

The Bottom Line plastics

Most of what's in the media about the "scary stuff" in plastics seems to be influenced by folks that have an agenda that is contrary to a particular plastic. Their comments are linked to competitive "Plastics" or they aren't well informed and are regurgitating old news with confusing and exaggerated information.

It is very interesting that just a few years ago, the media frenzy was all over reports about #1 plastic (PETP) and #2 plastic (HDPE) and how bad it was for the environment and our health. *Food for thought...* Most of the beverage distributor's of pre-bottled water and soda use #1 and #2 plastic exclusively. One of their biggest concerns would be if folks move toward **re-usable** plastics like P/C #7 or other alternatives like *glass* or *stainless steel*. These beverage distributors would lose a big chunk of the pre-bottled market that represents millions of dollars. The best way to slow down the *exodus* of people using their product is to re-ignite concerns about their biggest competitor...**re-usable** plastics. The most common of these **re-usable** bottles is polycarbonate #7. This type of plastic can withstand more heat and is more durable than the cheaper #1 & #2 plastic. The P/C #7 used for water only will not leave a bad taste or odor like other plastics.

The concerns about our landfills and our health are real. Most plastics take many years to fully decompose, and when they do, the chemicals they are made of, end up in our soils. Some countries have outlawed many plastic bottles because of these environmental and health concerns.

NO plastic is perfect. They are all made from chemicals. These chemicals or their byproducts can be released in small amounts if plastics are used improperly, mainly *heat and abrasions*. Each plastic has its pros & cons depending on their use, and they all have a common weakness, **they don't like HEAT**.

Heat is what is used to melt components that create the plastic and that same catalyst; HEAT can break down the matrix of the plastic and allow leaching or traveling of certain chemicals.

Solutions Suggestions:

1. When it comes to drinking water “Be more aware of ***what’s in the water***, rather than, ***what the water is in***”
2. If you have a concern about plastics, seek alternatives like, stainless steel, glass or ceramic (lead free)
3. Keep plastic away from HEAT
4. Keep plastic water & food containers out of direct sun light and the dishwasher.
5. It’s probably **best** to use **wooden** chopping boards to do your slicing and dicing.
6. **NO** plastic belongs in a micro wave or oven. Microwaves work by disturbing molecular structure to create heat. This process can destroy some of the nutritional value of the food and allow un-wanted chemicals from plastic container to leach into that food.
7. **NO** plastic likes heat, so don’t use plastic for hot food or drinks...period! (Including that little plastic straws you stir your “Double Grande mocha macchiato Latte’) with.
8. Don’t freeze water in plastic, not because it directly affects the molecular structure of the plastic, but the ice can scratch the inside of the container. That abrasion could contain (in **minimal** amounts) some biphenyl-A (BPA), a Harding agent used in some plastics or other unknown bi-products of plastic. The concern is that regular ingestion of BPA could mess with the body’s endocrine system. Unfortunately, as usual, the studies done on mice were performed with 1000 times the concentrations we would

normally get in our life. More insights on (BPA) will follow...

9. Store acidic foods like tomato sauce, vinegar products etc. **in glass**, especially long term. Also a good idea is to save, **clean and re use glass containers.
10. Avoid abrasive or caustic cleaners like cleansers or bleach with plastic. Quick cleaning (not in contact with plastic for long period) with Hydrogen Peroxide can kill the bacteria that cause mold/mildew and musty smell
11. No bleach... it can break down some plastics and leave a lingering smell and taste.
12. Baking soda/water solution can be used as a cleaner for plastics
13. Avoid reusing plastics that are old and scratched. A good time line for the use of **quality re-usable** plastics is about 18 months, if it hasn't been abused. Avoid reusing plastics that are made for **single use**. Pre packaged beverages are in a cheaper grade of plastics like #1 & #2 and intended to be used only one time.
14. Water bottles that are intended for **re-use** and storing drinking water should always have the lids removed when empty. This practice allows the bottle to breath and air out, avoiding mold growth.
15. Hot and acidic foods and beverages don't work well in *Styrofoam* containers. It's best to avoid *Styrofoam* for your food or beverage.
16. *Plastic baby bottles that are used over and over again and HEATED each time, then thrown in the dishwasher??... **Glass** would be a better alternative.

I am NOT a big fan of plastics. If there was a practical alternative that was truly non-chemical and inert, it would be great, but we have to be realistic. Plastics are like *gas* and *taxes*...a necessary evil. The original concerns about plastic were mainly involving the cheaper grades of plastic, i.e. “single use” #1 & #2 as mentioned above. The re-focus on **re-usable** P/C bottles and concerns of *leaching* or *traveling* chemicals like BPA (biphenyl-A), a Harding agent in polycarbonate, doesn't take in consideration the circumstances, it would take to get enough BPA ingested from water bottles under regular conditions, to cause the problems they are concerned about. More studies have been done on the chemical BPA because of finding hormonal and carcinogenic affects on human and animal lab studies. Unfortunately few to none “in depth” studies have been done on **other plastics** and the chemicals **they** contain to see if they release any chemicals or bi-products when they come in contact with food or water under certain conditions.

Following these guide lines can help:

1. The quality of the bottle and it's manufacturing is important
2. Cheap imported plastic from Mexico & China is of some concern, due to lax regulations of processing and use of chemicals. Bottles that don't have clear markings on the bottom, noting manufacture, country of origin and re-cycle code, would be best avoided. Note: Not all products from above mentioned countries are inferior or problematic.

3. Keep in mind, manufactures that pre package food and beverages have to stay competitive. Using high grade containers would not be cost effective.
4. Re using **quality reusable** plastic and disposing of it when it becomes damaged, and **recycling all plastics** will be good for us and our environment.

In conclusion as stated, the concerns about plastics can not be over looked, but until a realistic alternative can be offered we need to be aware of how we use what is currently available.

** If re using glass jars/containers that have had other than food in them, best **not** to use for food storage.

** If re using glass jars/containers, sanitize/sterilize well to prevent cross contamination from bacteria that could come from prior dated food residue.

** Method...

1. Remove any old food residue
2. Put hot water in container, place container in pot of water, bring both to a rolling boil 212f 15 min (+-) or fill container with "Clorox" bleach water, let stand for a few hours, rinse well with baking soda/water solution, then clear water.
3. Hot dishwashers can be used to clean, if not storing food for long periods of time i.e canning

All these guidelines are intended for plastics that contain **internal use** products. These guidelines may not apply if you are not internally consuming the products stored in plastic.

AMEN...