How to
Assess Ingredient Risk

Supplier Approval Program
About This Program

In the Supplier Approval Series, we will take you through all of the steps necessary to identify a supplier/manufacturer that is safe to use and that meets all of the needs of your operation. To create a complete supplier approval program, it is important to read through and follow all of the steps in this series by downloading the entire program. However, if you already have certain parts of a supplier approval program implemented, each component of the series can be downloaded separately.

Please note that this series is intended as an introductory guideline. It is not meant to provide complete detail for regulatory compliance.

The series will cover the following topics:

1. What Is a Supplier Approval Program?
2. How to Assess Ingredient Risk
3. What Is the Approval Process?
4. How to Monitor Supplier Performance
5. Implementing the Process

In this second document, we’ll discuss how to assess your ingredient risk by conducting an ingredient risk assessment. We’ll walk you through this process and provide you with templates and decision trees to help make the process as efficient as possible.
How to Assess Ingredient Risk

The first step in building your Supplier Approval Program is to identify all of the ingredients you use and the risk level associated with each of them. Two factors are used to determine the risk level of a food item: whether it needs to be time and temperature controlled for safety (TCS) and whether it is ready-to-eat (RTE). A food item that pathogens grow well in is classified as TCS, because it needs proper time and temperature control to limit pathogen growth. Poultry and cut leafy greens are examples of TCS food items. Ready-to-eat food (RTE) can be eaten without further preparation, washing, or cooking. Precooked chicken or deli meat are examples of ready-to-eat food.

An ingredient that is both TCS and RTE poses the greatest risk to your operation because you are dependent on the supplier/manufacturer to control the associated food safety hazards before it arrives on your premises. TCS foods and RTE foods have a higher risk than shelf-stable food items, such as dried beans, and will be the primary focus for this Ingredient Risk Assessment.
For example, raw chicken is a TCS item, but your restaurant can control that risk by cooking it to 165°F (74°C), a temperature that kills pathogens. However, if you purchase precooked chicken, you must trust that the supplier/manufacturer has already controlled that hazard.
Conducting an Ingredient Risk Assessment

By following the five steps listed below, you can identify the high-risk foods used in your operation. This process, known as an Ingredient Risk Assessment, can be used to assist with training purposes and/or for regulatory compliance. Check your local regulatory requirements for specific requirements in your area.

To identify the ingredients that may be at risk in your operation, you will need:

- A complete list of recipe cards used by your operation.
- **Supplier risk assessment template.**

It is recommended to conduct the Ingredient Risk Assessment using a computerized spreadsheet.
Step 1: Compile a list of all the ingredients you use in your operation.

• Gather all of your recipe cards. Be sure to include seasonal recipes and rotating menu options.
• Use the Supplier Risk Assessment template to create a complete list of every ingredient that appears on any of your recipe cards. Make sure to include all dry, refrigerated, and frozen ingredients, as well as items such as condiments, beverage ingredients, and garnishes.
• In addition to the ingredient name, also identify the Universal Product Code or UPC for each ingredient. This is the 12 digit number located under the barcode. The UPC number is assigned to each individual product by the manufacturer. This number will assist you in identifying the ingredient in the event you need to contact the supplier and/or conduct a recall.

Step 2: List the method of storage for each ingredient.

• In the third column, list where that item is stored for food safety in your operation (for example, dry, frozen, or refrigerated storage).
• Refer to your supplier/manufacturer to verify appropriate storage location, if needed.
Step 3: Identify which food items are TCS in the fourth column of the template.

- The following is a list of TCS food items:

<table>
<thead>
<tr>
<th>Milk and dairy products</th>
<th>Shell eggs (except those treated to eliminate nontyphoidal Salmonella)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat: beef, pork, and lamb</td>
<td>Poultry</td>
</tr>
<tr>
<td>Fish</td>
<td>Shellfish and crustaceans</td>
</tr>
<tr>
<td>Baked potatoes</td>
<td>Heat-treated plant food, such as cooked rice, beans, and vegetables</td>
</tr>
<tr>
<td>Tofu or other soy protein</td>
<td></td>
</tr>
<tr>
<td>Synthetic ingredients, such as textured soy protein in meat alternatives</td>
<td></td>
</tr>
<tr>
<td>Sliced melons</td>
<td>Untreated garlic-and-oil mixtures</td>
</tr>
<tr>
<td>Cut tomatoes</td>
<td></td>
</tr>
<tr>
<td>Cut leafy greens</td>
<td></td>
</tr>
</tbody>
</table>

- If you are unsure whether a food item is a TCS food, check with your supplier/manufacturer.
Step 4: Identify which items are RTE in the fifth column of the template.

- An RTE food is one that your operation serves without further preparation, washing, or cooking.

Step 5: Determine the risk.

- **High-risk foods** are typically TCS and RTE food items, such as cut leafy greens or shredded cheese.
- **Medium-risk foods** are not TCS food items, but are RTE. Examples of medium-risk foods are pastries, whole romaine lettuce, and spices.
- **Low-risk foods** are neither TCS nor RTE and are cooked before eaten. For example, raw chicken breasts.

The operation relies on the supplier/manufacturer to ensure that biological hazards are controlled for RTE foods. However, food handlers still need to maintain all proper food-handling procedures.
The decision tree below shows how to determine whether the risk level of an ingredient is high, medium, or low.
## Sample Supplier Risk Assessment

<table>
<thead>
<tr>
<th>Ingredient UPC Number</th>
<th>Ingredient Name</th>
<th>Storage Method</th>
<th>TCS Food</th>
<th>RTE Food</th>
<th>Risk Level (High, Medium, Low)</th>
</tr>
</thead>
<tbody>
<tr>
<td>162641394578</td>
<td>Canned, diced tomatoes</td>
<td>Dry storage</td>
<td>No</td>
<td>Yes</td>
<td>Medium</td>
</tr>
<tr>
<td>170654651358</td>
<td>Fresh, diced tomatoes</td>
<td>Refrigerated storage</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
</tr>
<tr>
<td>271346478553</td>
<td>Raw chicken breasts</td>
<td>Frozen storage</td>
<td>Yes</td>
<td>No</td>
<td>Low</td>
</tr>
<tr>
<td>455662231302</td>
<td>Precooked chicken breasts</td>
<td>Refrigerated storage</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
</tr>
<tr>
<td>635678107332</td>
<td>Sliced carrot sticks</td>
<td>Refrigerated storage</td>
<td>No</td>
<td>Yes</td>
<td>Medium</td>
</tr>
<tr>
<td>811540753257</td>
<td>Dry black beans</td>
<td>Dry storage</td>
<td>No</td>
<td>No</td>
<td>Low</td>
</tr>
</tbody>
</table>
As your operation develops its food safety management systems, it is recommended to assess all three hazards associated with your ingredients. This document focuses on biological (pathogens) hazards. For a complete assessment, make sure you also evaluate chemical (allergens, chemical residuals) and physical (rocks, plastic) hazards.

Now that you have identified your high-risk foods, it’s time to determine which supplier is appropriate for your operation.