Tate & Lyle Liquid Sucralose Quality Packet

TATE & LYLE
2200 East Eldorado Street
Decatur, IL 62525
USA
Tel +1 217 423 4411
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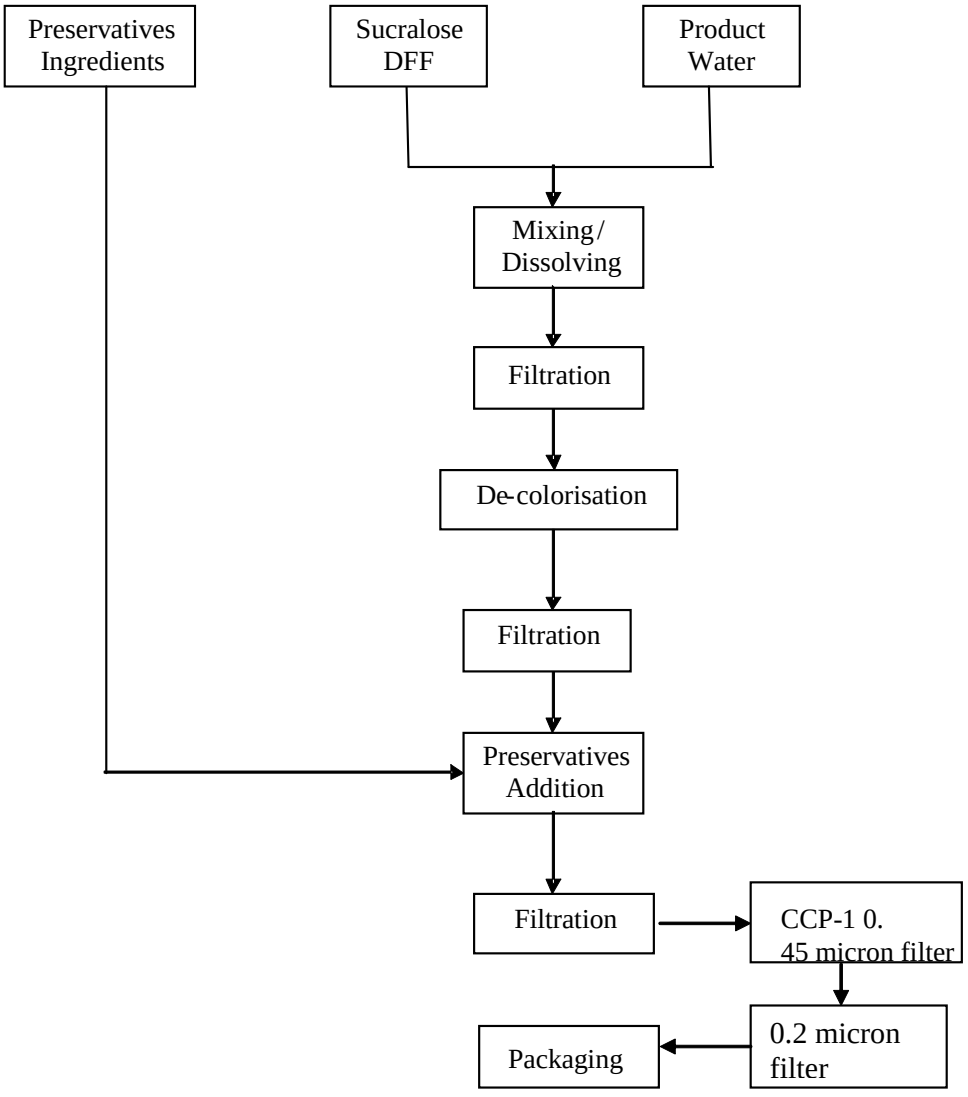
SPLENDA® Sucralose Liquid Concentrate HACCP Flow Chart



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MATERIAL SAFETY DATA SHEET

Tate & Lyle Sucralose, Inc.
2200 East Eldorado Street
Decatur Illinois 62525

PRODUCT NAME: SPLENDA® Brand Sucralose, Liquid Concentrate

SYNONYMS: Sucralose Liquid Concentrate

CAS NUMBER: Sucralose and water 56038-13-2

SECTION 1 - CHEMICAL IDENTIFICATION

COMPANY: Tate & Lyle Sucralose, Inc.
2200 East Eldorado Street Decatur
Illinois 62525 217 423 4411

CHEMICAL NAME: 1,6-DICHLORO-1,6-DIDEOXY-ß-D-FRUCTOFURANOSYL-4-CHLORO-4-DEOXY-α-D-GALACTOPYRANOSIDE

CHEMICAL FAMILY: Chlorinated Carbohydrate

SECTION 2 – HAZARDOUS CHEMICAL COMPONENTS

No components are listed as hazardous materials and/or are present in quantities as defined in OSHA 29CFR 1910.1200
Material is a 25% aqueous solution of a high intensity sweetener (food additive).

SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
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Potential Health Effects No effects expected

Primary Route(s) of Entry Inhalation/Ingestion

Eyes No effects expected

Skin No effects expected

Ingestion Material is an intensely sweet, liquid solution.

Inhalation No effect expected

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SECTION 4 – FIRST AID MEASURES

No treatment necessary under ordinary circumstances. Use good personal hygiene - wash thoroughly after handling. If redness or irritation develops, contact a physician.

Eyes No special treatment under normal circumstances – flush with water

Skin No special treatment under normal circumstances

Ingestion No special treatment under normal circumstances

Inhalation No special treatment under normal circumstances

Note to Physician
SPLENDA® Brand sucralose is safe for human consumption, based on extensive toxicological studies. Material is a 25% aqueous solution of a high intensity sweetener (food additive).

SECTION 5 - FIRE FIGHTING AND EXPLOSION DATA

Firefighting Measures.
Stable under normal conditions

Flammable Properties Non-flammable; aqueous solution.

Fire and Explosion Hazards In the liquid form the product will not burn.

Extinguishing Media Use any media which is suitable for the surrounding fire

Firefighting Instructions Wear self-contained breathing apparatus and full protective gear

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SECTION 6 – ACCIDENTAL RELEASE MEASURES

No special clean-up procedure is necessary.

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SECTION 7 – HANDLING AND STORAGE

Avoid temperature extremes such as below 2 °C (35 °F) and above 38 °C100 (°F) for extended periods of time. Store in its original container.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	Normal good engineering practices.
Eye/Face Protection	Use good industrial hygiene practices.
Skin Protection	Use good industrial hygiene practices.
Respiratory Protection	No special respiratory protection is required under normal circumstances.
Other/General Protection	Use good industrial hygiene practices.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear solution
Odor	Slight characteristic odor.
Odor Threshold	N/A

Basic Physical Properties

Boiling Point:	103°C (217°F)
Freezing Point:	2 °C (36 °F)
Vapor Pressure:	24.0 mm Hg
Specific Gravity:	1.12 g/ml
pH:	4 - 5

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SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid; (Stability)	None
Incompatible Materials:	None
Hazardous Decomposition:	None
Conditions to Avoid (Polymerization)	None
Hazardous Polymerization:	None

SECTION 11- TOXICOLOGICAL INFORMATION

Acute Studies Sucralose is a non-toxic food additive. Oral rat LD_{50} > 10 g/kg; Oral mouse LD_{50} > 16 g/kg (no mortality at the highest tested doses).

SECTION 12 – ECOLOGICAL INFORMATION

Sucralose is biodegradable and poses no risk to the environment. Sucralose and its breakdown products are non-toxic to plant and animal life, are not fat-soluble, and do not accumulate in plant or animal tissue.

SECTION 13 – DISPOSAL CONSIDERATIONS

No special disposal considerations.
Dispose in accordance with federal, state and local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Transport Information No special considerations

Proper Shipping Name & Information:

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Decatur Illinois 62525

Hazard Class:	
Subsidiary Hazard Class:	
DOT Identification Number:	
DOT Shipping Label:	Non-hazardous.
Packaging Exemptions:	
Packaging Requirements:	
Freight Classification:	

SECTION 15 – REGULATORY INFORMATION

US Federal Regulatory Information No components are listed as hazardous materials and/or are present in quantities as defined in OSHA 29CFR 1910.1200

SECTION 16 – OTHER INFORMATION

Although reasonable care has been taken in the preparation of this document, Tate and Lyle Sucralose, Inc. extends no warranties and makes no representations as to the accuracy or completeness of the information contained therein, and assumes no responsibility regarding the suitability of this information for the users intended purposes, or for the consequences of its use. Users should make a determination as to the suitability of the information for their particular purpose(s).

Customer Specification

Subject: SPLENDA® Sucralose – Liquid Concentrate **Document No:** *770301.3*

Product(s): Sucralose – Liquid **Master Category #:** N/A
Record Series #: 1840
Review Frequency: 3 Years

1. DESCRIPTION:

SPLENDA® Sucralose Liquid Concentrate is an intensely sweet, clear, colorless, solution made using crystalline powder FCC grade sucralose, buffered to pH 4.4 (sodium citrate/citric acid), and preserved with sodium benzoate and potassium sorbate.

2. PROPERTIES, REQUIREMENTS AND TEST METHODS:

2.1	Appearance	Clear liquid	TM 1012
2.2	Sucralose Concentration	24.5-25.5%	TM1030
2.3	Organoleptic	Passes test	TM 1017
2.4	pH	4.20 - 4.60	TM 1353
2.5	Potassium Sorbate	0.10 – 0.12 %	TM 1019
2.6	Sodium Benzoate	0.10 – 0.12 %	TM 1019

3. MICROBIOLOGICAL REQUIREMENTS:

3.1	Aerobic plate count	< 100 /1ml	TM 1498
3.2	Total Yeast & Mold	< 50 /1ml	TM 1499
3.3	Coliforms	Negative to test (< 10/ml)	TM 1504
3.4	*E. coli*	Negative to test (< 10/ml)	TM 1504
3.5	*S. aureus*	Negative to test (< 10/ml)	TM 1501
3.6	*Salmonella*	Negative to test (Absent in 25ml)	TM1502

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4. CERTIFICATIONS:

4.1 Kosher for Passover
SPLENDA® Sucralose Liquid Concentrate is certified as Kosher Parve and Kosher for Passover by the Union of Orthodox Jewish Congregations of America (UOJCA) and bears this organization's circle U symbol followed by the phrase "Parve and Passover".

4.2 Halal
SPLENDA® Sucralose Liquid Concentrate is certified as Halal by the Islamic Food and Nutrition Council of America (IFANCA) and bears this organization's crescent M symbol followed by the word "Halal" in English and Arabic.

4.3 Genetically Modified Organisms:
SPLENDA® Sucralose Liquid Concentrate is not produced from ingredients or processing aids derived by genetic modification. SPLENDA® Sucralose doesn't contain genetically modified organisms and labeling is not required under EC regulations 1829/2003 and 1830/2003.

4.4 BSE:
No animal derived ingredients are used in the production of SPLENDA® Sucralose. There are no animal derived ingredients used in the facility where SPLENDA® Sucralose is produced.

4.5 Allergens:
SPLENDA® Sucralose does not contain any commonly known sources of allergenic responses. Labeling is not required under FDA Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) or under the EU Directive 2007/68/EC.

4.6 Bioterrorism Regulation Facility Registration:
SPLENDA® Sucralose production facilities are registered with the U.S. FDA in accordance with the requirements of the "Security and Bioterrorism Preparedness and Response Act of 2002".

4.7 Food Labeling Regulations:
Because of the very low buffer and preservative use levels and the dilution factor associated with the concentrate's use, only *de minimis* buffer and preservative levels will be present in the finished food or beverage product. At these incidental levels (ppb range) the buffers and preservatives have no technical effect in the finished food or beverage product. As such, U.S. FDA food labeling regulations do not require them to be listed in the finished products' ingredient listing [21 CFR §101.100(c)].

5. PACKAGING, HANDLING, STORAGE AND MARKING:

Customer Specification

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Product(s): Sucralose – Liquid **Master Category #:** N/A
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5.1 Packaging
The product is packaged in an appropriate container.

5.2 Handling
After each use and before storing unused product, wipe off any liquid from the threaded area with a clean cloth and re-close container tightly.

5.3 Storage
SPLENDA® Sucralose liquid concentrate must be stored away from odoriferous materials in a cool dry place. Storage temperature extremes such as below 35° F (2° C) and above 100° F (38°C) should be avoided for extended periods of time. The product should be stored in the original container, and kept tightly closed.

5.4 Markings
Markings shall include product name, lot number, date of manufacture, best used by date, material number, ingredients, net weight, Kosher and Halal Certification, manufacturer information, and will specify usage information.

6. TEST REPORTING & REQUIREMENTS:

6.1 A Certificate of Analysis (COA) will be provided with each shipment.

6.2 Properties and requirements in sections 2.1 – 2.6 and 3.1 – 3.6 will be analyzed for each lot produced.

6.3 If in-house customer testing is required upon receipt, it is recommended that this product be tested for compliance of assay and pH upon receipt. These tests will provide the most information about the product without performing the entire battery of tests listed in section 2.

7. SHELF LIFE:

It is recommended that SPLENDA® Sucralose Liquid Concentrate be used within 5 years of the date of manufacture when stored under the conditions listed in Section 5.3.

8. RECOMMENDED USAGE CONDITIONS:

Customer Specification

Subject: SPLENDA® Sucralose – Liquid Concentrate **Document No:** *770301.3*

Product(s): Sucralose – Liquid **Master Category #:** N/A
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Buyer shall not use the Product in any application in which the pH of any product or manufactured good containing the Product is greater than 7.0, excluding applications of baked goods, in which Buyer shall not use the Product in any application in which the pH of any product or manufactured good containing the Product is greater than 8.0.

9. SAFETY PRECAUTIONS:

Consult appropriate MSDS and other relevant resources for personal protective equipment and other precautions.

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Product(s): Sucralose – Liquid

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Product(s): Sucralose – Liquid

Master Category #: N/A
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TATE & LYLE

CONSISTENTLY FIRST IN RENEWABLE INGREDIENTS

TATE & LYLE
2200 East Eldorado Street
Decatur, IL 62525
USA
Tel +1 217 423 4411
Fax +1 217 421 2216

October 21, 2011

To Whom It May Concern:

Thank you for inquiry concerning Tate & Lyle SPLENDA ® Sucralose Liquid Concentrate.
Country of origin can be determined by looking at the first and last letter (10th digit) of the Lot number. For product with lot numbers ending with "M", the country of origin is the USA. For product with lot numbers ending with "X" or lot numbers beginning with "X", the country of origin is Singapore.

Examples:

ML_ _ _ _ _ _ _ M	Origin USA
ML_ _ _ _ _ _ _ X	Origin Singapore
XL_ _ _ _ _ _ _ _	Origin Singapore

Please let me know if you have any questions or require any additional information.

Sincerely,

Larry L. Horath
Customer Service

TATE & LYLE

TATE & LYLE SUCRALOSE, INC.

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Nutritional Statement
Splenda ® Sucralose Liquid Concentrate

INGREDIENTS	% COMPOSITION
Distilled Water	74.25 %
Sucralose	25 %
Citric Acid, Anhydrous	0.27 %
Sodium Citrate Dihydrate	0.26 %
Potassium Sorbate (sorbic acid–potassium)	0.11 %
Sodium Benzoate	0.11 %

NUTRITION INFORMATION

	Value per 100 g		Value per 100g		Value per 100 g
Calories (Energy)	0	Monounsaturated	0	Calcium (mg)	0
Protein (g)	0	Polyunsaturated Fat	0	Iron (mg)	0
Total Carbohydrate	0	Cholesterol (mg)	0	Phosphorus (mg)	0
Total Dietary Fiber (g)	0	Moisture (g)	75	Potassium (mg)	30
Sugars (g)	0	Ash (g)	0	Sodium (mg)	80
Total Fat (g)	0	Total Vital Vitamin A	0	*Balance of Product (≈24.97 g) is sucralose*	
Saturated Fat (g)	0	Vitamin C (mg)	0		

Additional Nutrient Information

Nutrient	Value per 100 g	Nutrient	Value per 100 g	Nutrients	Value per 100 g	Nutrients	Value per 100 g
Soluble Fiber (g)	0	Vitamin B6 (mg)	0	Chloride (mg)	0	Selenium (mcg)	0
Insoluble Fiber (g)	0	Vitamin B12 (mcg)	0	Chromium (mcg)	0	Zinc (mg)	0
Other Carbohydrate (g)	0	Biotin (mg)	0	Copper (mg)	0	Caffeine (mg)	0
Trans Fatty Acids (g)	0	Vitamin D (IU)	0	Fluoride (mg)	0	Sugar Alcohol (g)	0
Beta Carotene (mg)	0	Vitamin E (IU)	0	Iodine (mcg)	0	Mannitol (g)	0
Thiamin (mg)	0	Folate (mcg)	0	Magnesium (mg)	0	Sorbitol (g)	0
Riboflavin (mg)	0	Vitamin K (mcg)	0	Manganese (mg)	<0.2	Xylitol (g)	0
Niacin (mg)	0	Pantothenic Acid (mg)	0	Molybdenum (mcg)	0	Other (g)	0

Reviewed 7/12/2004

Customer Test Method

Subject: ASSAY OF SUCRALOSE IN SOLUTION BY REFRACTOMETRY **Document No:** CTM 1030.5

Product(s): Sucralose - Liquid

1. METHOD DESCRIPTION:

This method uses the refractive index of an unknown sample to calculate the percent solids of that sample. Results are based on a standard for the refractive index of water and sucrose.

2. SAFETY:

Consult appropriate MSDS and other relevant resources for personal protective equipment and other precautions.

3. EQUIPMENT:

3.1. 0.45 micron syringe filters

3.2. 3 cc disposable syringes

3.3. Leica AR600 Automatic Refractometer with automatic temperature compensation, or equivalent.

3.4. Refrigerated circulator water bath

4. REAGENTS AND TEST MATERIALS:

4.1. Deionized water

4.2. Sample material

4.3. Methanol

5. PROCEDURE:

5.1. Instrument Preparation

5.1.1. Verify that the refractometer calibration is current.

5.1.2. Verify that the temperature of the refractometer sample well is 20+/- 1°C.

Customer Test Method

Subject: ASSAY OF SUCRALOSE IN SOLUTION BY REFRACTOMETRY **Document No:** CTM 1030.5

Product(s): Sucralose - Liquid

5.1.3. Clean the prism of the refractometer with unipure water, soapy water, or methanol; and wipe dry with a kimwipe, or other soft lint-free cloth. Rinse with unipure water and wipe dry again. Avoid wiping the prism after it is dry.

5.1.4. Calibrate the refractometer, if needed. Refer to the Leica AR600 Automatic Refractometer Instruction Manual for calibration instructions. (Note: the refractive index (nD) of deionized water should be 1.33299 +/-0.00002 at 20°C)

5.1.5. Press the “Mode” key on the instrument keypad to choose the correct measurement setting. For Sucralose Liquid Concentrate, the proper setting is %Solids-TC.

5.1.6. Use deionized water to perform a calibration check.

5.2. Sample Assay

5.2.1. Filter the sample through a 0.45µ syringe tip filter. Expel the first mL of sample that passes through the filter to waste.

5.2.2. Transfer a few drops of filtered sample solution onto the prism surface, using just enough to cover the prism and about 2mm up the walls of the sample well.

5.2.3. Close sample well cover and press the “READ” key on the instrument keypad. To allow for temperature equilibration, the instrument will delay the sample reading for two minutes before displaying the results. To change modes, press the “Mode” key on the keypad until the correct mode is displayed.

5.2.4. Clean the sample measurement area immediately after the reading is obtained.

6. CALCULATIONS:

6.1. Percent w/w sucralose is calculated as follows:

% w/w Sucralose = °Brix – **X**

Where **X** is % w/w of all total soluble solids in solution other than sucralose. In the case of sucralose liquid concentrate, **X** is equal to 0.7.

6.2. When combinations of soluble solids are used, the effect of interactions on the °Brix must be empirically determined using a blank (no sucralose) solution.