

## Microwave Ovens: a Blessing or a Hazard?

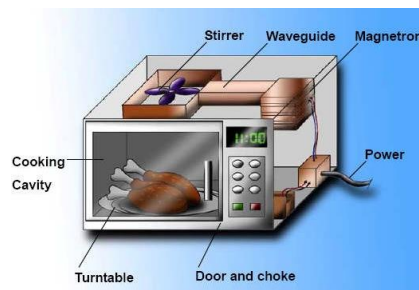
By Gladys González Carreras  
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Microwave ovens have made the experience of cooking magical. These appliances came into existence accidentally as the result of a related-radar research in the late 1940s. A scientist was testing a new vacuum tube called magnetron when he realized that a candy bar in his pocket had melted. He went on with some other experiments reaching the conclusion that food exposed to microwave energy can be cooked quickly. Microwaves became popular twenty years later, in the 1960s, when housewives and restaurants introduced them in their kitchen for daily use. The reason for their popularity is that they cook food in an amazingly short amount of time. They are also extremely efficient in their use of electricity because microwave ovens heat only the food – nothing else.

A microwave oven is more efficient at cooking than the flame on a gas stove; as a result, it uses up less energy. The

reason is that the microwave's heat waves are focused on the food inside, not on heating the air or container around it, which means that all the energy generated is used to cook our meal. A microwave oven uses microwaves to heat food. Microwaves are radio waves. In the case of microwave ovens, the commonly used radio wave frequency is roughly 2,500 megahertz. Radio waves in this frequency range have an interesting property; they are absorbed by water, fats and sugars. When they are absorbed they are converted directly into atomic motion and motion is converted into heat.



A microwave oven offers many advantages. Let us just mention a few examples. First, it is energy efficient, i.e. it accomplishes the same tasks and functions, as for instance a gas stove, while using less energy. Second, a lot of time is saved while cooking regular meals. For instance, it takes two minutes to prepare a cup of white coffee in a

microwave oven, while it takes more time to do the same on a gas stove. Moreover, when you heat an already cooked meal in a microwave oven in order to eat, it keeps its original flavor and texture; whereas the same procedure on a gas stove does not turn out quite right and takes longer. Third, cooking in the traditional way in summer in hot weather, like Misiones', makes the kitchen hot and therefore uncomfortable to cook for a long time. Cooking in a microwave oven, contrastingly, generates much less heat than a gas stove; thus, cooking remains an enjoyable activity even in hot weather. Finally, let us not forget the wonder of defrosting food in a few minutes by means of a microwave oven, while it takes many hours to do the same in a refrigerator.



On the other hand, microwaves present disadvantages as well. First and foremost, recent research shows that microwave oven-cooked food suffers severe molecular damage. When eaten, it causes abnormal changes in human blood and immune systems. Second,

metal containers cannot be used in a microwave because when metal is used, it functions as an antenna for electrical current in the device and can lead to fire and explosion. Third, microwave-safe vessels should be used; otherwise, you can burn your hands when taking them out of the microwave oven. Finally, if food is different in ingredients heating velocity could be different. For instance food which is fatter will be heat up faster.

In conclusion, microwave ovens have come to stay because they offer many benefits. Besides, even though microwaves have their drawbacks, they do not pose such a real hazard to our health; otherwise, they would have been banned a long time ago. One caveat, just use a microwave to heat food; do not cook in it; at least, until we know more about it. One thing is for sure, a microwave oven is energy efficient and energy efficient appliances are necessary if we want to take care of our natural resources so that they can last longer.-