketone and acetic acid**,
4. the resulting **6-PAS (sucrose 2,3,6,3',4'-pentaacetate)** is **chlorinated** with **thionyl chloride** in the presence of **toluene and benzyltriethylammoniumchloride**, and
5. the resulting **TOSPA (sucralose pentaacetate)** is treated with **methanol** (wood alcohol, a **poison**) in the presence of **sodium methoxide** to produce sucralose.

Splenda's chemical format: 1,6-dichloro-1, 6-dideoxy-BETA-D-fructofuranosyl-4-chloro-4-deoxy-alpha-D-galactopyranoside.(4) - ...and **they say** it's a perfectly benign sugar molecule.

There are more hidden chemicals in Splenda. Did you know if a product includes an ingredient that is a proven carcinogen but is **less than two percent of its total chemical make-up, it does not have to be listed as an ingredient, nor does it have to be tested for product safety or labeled as a carcinogen?** Just as an example, a food product could have 2.5 percent rat poison as a minor ingredient, but does not have to name the rat poison on the ingredient list. With the number of chemicals used in manufacturing food products today, the ingredient lists would be too long to fit on any of the labels, needless-to-say. The FDA states in their Final Report on Splenda™ that sucralose is “produced at an approximate purity of ninety-eight percent.” The other two percent does **not have to be reported to the FDA, nor listed as added ingredients**. So what's in the other two percent?(5)

• acetone • acetic acid • acetyl alcohol • acetic anhydride • ammonium chloride • benzene • chlorinated sulfates • ethyl alcohol • isobutyl ketones • formaldehyde • hydrogen chloride • lithium chloride • methanol • sodium methoxide • sulfonyl chloride • trityl chloride • toluene • thionyl chloride

Although manufacturing guidelines specify limits on these hidden substances, there are **no assurances these limits have been met since they do not have to be reported**. In addition, the **FDA does not presently require an Environmental Impact Statement for sucralose, so it's open season for the rules at present**.

Ingesting these **grossly mutated molecules** can create **tremendous stress** in the body. Many people complain of stomach cramping, bloating or diarrhea from using sucralose. More bladder infections, blood in the urine, kidney problems, and accompanying lower backache have appeared since both aspartame and sucralose came onto the market. If you suffer from any of these problems, try cutting all artificial sweeteners from your diet and see if you notice improvements.

NOTE: An individual's reaction to sucralose and other artificial sweeteners depends upon how much is used and how often, past and current health status, and the degree of other toxins present inside the body.

We forget the whole purpose of eating: human beings require food to grow, reproduce, and maintain good health. Foods are supposed to digest to provide fuel for survival. The human digestive system is amazing, and it will do anything to assimilate what you give it to support life. And you're trying to fool it when you feed it fake foods. It is unlikely sucralose can escape the arduous journey through your body without breaking down in some way. If your body is digesting properly, resistance is futile. In fact, research shows that artificial sweeteners create a fatty liver. The liver enzymes are elevated because the body is working so hard to digest something it doesn't understand.(6)

The FDA also states in their final report, "Because sucralose may hydrolyze in some food products...the resulting hydrolysis products may also be ingested by the consumer." They also report that there is some concern about tumor growth in certain studies with mice, and many of the other tests submitted have "inconclusive" results.

Toxicologist Judith Bellin reviewed studies on rats starved under experimental conditions, and concluded that their growth rate was reduced by as much as a third without the thymus losing a significant amount of weight (less than seven percent). The changes were much more obvious in rats fed sucralose. While the animals' growth rate was reduced by between seven and twenty percent, their thymus glands shrank by as much as **forty percent**.⁽⁷⁾ The absorbed levels of sucralose were found in laboratory studies to **concentrate in the liver, kidney, and gastrointestinal tract** of laboratory animals. Understanding how digestion works, now we know why.

Research animals fed sucralose exhibited the following symptoms:

- Unexplained death
- Shrunken thymus glands (up to forty percent shrinkage)
- Enlarged liver and kidneys
- Atrophy of lymph follicles in the spleen and thymus
- Reduced growth rate
- Decreased white blood cell count
- Hyperplasia of the pelvis
- Extension of the pregnancy period
- Aborted pregnancy• Decreased fetal body weight and placental weights
- Chronic diarrhea
- Maternal gastrointestinal disturbances

References:

1. Ibid.
2. Hydrolysis of sugars: the hydrolysis of sugar polymers by acid or enzymes converts
3. The Chemical Abstracts Service Registry number for sucralose: 56038-13-2.non-reducing polysaccharides to reducing oligo- andmonosaccharides. Biochemistry 2344 Lecture 11: Carbohydrates, March 29-April 2, 1999.
4. The Chemical Abstracts Service Registry number for sucralose: 56038-13-2.
5. Ibid.
6. Keith JN. Report 2.1460. Gastroenterology Section, AMB S401F (MC 4080): 188-1477. jnewton@medicine.bsd.uchicago.edu.7. Bellin J. New Scientist. pg 13. Nov 23, 1991.

Try this yummy low-carb custard recipe!

Vanilla Bavarian Cream Custard

INGREDIENTS

1/3 cup sugar
pinch of salt
1 packet gelatin
5 large egg yolks
3 cups heavy cream
1 1/2 half-and-half

PREPARATION

1. In a saucepan, stir together the sugar, salt, gelatin, and egg yolks, until well-blended. A wooden spoon works best.
2. Heat with medium heat until thickened (about 6-8 minutes) continually stirring.
3. Strain the mixture into a mixing bowl.
4. Whip the cream and fold it into the mixture.
5. Pour into six 7-8 oz. bowls and let sit until it reaches room temperature.
6. Cover and chill at least 4 hours for best flavor and texture. Top with whipped cream if desired.