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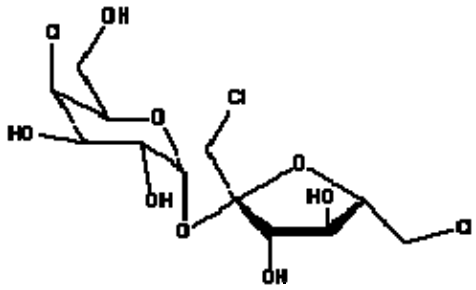
*Food Ingredients For Bakery, Confectionery, Beverages, Brewing and Meat Processing*

# Sucralose

**High-Intensity Sweetener ---Sucralose**

**What is Sucralose?**

Sucralose is the only non-caloric, high-intensity sweetener made from sugar, 600 times sweeter than sucrose. Sucralose has been approved for use in foods and beverages in more than 40 countries including Canada, Australia and China.




**Features:**

◆**Tastes Like Sugar**——Sucralose tastes very similar to sugar and has no unpleasant aftertaste.

◆**Can Help Control Caloric Intake**——Sucralose is not metabolized, thus it has no calories.

◆**Advantageous for People with Diabetes**—— Sucralose has no effect on glucose utilization, carbohydrate metabolism, and the secretion of insulin, or glucose and fructose absorption.

◆**Does Not Promote Tooth Decay**—— Sucralose does not support the growth of oral bacteria and does not promote tooth decay.

◆**Extraordinary Heat Stability**—— Sucralose is exceptionally heat stable, making it ideal for use in baking, canning, pasteurization, aseptic processing and other manufacturing processes that require high temperatures.

◆**Long Shelf Life**—— Sucralose is particularly stable in acidic products, such as carbonated soft drinks, and in other liquid based products (e.g., sauces, jelly, milk products, processed fruit drinks). Sucralose is also very stable in dry applications such as powdered beverages, instant desserts, and tabletop sweeteners.

**Typical Specification:**

| ITEMS | SPECIFICATIONS FCC VI USP32/NF26/E955(2008/60/EC) |
|---|---|
| Appearance | White crystalline powder |
| Assay | 98.0～102.0% |
| Identification A(IR) | Infrared spectra of standard and sample should meet each other |
| Identification B (Retention time of HPLC) | The difference of retention time sucralose peak from sample and standard within 2%. |
| Identification C (By TLC) | The RF value of the major spot in then thin-layer chromatogram of the sample solution is the same as that of the standard solution obtained in the test for related substances (below) |
| Water | 2.0%Max |
| PH (10% aqueous solution) | 5.0-7.0 |
| Residue on ignition | 0.7% Max |
| Methanol | 0.1% Max |
| Heavy Metals(as Pb) | 10PPM Max |
| Lead | 1PPM Max |
| Arsenic (As) | 3PPM Max |
| Specific Rotation $[a]_D^{20}$ | +84.0°～ +87.5° |
| Triphenylphosphine oxide | 150PPM Max |
| Hydrolysis products | 0.1% Max |
| Related Substances | 0.5% Max |
| Total Aerobic Count | 250cfu/g Max |
| Yeasts & Moulds | 50cfu/g Max |
| Coliform | 10cfu/g Max |
| E.Coli | 10cfu/g Max |

| | |
|---|---|
| S.aureus | 10cfu/g Max |
| Salmonella | Absent in 25g |

**Applications:**

Sucralose has been approved by FDA for use in baked goods, baking mixes, non-alcoholic beverages, chewing gum, coffee and tea products, confections and frostings, fats and oils, frozen dairy desserts and mixes, fruit and water ices, gelatins, puddings and fillings, jams and jellies, milk products, proceed fruits and fruit juices, sugar substitutes, sweet sauces, toppings and syrups。It can also be as a "table-top sweetener" -added directly to foods by consumers.

# More about Sucralose

**1. What is sucralose?**

Sucralose is the non calorie High Intense Sweetener (HIS) made on sugar, so it tastes like sugar. It is about 600 times sweeter than sugar and can be used in place of sugar to eliminate or reduce calories in a wide variety of products, including beverages, baked goods, desserts, dairy products, canned fruits, syrups and condiments. Sucralose was discovered in 1976. More than 100 scientific studies conducted over a 20-year period have conclusively demonstrated that sucralose is safe for consumption. In 1990, the Joint FAO/WHO Expert Committee on Food Additives (JECFA) was the first regulatory body to endorse the safety of sucralose. In 1991, Canada's Health Protection Branch became the first national regulatory agency to endorse sucralose safety and permit its use in foods and beverages. In 1998, the United States Food and Drug Administration (FDA) approved the use of sucralose in 15 food and beverage categories -- the broadest initial approval ever given to a food additive. Then, in August 1999, the FDA extended the approval by permitting sucralose use as a general-purpose sweetener in all foods, beverages, dietary supplements and medical foods. In January 2004, the European Union amended its Sweeteners Directive to permit the use of sucralose in a broad range of food and beverage products. Sucralose is now permitted for use in over100 countries and has been consumed by millions of people worldwide.

**2. What's the advantages of Sucralose**

- Only High Intensity Sweetener (HIS) made from sugar
- Closest sweetness profile to sugar of any HIS
- On average 600 times sweeter than sugar by weigh
- Very soluble and easy to handle
- Extremely stable
- Non Calories or Carbohydrates
- Does Not Cause Tooth Decay
- No Effect on Short or Long-Term Blood Glucose Control
- No Effect on Carbohydrate Metabolism
- No Effect on Male or Female Reproduction
- Non-Toxic

- No Known Side Effects
- Friendly ingredient declaration- no additional warning statements

**3. What's the difference from other HIS?**

| | Sweetness Level | Aftertaste | Carcinogen | Temperature Stability | Shelf-Life |
|---|---|---|---|---|---|
| Sucralose | 600 X | None | No | Yes | Great |
| Aspartame | 180 X | Metallic | Under investigation | No | Poor |
| Saccharin | 500 X | Bitter | No>Yes>No | Yes | Good |
| Acesulfame Potassium | 200 X | Bitter | No | Yes | Good |

**4. Products sweetened with sucralose provide good-tasting, lower-calorie alternatives How much sucralose may people safely consume?**

People may consume a vari sucralose-sweetened food and beverage products on a daily basis without concern that they are exceeding a safe intake leve When evaluating the safety of new food ingredients like sucralose, health authorities compare an estimate of the ingredient's maximum daily intake with the highest daily consumption level consumed in preclinical and clinical studies that was shown to be without harmful effects. Ideally, the intake estimate will be substantially less than the actual consumption levels shown to be without adverse effect in the preclinical and clinical studies. Studies in animals consuming large doses of sucralose on a daily basis over a lifetime and studies in humans who consumed high levels of sucralose for up to six months have shown no harmful effects. The consumption levels in these studies were well in excess of the estimates of maximum potential exposure to sucralose from foods and beverages.

**5. Can people with diabetes use sucralose?**

Yes. Clinical studies have shown that sucralose can be safely consumed by people with diabetes. Sucralose is not recognized by the body as sugar or as a carbohydrate. It is not metabolized by the body for energy and does not affect blood glucose levels. Sucralose has no effect on blood glucose utilization, carbohydrate metabolism or insulin production. Products sweetened with sucralose provide good-tasting, lower-calorie alternatives for people with diabetes who are interested in reducing their caloric or sugar intake. As with any nutritional concerns, people with diabetes should consult their doctor or diabetes healthcare professional for advice on an individualized dietary plan.

**6. Can pregnant and breastfeeding women consume sucralose?**

Yes. Sucralose can be used by everyone, including pregnant women and breastfeeding mothers. Although sucralose may be used as part of a healthy pre- and post-natal diet, women who are pregnant or breastfeeding should talk to their doctor or nutritionist about foods to eat to support their health, and their baby's health.

**7. Is sucralose safe for children?**

Yes. Sucralose may be safely used by everyone, including children. Sucralose can be a great addition to healthful meal plans designed for children's needs.

**8. What is the role of sucralose in a healthful diet?**

Sucralose may be used as part of a healthy diet that includes a variety of nutritious foods in moderate portions. Because sucralose tastes like sugar, has no calories and is ideal for cooking and baking, it helps meet consumer demand for good-tasting foods and beverages without the calories of sugar.

**9. The end product?**

Types of Products that Contain Sucralose makes a wide variety of calorie-reduced products possible, including soft drinks, ice cream, dairy products and baked goods. One of the unique attributes of sucralose is that it can be used almost anywhere sugar is used. It does not lose its sugar-like sweetness even in applications that require heat or that are subjected to long shelf-storage. Thus, products made with sucralose maintain their sweetness during cooking, baking, and throughout their shelf-life. In the United States, the FDA has granted approval for the use of sucralose as a general purpose sweetener, which covers all conventional foods and beverages, dietary supplements, and medical foods. In fact, sucralose is the sweetening ingredient in over 3,500 products worldwide, and may be used across a broad range of major categories including:

- Baked goods and baking mixes
- Beverages, alcoholic
- Beverages and beverage mixes
- Breakfast cereals
- Cheeses
- Chewing gum
- Coffee and tea
- Condiments and relishes
- Confections and frostings
- Dairy product substitutes
- Fats and oils
- Frozen dairy desserts and mixes
- Fruit and water ices
- Gelatins, puddings, and fillings
- Gravies and sauces
- Hard candy and cough drops
- Herbs, seeds, spices, seasonings, blends, extracts, and flavorings
- Jams and jellies
- Meat products
- Milk products
- Processed fruits and fruit juices
- Processed vegetables and vegetable juices
- Snack foods
- Soft candy
- Soups and soup mixes
- Sugar substitutes
- Sweet sauces, toppings, and syrups
- Nutritional products & dietary supplements
- Pharmaceuticals

**10. What is sucralose made of?**

Sucralose is derived from sugar through a patented, multi-step process that selectively substitutes thr atoms for three hydrogen-oxygen groups on the sugar molecule.The tightly bound chlorine atoms create a molecular structure that is exceptionally stable.

**11. Which regulatory bodies reviewed the safety profile of sucralose?**

Among the regulatory bodies that have evaluated the safety of sucralose are the U.S. FDA, the Joint FAO/WHO Expert Committee on Food Additives (JECFA); the Health Protection Branch of Health and Welfare Canada; Food Standards Australia /New Zealand, the European Union’s Scientific Committee

on Food, and a host of others in South America and Asia. Sucralose is now permitted for use in over 60 countries.

**12. Do products sweetened with sucralose carry any warning labels or information statements?**

No. None of the regulatory agencies and scientific review bodies that have confirmed the safety of sucralose require any warning information to be placed on the labels of products sweetened with sucralose.

**13. Does sucralose provide calories?**

Sucralose is non-caloric and, thus, adds no calories to the foods and beverages it is used to sweeten. Products made with

sucralose may contain calories from other nutritive ingredients that provide carbohydrates, protein and fat.

**14. How is sucralose handled by the body?**

Although sucralose is made from a process that starts with sugar, it is not a sugar nor does the body recognize it as a carbohydrate. Sucralose is not broken down for energy in the body so it has no calories. The sucralose molecule passes through the body unchanged, is not metabolized, and is eliminated after consumption.

**15. Is the chlorine in sucralose potentially harmful?**

No. Chlorine in the form of chloride is a safe and natural element present in many of the foods and beverages that we eat and drink every day. It is in most natural water supplies, and is also found in lettuce, tomatoes, mushrooms, melons, peanut butter and table salt. In the case of sucralose, the addition of chlorine to the sucralose molecule is what makes sucralose free of calories. Sucralose is an essentially inert molecule and it passes through the body without being broken down for calories