



**PRESERVE IT FRESH,
PRESERVE IT SAFE**

Sassy Safe Salsa at Home

Salsa is America's favorite condiment. Many consumers enjoy creating their own masterpiece salsas incorporating their favorite ingredients. While these mixtures are safe to eat fresh, preserving them for later use can be risky if home-canned.

Salsas include high-acid and low-acid ingredients. They are considered an acidified food and appropriate for boiling water bath canning if the final pH is less than 4.6. If the mixture has a pH above 4.6, it is considered a low-acid canned food and requires sufficient research to eliminate the risk of botulism. The safety of home canned salsa depends on the combination of ingredients, procedures used in preparation, the acidity, and consistency of the final product. Using a process time from another recipe is only a guess and can cause spoilage and potential foodborne illness.

Important: It is not recommended to experiment with canning homemade recipes that mix low-acid vegetables together, even those that include an acid such as vinegar or lime juice. Adding extra ingredients to a tested recipe or using random amounts of ingredients (e.g., making it "to taste") is not safe. Improper canning allows *Clostridium botulinum* to grow, increasing the risk of a fatal foodborne illness. It is best to freeze low-acid mixtures for long-term storage or to eat them fresh.

Onion and Peppers — Do not increase the total amount (pounds or cups) of peppers or onions in any recipe. Any type of pepper can be used, but use the amount specified in the recipe.

Change the "heat" of salsa by using a variety of peppers. The heat of peppers is measured in Scoville heat units.

Popular Salsa Peppers	Scoville heat units
Bell	0
Cherry	100-500
Poblano	1,000-1,500
Jalapeno	2,500-5,000
Serrano	10,000-20,000
Cayenne	30,000-50,000
Habanero	150,000-300,000

Peppers can be roasted to simplify removing the tough skins.

Any variety of onion can be used in salsa. Garlic can be substituted for some onion if desired.

Thickeners — For a thicker salsa, use plum or paste tomato varieties or add commercial tomato paste to thicken the mixture just before canning. Do not thicken salsas with flour,

cornstarch, or other thickeners. If a thicker salsa is desired, pour off some of the liquid or add thickeners after opening.

Acid Ingredients — Bottled lemon juice, bottled lime juice, or vinegar with at least 5% acidity helps preserve salsa safely. The natural acidity of the salsa mixture alone is not enough to make it safe. **Do not** use homemade vinegar or fresh squeezed lemon or lime juice in canning because the acid content can vary, making the finished salsa unsafe.

Do not reduce the amount of vinegar, lemon juice, or lime juice. Instead, add sugar to offset tart flavors. Bottled lemon juice or bottled lime juice can be substituted for vinegar in equal amounts. **Do not** substitute vinegar for lemon juice or lime juice. This will reduce the acidity of the mixture, and make it unsafe when canned.

Tomatoes — Use high quality, disease-free, preferably vine-ripened, firm tomatoes for any canned product. Do not use tomatoes from dead or frost-killed vines. Any color or variety of tomatoes and tomatillos can be used safely in place of red tomatoes. Plum or paste varieties produce a thicker salsa.

Spices and Herbs — Spices and herbs add flavor. The amount of dried herbs may be altered or left out. Do not increase the amount of fresh herbs or garlic, however. Fresh herbs lose flavor during heat processing. For best fresh herb flavor, add just before serving.

Canning FAQs

Can salsa be frozen?

Yes. Freezing salsa is safe from a food safety perspective, but it may have reduced quality. Frozen salsa may be watery and flavors may change in intensity.

Do I have to process salsa in a hot water bath canner? Can I heat it, put it in a jar, and let it seal itself?

The open kettle method of canning where food is heated, placed in jars, the lid and bands applied, but without further processing is unsafe. The temperature obtained in open kettle canning is not high enough to destroy bacteria such as *Clostridium botulinum*, which may be in the food. Open kettle canning is not safe for **any kind** of home-canned product. Other open kettle canning methods not recommended include using the oven, sun canning, dishwasher canning, or inverting the jars.

I have a great salsa recipe I'd like to produce and sell. How do I do this?

The Kansas State University Kansas Value-Added Foods Lab works with small food processors across Kansas to help

entrepreneurs produce safe products to sell to the public. They also ensure labels and nutritional information complies with Food and Drug Administration regulations.

Contact: Dr. Fadi Aramouni, kvaff@ksu.edu, 785-532-1668

Can I process salsa in quart jars?

There are no recommendations to safely can salsa in quarts. Use only pint jars.

Salsa Tips

1. The heat of hot peppers is concentrated in the veins and seeds. To reduce heat, remove the seeds and veins to taste. Adjusting the heat after preparing salsa is almost impossible.
2. Salsa flavors tend to mellow during storage. The optimum flavor is typically achieved after 3 to 4 weeks.
3. Light-colored fruit, such as pears and peaches, tend to discolor. Measure the acid (vinegar, lemon juice, or lime juice) in the recipe and chop the fruit directly into the acid to stop browning reactions.
4. Do not add extra ingredients to tested salsa recipes. This will affect the acidity of the final product and make it unsafe for canning.
5. Roast peppers on a baking sheet in a 400°F oven or under the broiler. Turn them two or three times until the skin is blackened, about 20 minutes. Place roasted peppers in a heatproof bowl. Cover with a plate or covering and cool. Use a sharp knife to lift skins off the peppers. Discard skins and chop peppers.
Caution: Use plastic gloves when handling hot peppers to protect your hands.
6. Some tested recipes provide an approximate number of each vegetable to use, such as number of peppers or number of tomatoes. Do not rely on these numbers for measuring the produce. Always use recipes with measurements (cups or pounds) of these ingredients for safe results.

Storing Home-Canned Salsa

After canning salsa, check the lid for proper vacuum seal after jars have cooled for 12 to 24 hours. If any jars do not seal, refrigerate them and use within one week. For sealed jars, remove the rings and clean the jars and lids to remove any residue.

Store all home-canned foods in a cool, dry, dark location. This protects the food from changing colors, quality deterioration, or spoilage. It is best to use them within one year of canning.

Once opened, store in the refrigerator. Always label and date the jars to show when the product was canned.

Before opening a jar, look for any signs of problems. This includes unsealed jars, rusty or bulging lids, leaks, or anything that looks unusual. Look for dried streaks or residue that originate from the top of the jar. Moving bubbles or unnatural colors are signs of spoilage. When opening the jar, watch for excessive spurting liquid and mold on the food or lid. Off-odors indicate spoilage. Do not use or taste food if any of these signs are present. **When in doubt, throw it out!**

Resources for Home-Canned Salsa

National Center for Home Food Preservation – University of Georgia Cooperative Extension Service, <http://nchfp.uga.edu/>

USDA Complete Guide to Home Canning
http://nchfp.uga.edu/publications/publications_usda.html

Jarden Home Brands – Makers of Ball® and Kerr® canning products, <http://www.freshpreserving.com/>

Ball® Blue Book Guide to Preserving
Ball® Complete Book of Home Preserving
©2006 Jarden Corporation

K-State Rapid Response Center
<http://www.rrc.ksu.edu/p.aspx?tabid=18>

Various state Cooperative Extension Service publications

Sources:

USDA Complete Guide to Home Canning, 2009

So Easy to Preserve, 5th ed., The University of Georgia Cooperative Extension Service

Perk Up Summer Meals with Salsa, Colorado State University

From the Garden to the Table: Salsa, FN-584, North Dakota State University
<http://www.ag.ndsu.edu/pubs/yf/foods/fn584.pdf>

Preserving Food: Sensational Salsas, FDNS-E-43-16, University of Georgia Cooperative Extension Service

Canning Salsa Safely, B3570, University of Wisconsin-Extension Cooperative Extension
<http://learningstore.uwex.edu/Assets/pdfs/B3570.pdf>

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