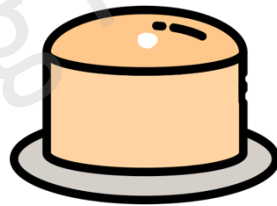


PRODUCT(S): Sponge Cake		PAGE 1 of 20
FACILITY NAME: K.C Cake Company	ISSUE DATE	08/09/2023
ADDRESS: 5678 Fictitious Street, Foodville, CA	SUPERSEDES	10/02/2022

# HACCP Plan for Sponge Cake with Cream Filling



Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

## HACCP Training Model

The information presented in this example serves solely as a training resource and does not depict any specific operation. To accommodate class exercises, numerous processing steps may have been excluded or consolidated, therefore, **this plan is not complete**. The conditions and specifications utilized in this example are for demonstration purposes only and might not reflect real process conditions.

<b>PRODUCT(S):</b> Sponge Cake	<b>PAGE 2 of 20</b>	
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022

## Table of contents

Company Overview and HACCP Team.....	3
Product Description, Distribution, Intended Use and Consumers.....	4
List of Product Ingredients and Incoming materials.....	5
Process Flow Diagram.....	6
Process Descriptions.....	7
Plant Schematic.....	9
Hazard Identification: Biological Hazards.....	10
Hazard Identification: Chemical Hazards.....	11
Hazard Identification: Physical Hazards.....	12
Hazard Analysis and CCP Determination.....	13
Hazards Not Controlled by the Establishment.....	19
CCP Management Table.....	20

<b>PRODUCT(S):</b> Sponge Cake	<b>PAGE 3 of 20</b>	
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022

## Company overview

K.C Cakes Company ~ 200 employees produces bakery products, including muffins, fruit cakes, Swiss rolls, and sponge cakes. This HACCP Plan covers sponge cakes made at the facility. Other bakery items produced at the facility have separate HACCP Plans.

Sponge Cakes are manufactured 4 days a week during a single 10-hour production shift, followed by a 2-hour period dedicated to sanitation. Dry cleaning is used in production areas, with select small pieces of equipment being cleaned in a separate wet washing room. Lines and equipment are wet cleaned and sanitized and completely dried prior to start of production. The warehouse and loading areas are dry cleaned. Ingredient measurement areas and production areas rooms are maintained dry during production. Thorough cleaning and sanitization of all processing equipment adhere to a comprehensive master sanitation schedule. Wheat, milk, and eggs are used in all cake products. The facility obtains water from a nearby municipal source, ensuring that it is treated and tested according to federal standards. To prevent contamination from environmental pathogens from contaminating finished product, the facility implements hygienic zoning practices. Employees assigned to high hygiene areas are required to wear color-coded smocks and specific footwear. These workers receive training on correct hand washing techniques, the appropriate use of gloves, and the significance of maintaining distinct hygiene zones. The facility also implements GMPs and operational prerequisite programs for their egg-breaking machine and weighing scale.

<b>HACCP TEAM</b>		
<b>Name</b>	<b>Position</b>	<b>Applicable Training</b>
*Mary Johnson	Quality Assurance	HACCP certification, Food science, quality assurance
David Lee	Production Supervisor	Food manufacturing, HACCP
Sarah Chen	Sanitation Supervisor	Sanitation, food safety
Robert Brown	Maintenance Technician	Equipment maintenance, HACCP
Amanda Davis	Purchasing Manager	Supply chain management, HACCP
Michael White	Sales Manager	Food marketing, customer relations
Olivia Green	Regulatory Compliance	Food law, regulatory compliance
Approved by: <i>Mary Johnson</i> Date: 07/07/23		*HACCP Team Leader

<b>PRODUCT(S):</b> Sponge Cake	<b>PAGE 4 of 20</b>	
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022

<b>Product Description, Distribution, Intended Use and Consumers</b>		<b>Form 1</b>
<b>Product Name(s)</b>	Sponge Cake	
<b>Product Description</b>	Ready-To-Eat (RTE) sponge cake with cream filling	
<b>Ingredients</b>	<p>Loaf: wheat flour, sugar, eggs, canola oil, glycerol, corn starch, skim milk powder, baking powder, sodium propionate, potassium sorbate, vanilla powder</p> <p>Cream filling: heavy cream, sugar, corn starch, skim milk powder, vanilla powder, lemon powder</p> <p>Allergens: Wheat, eggs, milk</p>	
<b>Important Product Characteristics</b>	<p>Water activity (<math>a_w</math>): 0.80 – 0.82</p> <p>pH: 5.5</p> <p>Preservatives: sodium propionate (&lt; 2000 ppm), potassium sorbate (&lt; 1000 ppm)</p>	
<b>Intended Use</b>	<p>The product is considered Ready-To-Eat (RTE). End users may add toppings. Sold for retail.</p> <p>Potential abuse: Cakes are stored at incorrect temperatures, such as at room temperature for an extended period or in a warm environment.</p>	
<b>Intended Consumers</b>	Sold in grocery stores intended for the general population. Gluten-sensitive groups avoid eating.	
<b>Packaging</b>	Product is placed on a plastic sheet in a paperboard box. Paperboard boxes are then placed in corrugated cartons.	
<b>Shelf Life</b>	7 days	
<b>Labeling Instructions</b>	<p>Keep refrigerated. Keep away from moisture and heat sources.</p> <p>Expiration date (consume within 5 days after opening)</p> <p>Best Before Date</p>	
<b>Storage and Distribution</b>	Final storage and transportation should be at refrigeration temperatures (4°C/40°F).	
<p>Approved by: <i>Mary Johnson</i></p> <p>Date: 07/07/23</p>		

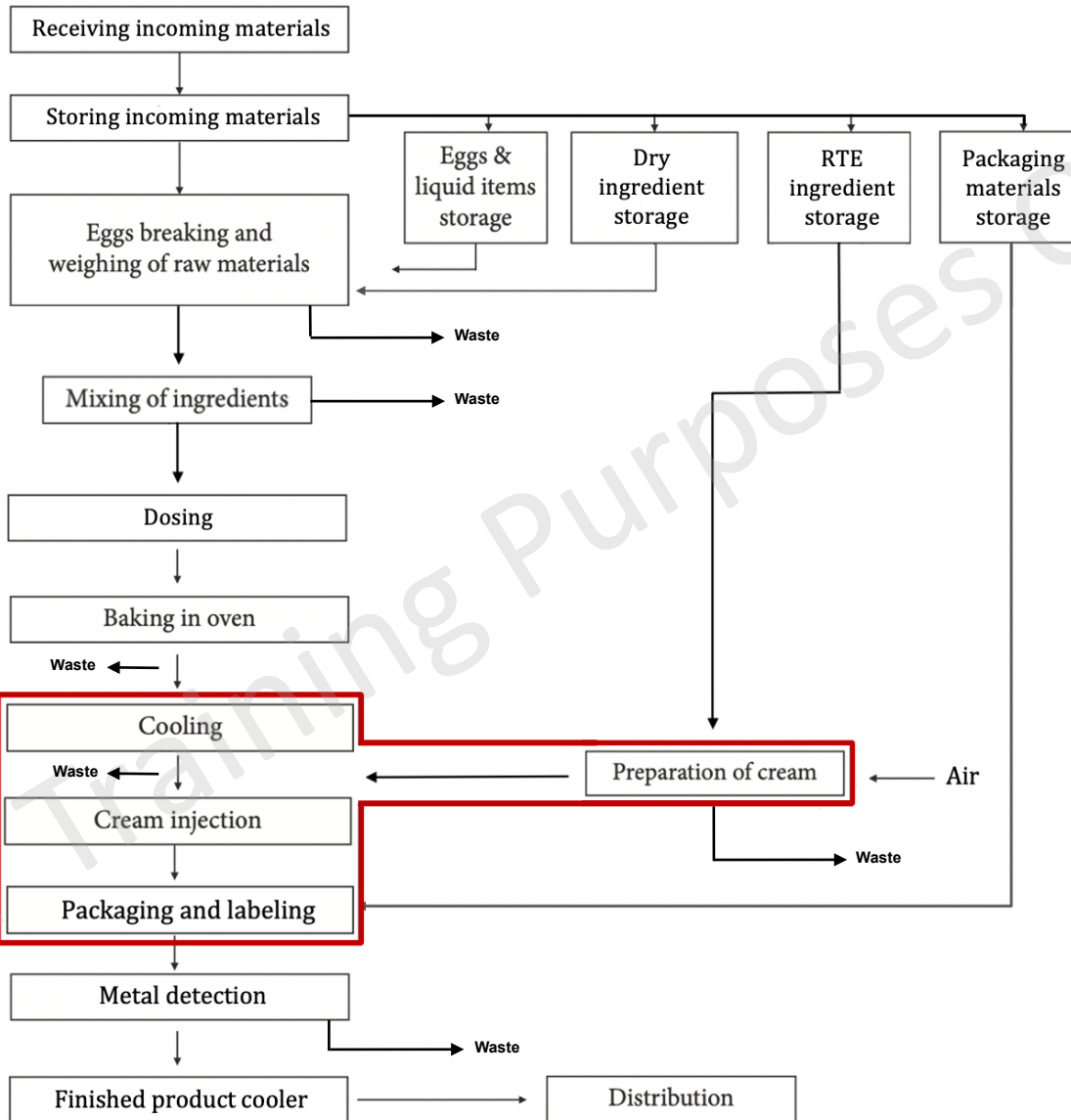
<b>PRODUCT(S):</b> Sponge Cake	<b>PAGE 5 of 20</b>	
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022

<b>List of Product Ingredients and Incoming Materials</b>			<b>Form 2</b>
Wheat flour <small>Country of Origin: Canada</small>	Pasteurized shell eggs <small>Country of Origin: Canada</small>	Sugar <small>Country of Origin: Canada</small>	
Salt <small>Country of Origin: Canada</small>	Heavy cream <small>Country of Origin: Canada</small>	Canola oil <small>Country of Origin: US</small>	
Corn starch <small>Country of Origin: Canada</small>	Glycerol <small>Country of Origin: Canada</small>	Skim milk powder <small>Country of Origin: US</small>	
Baking powder <small>Country of Origin: Canada</small>	Sodium propionate <small>Country of Origin: Canada</small>	Potassium sorbate <small>Country of Origin: US</small>	
Vanilla powder <small>Country of Origin: Canada</small>	Lemon powder <small>Country of Origin: Canada</small>	Packaging materials (Plastic wraps, paperboard boxes, corrugated trays, labels) <small>Country of Origin: Canada</small>	
<p>Approved by: <i>Mary Johnson</i> Date: 07/07/23</p>			

<b>PRODUCT(S):</b> Sponge Cake	<b>PAGE 6 of 20</b>		
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023	
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022	

### Process Flow Diagram

Form 3



Approved by: *Mary Johnson*  
 Date: 07/07/23

= primary pathogen control area

Note: Hazards and CCPs are not yet identified

<b>PRODUCT(S):</b> Sponge Cake		<b>PAGE 7 of 20</b>
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022

## Process Descriptions

### Receiving of incoming materials

Suppliers deliver raw materials and ingredients to the production facility. Upon arrival, the raw and RTE materials are inspected for compliance with specifications. COAs are received with every shipment for high-risk RTE ingredients (i.e., *Listeria monocytogenes* in heavy cream).

### Storing incoming materials

Proper inventory management practices, such as the first-in, first-out (FIFO) system, are employed to ensure optimal freshness of raw materials.

#### Packaging materials storage

Packaging materials such as plastic sheets, paperboard boxes, corrugated cartons, are stored in a designated area that is clean, dry, and easily accessible.

#### Eggs and liquid items storage

Eggs and liquid items are stored in a dedicated refrigerated area that is kept at  $\leq 40^{\circ}\text{F}$ . The temperature is monitored regularly to ensure optimal storage conditions.

#### Dry material storage

Dry materials, such as flour, sugar, and baking powder, are stored in a separate, dry, and well-ventilated area at around  $65^{\circ}\text{F}$ . Ingredients is kept in sealed containers or bags, and shelves is labeled for easy identification. The storage area is regularly inspected for signs of pests or other contamination.

#### RTE ingredient storage

Ingredients used in cream preparation are measured, inspected, and held in the RTE ingredient storage room. Dry ingredients are separate from wet ingredients that are in a small storage cooler kept at  $\leq 40^{\circ}\text{F}$ .

### Eggs breaking and weighing of raw materials.

An egg-breaking machine is used to break the eggs and separate them from their shells. The eggs yolks and whites pass through the same fine-mesh strainer and collected in weighing containers. The liquid eggs are inspected for any broken egg pieces by employees. Employees use dedicated scoops to measure out other wet and dry ingredients into dedicated weighing containers. A weighing scale is used to measure preservatives into buckets to ensure limits are not exceeded.

### Mixing of ingredients

The weighed raw materials are combined into a mixing bowl of a large planetary mixer. The ingredients are mixed until a smooth and homogenous batter is formed.

<b>PRODUCT(S):</b> Sponge Cake		<b>PAGE 8 of 20</b>
<b>FACILITY NAME:</b> K.C Cake Company		<b>ISSUE DATE</b> 08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA		<b>SUPERSEDES</b> 10/02/2022

### **Dough dosing**

The mixing bowl is tilted to pour the batter into a transfer container. A depositing machine is used to portion the batter from the container into non-stick cake pans.

### **Baking**

The cake pans are placed in a preheated oven at 350°F for 40 minutes. Employees will check the core temperature of four different sponge cakes every batch to verify that the minimum validated temperature to kill vegetative pathogens such as *Salmonella* (160°F) is met.

### **Cooling**

The sponge cakes are removed from the oven and placed on wire racks in the cooling area where a temperature of 40°F is maintained. The cakes are cooled to 40°F under 2 hours.

### **Preparation of cream**

The cream filling is prepared by combining heavy cream, sugar, flavor, and other ingredients into a continuous mixer that is connected to a cream injector.

### **Cream injection**

After baking in the oven, employees place cooled cakes onto a conveyor belt moving under the cream injector. The injector fills the cakes, ensuring even distribution of cream within each cake.

### **Packaging and labeling**

Cream-filled sponge cakes are removed from the conveyor and placed onto racks. Individual cakes are then placed on a plastic wrap inside a paperboard cake box by hand. Employees close and label cake boxes with pre-printed labels from the supplier. Cake boxes are then placed into corrugated cartons and sealed.

### **Metal Detection**

Corrugated cartons are passed through a calibrated metal detector on the conveyor. Product that is kicked off during this operation are passed through a more sensitive metal detector. Rejected cartons are inspected and sent to waste. The performance of the metal detector is verified once an hour using metal detectable wands containing 1.5 mm ferrous, 2.0 mm stainless steel, and 2.0 mm non-ferrous metals such as aluminum, copper, or brass.

### **Finished product cooler:**

Packaged sponge cakes are stored in a temperature-controlled cooler at 40°F to maintain product safety and shelf life.

### **Distribution**

Product is shipped in refrigerated trucks to customers at 40°F (4°C).

<b>PRODUCT(S):</b> Sponge Cake	<b>PAGE 9 of 20</b>	
<b>FACILITY NAME:</b> K.C Cake Company	<b>ISSUE DATE</b>	08/09/2023
<b>ADDRESS:</b> 5678 Fictitious Street, Foodville, CA	<b>SUPERSEDES</b>	10/02/2022

