



# Marinating Meat Safely

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The word *marinade* comes from the Latin/Italian “*marinara*” which means “of the sea.” Several centuries ago, marinades were briny liquids like seawater. The marinade preserved, tenderized and flavored foods.

## WHY MARINATE?

A marinade consists of cooking oil, an acid and spices/seasonings. As the food stands in the mixture, the acid and the oil impart the flavors of the spices to the food. The acid also tenderizes. So, the purpose of a marinade is very similar to earlier centuries: to tenderize and flavor.

## HOW LONG TO MARINATE?

The purpose of the marinating time is to allow the marinade to soak as deeply into the food as possible. Some foods will not allow marinade to soak in deeply at all. Allowing food to remain in marinade too long can produce unwanted toughness, which of course, is the opposite of what is desired. When using a prepared marinade it is smart to read the instructions.

### Marinade or marinate?

**Marinade** (MAIR-uh-naid) is a savory acidic sauce in which a food is soaked to enrich its flavor or to tenderize it.

**Marinate** (MAIR-uh-nait) is a verb that means to steep food in a marinade.

Marinating times vary greatly depending on the kind, cut, and size of the meat. Denser meats like pork and steak can marinate for 24 hours or even longer. Lighter meats like chicken can marinate between 2 hours and 24 hours. Seafood marinating times range from 15 to 60 minutes.

Thinly cut meat will marinate more effectively than thick cuts and require less marinating time. When marinating larger meat cuts, remember that the marinade will not reach the interior of the meat. The surface will be well flavored, but not the inside.

## HOW MUCH MARINADE?

You will need approximately 1/2 cup of marinade per pound of meat.

## WHAT INGREDIENTS ARE IN MARINADE?

**Acid:** Acid works to soften and flavor the meat by denaturing the meat. When the proteins are denatured they create pockets in the meat where flavor enters. Acids also help the marinade soften tough cuts of meat. Too much acid can negatively affect the end product. A good marinade will have the proper balance of seasonings, acids, and oil. Acids commonly used include vinegars, tomato or citrus juice.

**Oil:** Oils are used to moisten the meat and to add flavor. Recipes for red meat marinades may not include oil since the meat contains enough fat already. Chicken and fish, which are leaner, benefit

from oil in the marinade. Many different types of oils can be used.

**Flavorings:** A wide variety of ingredients are used to add flavor to the meat. Flavorings include fresh or dried herbs and spices. Fresh garlic and ginger are also popular. Salt can be used to both flavor and tenderize the meat. Sweeteners such as molasses and honey are used. The sugar can give meats a brown color once cooked. Asian sauces, such as soy sauce, are common as well.

A marinade should be thin enough to penetrate the meat. Otherwise, the flavor desired will not be reached. Remember that there is a difference between sauces and marinades.

### **WHICH MEAT TO MARINATE?**

Marinating budget cuts of meat helps to improve tenderness and flavor. A high quality cut of meat does not need to be marinated for tenderness, but can benefit from the increased flavor.

Much of the beef, pork, lamb, and poultry are being bred leaner today. Marinades aid in tenderizing these meat.

### **WHAT CONTAINERS DO I USE?**

**Do not marinate in a metal container.** The acidic mixture can react with the metal. Use a sealable plastic or glass container and cover with plastic food wrap. Uncover and turn the food over occasionally so all sides are coated evenly with the marinade. Or place food in a plastic food bag, pour in the marinade; seal and refrigerate, turning the bag over from time to time.

### **HOW DO I MARINATE SAFELY?**

Unless proper food safety techniques are followed, marinating can increase the risk of contamination, which may lead to food borne illness.

#### **Always Marinate in the Refrigerator**

Always marinate foods in the refrigerator, not on the kitchen counter. Some older recipes call for marinating at room temperature. **DO NOT FOLLOW THIS PRACTICE.** Marinating at room temperature causes the meat to enter the “Danger

Zone” (between 40°F and 140°F), where bacteria multiply fastest. When a recipe calls for marinating at room temperature, increase the marinating time in the refrigerator to achieve similar tenderness and taste results. Place marinating meat on the bottom shelf of the refrigerator to prevent any possible leaks onto foods below.

Do not marinate longer than over night. Food has a refrigerated shelf life. Marinating does not extend that shelf life. The shelf life for chicken or turkey is 1 to 2 days. This includes the day of purchase and thawing time. The shelf life for beef, lamb or pork steaks or chops is 2 to 3 days. For roasts it is 3 to 4 days.

#### **Don't Cross-contaminate**

For food safety's sake, never serve cooked meat on the unwashed plate you used to carry raw marinated meat to the oven or grill. Bacteria in the raw juices can transfer to the cooked food. Remember that marinated meat is still raw meat.

It is recommended that you set aside some of the marinade before putting it on raw meat to keep for later use (basting, use as sauce at table, etc.).

Prevent bacterial contamination by either discarding used marinade or first bringing it to a rolling boil in a saucepan, boiling for 1 minute and stirring constantly, before serving.

#### **Is the Meat Done Yet?**

Use a meat thermometer to check doneness of meat.



#### **USDA Recommended Safe Minimum Internal Temperatures**

- Steaks & Roasts - 145 °F
- Fish - 145 °F
- Pork - 160 °F
- Ground Beef - 160 °F
- Egg Dishes - 160 °F
- Chicken Breasts - 165 °F
- Whole Poultry - 165 °F

## How to Use a Food Thermometer:

1. Use an instant-read food thermometer to check the internal temperature toward the end of the cooking time, but before the food is expected to be “done.”
2. The food thermometer should be placed in the thickest part of the food and should not be touching bone, fat, or gristle.
3. Compare your thermometer reading to the USDA Recommended Safe Minimum Internal Temperatures listed above to determine if your food has reached a safe temperature.
4. Make sure to clean your food thermometer with hot, soapy water before and after each use!

Because there are so many types of food thermometers, it is important to follow the instructions for your food thermometer.

## RECIPES

### Teriyaki Marinade for Pork Chops

2/3 cup low sodium soy sauce  
1/3 cup water  
3 garlic cloves, minced  
1/3 cup brown sugar  
1/3 cup wine vinegar  
2 t. ground ginger

Combine everything except the pork chops in a pan and bring to a boil. Cook for 5 minutes. Cool completely. Set aside a small amount of marinade to baste with later. Pour the remaining marinade over the meat in a freezer bag or container. Rotate the bag gently to coat the chops. Remove excess air from the freezer bag, seal and freeze.

Thaw completely. Grill chops on an oiled rack about 4 inches or so from the coals. Cook 7-8 minutes per side until 160 °F. until just cooked through. If using thinner chops, decrease the grilling time. Baste the meat with the marinade during the last 5 minutes of grilling.

### Marinade for Poultry

1 cup oil  
½ c. low sodium soy sauce  
2 T. Horseradish, grated  
½ tsp garlic powder  
2 cups lemon-lime soda

Mix all ingredients, except soda. Place cut up turkey breast or chicken in large bowl or dish. Pour marinade mixture over poultry, and then add the soda. Place lid or cover over dish. Marinate for at least 24 hours in refrigerator. Place on grill for 20-25 minutes on low heat, until 165° F.

### Pomegranate Marinade

1 cup pomegranate juice  
1 Tbsp extra virgin olive oil  
2 Tbsp chopped thyme leaves  
½ tsp freshly ground pepper  
¼ cup red wine vinegar  
1 Tbsp. minced garlic  
¼ to ½ tsp cayenne pepper

Bring pomegranate juice to a boil. Keep it at a gentle boil and let the juice reduce down to around 1/3 cup. Let the juice cool for about 30 minutes. Add remaining ingredients. Whisk until blended. Add meat and marinade into a sealable gallon plastic bag. Refrigerate for up to 24 hours, shaking the bag occasionally. Remove meat from the marinade and grill or broil as desired.

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