lcing and frosting can add a sweet finishing touch to your favourite baked goods. Although there are many recipes available, there are several factors that are important to determine if icing can be displayed safely at room temperature or if it requires refrigeration.

Sugar level:

A method to ensure icing is shelf-stable at room temperature is to use a recipe with a minimum of 65% sugar by weight. The easiest way to calculate the sugar by weight is to convert it into grams. Measure all ingredients using household measuring utensils (measuring cups, spoons, scale) and then convert it into grams. There are several websites online that make this process simple by providing weight equivalents for household measurements of general ingredients. If you are using a kitchen scale, remember to "zero out" the weight of the container prior to weighing each ingredient for accurate measurements.

Here are some examples on how to calculate the sugar levels for your recipe:

Calculation Examples:

Simple Icing		
Ingredients	Weight in Grams	
3 cups of sugar	600	
¹ / ₂ cup of salted butter	113	
2 tablespoons of milk	30	
1 tablespoon of vanilla extract	4	
Total Weight in Grams: 747		
Sugar calculation: sugar in grams 600 / total weight in grams 747 x 100 = 80% This frosting is more than 65% sugar and considered stable at room temperature.		

Vanilla Butter Cream Frosting	
Ingredients	Weight in Grams
3 cups of powdered sugar	360
1 cup of butter	227
1 ½ teaspoon of vanilla extract	5
3 table spoons of heavy cream	45
Total Weight in Grams: 637	

Sugar calculation: sugar in grams 360 / total weight in grams 637 x 100 = 56.5% This frosting is below 65% sugar and therefore not stable at room temperature.

Please note, if the following ingredients/products are added to a recipe (even if sugar levels are above 65%), the final product would not be shelf stable and require refrigeration at 4°C or colder:

- Raw eggs in uncooked frostings or fillings
- Raw flour in uncooked frostings or fillings
- Cream cheese frosting or filling
- Chocolate ganache
- Heavy cream frosting
- Lemon curd
- Fresh cut fruit or vegetables as garnishes

- Custard pie
- Cream pie
- Chiffon pie
- Fresh (unbaked) fruit pie (ex: fresh strawberry pie)
- Any meat pies/filling
- Other hazardous food items as determined by the Durham Region Health Department (DRHD)

All food premises are subject to the requirements of the Health Protection and Promotion Act (HPPA), the Ontario Food Premises Regulation, and inspections by a DRHD public health inspector.

If you have any additional questions, please contact Durham Health Connection Line to be connected to your local area public health inspector.

Resources: https://bookstore.ksre.ksu.edu/pubs/MF3544.pdf



durham.ca/foodsafety

Durham Health Connection Line | 905-668-2020 or 1-800-841-2729 If you require this information in an accessible format, contact 1-800-841-2729.

