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18.0.F Writing Consumer Product Reviews

Christopher F. Bauer

University of New Hampshire, chris.bauer@unh.edu

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Rebecca Pettis, Mandy Graves, Heather Price

CHEM 444

March 31, 2015

Miracle Thaw Review

A new product to hit the market that has everyone talking is *Miracle Thaw*. It is a defrosting tray that claims it can thaw meat “in minutes” and better than on the counter or in a microwave. It does so without the use of chemicals, electricity, or batteries. All you need to do is set your frozen meats on the tray and watch it defrost before your eyes. This is quite the claim, so we decided to test out how effective this product really is. Instead of meat, we used pieces of ice of equal volumes and shape. We placed one piece on the *Miracle Thaw* and the other on a countertop. Immediately, the ice began to melt on both surfaces. However, it was clear that the ice on the *Miracle Thaw* was melting at a much faster rate than that on the countertop. After about 5 minutes, the ice on the *Miracle Thaw* was completely melted to a puddle and the ice on the counter was only about halfway melted. Judging from the results that came from our experiment, it is clear that *Miracle Thaw* does work. It melted the ice faster than on the countertop. Although the claims stand true, is it really worth buying?

The *Miracle Thaw* is not worth thirty dollars. The only people who may find it worthwhile are families with a busy schedule because it will save them a small amount of time. However, for the average person, it is more cost-efficient for you to just thaw your meats on the counter earlier. If you are worried about food spoiling on the counter, then give yourself extra time and keep the meat in the refrigerator. This product is just not worth the spend, and your money should be placed elsewhere.

Nicholas Bouchard
Emma Addison
Charles Cappetta
CHEM 444A
Professor Bauer
31 March 2015

Magic Thaw – Consumer Product Review

I would definitely recommend the *Magic Thaw* to anyone with a busy schedule and limited time. In fact, *Magic Thaw* can melt an ice cube in less than a third of the time of normal thawing on the kitchen counter. Once the ice cube touched the *Magic Thaw* it instantly started melting at a shockingly quick pace! We thoroughly tested this product, which did in fact prove its efficiency. *Magic Thaw* has the unique ability to rapidly conduct heat to substances in contact with it, allowing meat to thaw much more quickly than normal. Its design and size allows for easy cleaning and storage after use. The tray is large enough to thaw a large steak or several smaller pieces of meat at once, while providing a “low profile” design. *Magic Thaw* also sports a sleek black finish which makes it very appealing along with its durable construction for long-lasting use. Anyone who is “on-the-go” a lot or consistently has an irregular schedule could definitely benefit from this huge time saving product. With that being said there are definitely ways to get around investing \$20-\$30 on this product. Simply planning ahead can help consumers prevent the need for this product all together. Also, consumers who forget to allow enough time for their meat to thaw could use their microwave to get by. In a positive note of this product, it holds up to its promises. The durability and productiveness of this product is outstanding, the real question which remains is whether this product is worth its cost to all consumers. As mentioned previously, it has more value for certain consumers than others. Consumers who have a regular schedule with the time to allow their meat to thaw ahead of time probably can’t justify investing in this product, but it is handy in dealing with last-minute preparations. There are other products similar to the *Magic Thaw* such as the *Thawmatic*, which also seems to work well, costing about the same price. Overall, the *Magic Thaw* or *Thawmatic* can be useful and beneficial to anyone with a busy, hectic lifestyle. Consumers won’t be disappointed with its efficiency and the results it provides, but is saving “thawing time” worth \$20-\$30 to every consumer? Anyone who purchases this product will probably not be disappointed, but it isn’t a necessary item for every household to acquire.

Miracle Thaw Consumer Product Review

Samantha Colaw, Jacob Sidney, Eliza Sneedden

March 31, 2105

The Miracle Thaw is an efficient product and has been proven to work effectively. Due to air flow through the plate's longitudinal wells and its naturally conductive properties, Miracle Thaw can thaw a piece of meat much more rapidly than if the meat were left out on the countertop. It is simple to use and can significantly cut the time that it takes to prepare a meal. Miracle Thaw is also durable, easy to clean, and convenient to store. Despite all of these positive features, it does not seem to be worth shelling out \$30 to do something that can already be done for free. At the end of the day, shortened thawing time, however convenient, is not worth spending the extra money, especially when thawing meat is a relatively effortless activity to begin with. If you are willing to spend the money, Miracle Thaw will definitely do its job.

Assignment for March 26

Convection: Activities A and B

Heat causes molecules to become less dense, which cause them to rise. As they rise, they carry their heat with them, which moves heat up away from the heat source. Cooler molecules are denser and will sink until they are reheated.

We saw this in activity A when the smoke rose up with the travel of air and heat away from the candle and out the chimney. Since cold air is less dense, it sinks, which caused the downward direction of the smoke over the chimney without a candle. The cold air was moving back down into the house, then getting heated again and rising up.

This process also happens in water, as we saw with activity B. At the heat source, water molecules were spreading apart from each other and rising up the tube, causing the food dye to move through the tube as well. The food color did not go below the heat source because the molecules were rising, not sinking.

Radiation

Radiation is the movement of heat through light waves. The light source can transfer heat to objects within the beam of its light, which is unlike the other methods of heat transfer because it does not require direct contact between molecules. The light itself transfers energy to the molecules of the object.

This phenomenon was demonstrated when the laser caused a change in the thermochromic paper, which means it caused a temperature change. Similarly, the light from the light bulbs transferred heat to the glass door when held about 1.5 feet away from the glass. We know the transfer of heat through radiation is not using air molecules to travel because we saw that light can travel through a vacuum.

Taylor Witkiewicz and Kaleigh Zukowski

CHEM 444: Fire and Ice

March 27, 2015

Thawmatic Consumer Product Review

The ThawMatic is a product developed to rapidly thaw frozen foods, such as chicken, steak, fish, and other meats. This thawing tray claims to defrost your food in just minutes, promising to significantly reduce the preparation time of making meals. The ThawMatic does in fact work to increase the rate of defrosting, as determined by the melting of an ice cube. By a simple experiment of placing one ice cube on the ThawMatic and one in a cup at room temperature, you can see the ice cube on the ThawMatic melts at a faster raster.

Although the ThawMatic has been proven, through experimental tests, to speed up the thawing process of frozen foods, it is not recommended that you purchase the device due to its lack of consistency when thawing meats of different shapes and sizes. In order to perform its task effectively, the ThawMatic should have a significant amount of direct contact with the meat being thawed to allow for heating to occur rapidly. In most cases, however, meats are packaged in masses of large amounts of thick, dense meats, which does not allow the ThawMatic to thaw the entire meat in minutes. While the portion of the meat that is in direct contact with the tray will defrost quickly, the rest of the meat, that does not touch the ThawMatic, will not defrost faster as a result of indirect contact with the device. The portion of the meat that is not in direct contact will slowly thaw by gaining heat from the surrounding room temperature and from the already thawed meat that touches the thawing device. Overall, this process will be slow, as it is unaffected by the ThawMatic. We would not recommend consumers to purchase the ThawMatic because it lacks value since its efficacy is only to a degree. The ThawMatic does work to a certain extent, but it is not worth the investment as it is priced around \$20 to \$30.

Miracle Thaw Product Review

The Miracle Thaw product certainly works! A piece of ice that would take over 15 minutes to melt in normal conditions can be melted by the black Miracle Thaw product as little as 3 minutes and 15 seconds. Basically, the metal in the product works as a fast conductor, which transfers the metal's heat to the cold item on top. Once the cold item and the metal come into contact they want to be the same temperature, so heat is transferred from the metal to the cold item. This causes the metal to fall out of temperature equilibrium with the air, so heat is transferred from the air into the metal, which in turn can heat the cold item. These processes occur simultaneously and will occur as long as there is air circulation. The Miracle Thaw is made with ridges in order to aid heat transfer. With the Miracle Thaw consumers can melt products in nearly a quarter of the time that it would take to melt otherwise!

But is the Miracle Thaw worth the cost? No. Time is certainly saved by using the product, especially if the consumer is in the habit of leaving their meat out to thaw. However, if you are in the habit of thawing under water or microwaving as a thawing process the time benefit may not be as evident. Regardless, time is not the issue with the Miracle Thaw. According to the USDA there are three ways that are safe to thaw food: in the refrigerator, in cold water, and in the microwave. The danger zone for food lies between 40 and 140 degrees Fahrenheit, this zone makes the product vulnerable to bacteria and its growth. Thus, leaving food on the counter is not a safe method of thawing. The Miracle Thaw appears to be very similar to the food on the counter method, its difference being that it thaws at an escalated rate because of a greater heat transfer. Therefore, the Miracle Thaw most certainly thaws food at a temperature within the danger zone. In Conclusion, the \$20-30 cost of the Miracle Thaw is definitely not worth putting your food and health at risk. Both microwave and cold water techniques can be used in order to save time. In fact, if time is the biggest factor, it is important to know that, when done properly, it is in fact safe to cook food without first thawing.

Product Review

Miracle Thaw claims to be able to defrost meat faster than using a microwave or allowing frozen meat to sit on the counter. We set out to test this theory and found it to be true, but we would still not recommend buying the Miracle Thaw. This product is black and rectangular, with grooves running horizontally across it. Most importantly, it is made from metal alloy. It sits on the counter, and to thaw the meat you simply place it on the Miracle Thaw and let it sit for a few minutes. The makers of Miracle Thaw claim it works because the metal is able to conduct heat from the air and utilize that heat to defrost the meat. Based on this claim, we hypothesized that any metal surface should yield the same results because metals are naturally better conductors of heat than most materials. To test this hypothesis, we simulated the defrosting of meat by placing an ice disk on the Miracle Thaw and an ice disk on other metal surfaces. One of the surfaces we utilized was a household frying pan, an object that most people already have in their kitchens. Overall, we found that the melting times on varying metal surfaces produced similar melting times. The frying pan actually melted ice slightly faster than the Miracle Thaw. We concluded that defrosting meat in an average metal frying pan is just as effective as Miracle Thaw. Therefore, it is not worth spending twenty to thirty dollars on a product if you already have a metal pan that can do the same job. It is simply a matter of utilizing what you already have.