

# *Baking Soda Introduction and Tips*



Baking soda, also known as bicarbonate of soda or sodium bicarbonate, is a very handy non-toxic compound that can be used as a more environmentally friendly replacement for many harsher chemicals.

It has such a wide variety of uses in relation to cleaning, cooking, safety, plumbing, personal care products and industrial uses that this initial article will act as a springboard for an entire series on the various applications of baking soda.

## **How baking soda is made...**

At this point I'd like to point out that baking soda isn't for the most part a naturally occurring product. The base substance, soda ash, from which sodium bicarbonate is extracted, is usually refined in one of two ways:

a) The Solvay method. In this method carbon dioxide and ammonia are injected into a concentrated solution of sodium chloride. At this stage, some sodium bicarbonate is formed. It is then heated to form soda ash, from which a more pure sodium bicarbonate is extracted. The Solvay method does produce environmentally damaging byproducts such calcium chloride in a liquid solution that when discharged into inland waterways can increase salinity.

b) Trona ore. The world's largest deposit of trona ore is in the Green River Basin of Wyoming and is extracted by underground room-and-pillar mining. There are over 62 identified natural sodium carbonate deposits in the world with supposedly enough raw product to satisfy the world's needs for thousands of year. Once the Trona ore is extracted, it's refined into a slurry of sodium sesquicarbonate that

contains soda ash (sodium carbonate) and baking soda (sodium bicarbonate).

Soda ash can also be manufactured from salt and limestone; practically inexhaustible resources, but synthetic soda ash costs more to produce and creates environmentally damaging by-products.

### **Refining Soda Ash**

Once the soda ash has been created, the solution is placed into a centrifuge, separating the liquid from bicarbonate crystals. The crystals are then dissolved to form a bicarbonate solution and filtered to remove any insoluble materials.

The resulting solution is then pumped up to a carbonating tower. Carbon dioxide is pumped into the base of the tower pressurized. The solution reacts with the carbon dioxide to form sodium bicarbonate crystals.

The crystals are collected, placed in another centrifuge, washed and dried to form a high purity baking soda.

### **Earth friendly baking soda**

When choosing a baking soda and having "green" principles in mind; you're somewhat caught between a rock and a hard place. The Solvay method has been known to ruin inland waterways and Trona ore means mining. Still, not everything can be manufactured from air. When you compare the production and use of baking soda with the effects on the environment of other chemicals used in products that baking soda can replace; baking soda is certainly the "greener" option, however it is sourced.

The only other comparable substance that is more earth friendly than sodium bicarbonate is probably vinegar - a topic I'll cover in other articles. While vinegar is certainly a very versatile substance; it probably doesn't have the range of uses of baking soda.

Here's just a few popular uses for this very handy substance:

#### **Fire retardant:**

Baking soda can be used to extinguish oil and electrical fires simply by

scattering the powder over the fire. As baking powder burns, it generates carbon dioxide that starves the fire of oxygen. Sure, carbon dioxide contributes to global warming, but the little bit that it will create compared to the carbon dioxide and other chemicals that will be generated by your entire kitchen burning down.

### **Deodorizer:**

A small bowl or plate of baking soda in your refrigerator will help to neutralize powerful odors. Baking soda can also be used to wash out and deodorize garbage cans. Sprinkle baking soda in the bottom of your dishwasher to help control undesirable smells

### **Desiccant:**

A desiccant is a substance that can be used as a drying agent. An opened box of baking soda in your fridge, cupboards and wardrobes can remove excess moisture from the area.

### **Stain removal:**

Applying a thin paste baking soda to stains prior to washing can help remove them.

### **Degreaser:**

Sprinkle baking soda on grease or oil patches on cement floors; add a little hot water, scrub then rinse. It can also be used in a similar manner for barbecue grills and stovetops.

**Tip:** buy baking soda in bulk; you'll save a stack of cash and given it has so many uses in and around the home; you'll definitely use it. You can buy it in bulk for non-cooking purposes from pool supply companies under the name of sodium bicarbonate.

Baking soda keeps for a very long time, the key is to keep it in an airtight and waterproof container.

## *TOP 30 USES FOR BAKING SODA*

### **Kitchen**

- A bowl of baking soda in your fridge will help remove excess moisture and absorb odors.
- Sprinkle some in your veggies crisper and cover with a cloth or paper towel for crisper veggies that last longer.
- Sprinkle baking soda onto a damp sponge for cleaning out your refrigerator and bench tops without scratching.
- Dissolve a couple of tablespoons of baking soda in water in a microwave safe bowl, and then bring to the boil in your microwave. Allow to sit for a minute or two, then you should easily be able to wipe out any baked on stains, plus your oven will microwave will smell fresher too.
- Sprinkling baking soda in the bottom of rubbish bags will help to control odors as you add trash.
- To give your dishwasher a good clean, run it through a cycle and use baking soda instead of detergent.
- Baking soda can be thrown on stove fires to extinguish the flames. The carbon dioxide generated when the powder burns starves the fire of oxygen.
- Wash chemicals and pesticides off fruits and vegetables in a pot filled with water and 3 - 4 tablespoons of baking soda added.

On a somewhat related note, here's something interesting I came across. Baking soda is sometimes used when boiling vegetables to preserve their color. That practice is not recommended as it destroys the vitamin C content of vegetables.

### **General Home**

- Anywhere that moisture is a problem, such as cupboards under sinks, place a bowl of baking soda to help control humidity. You'll need

to occasionally stir the powder for maximum effective life.

- Crayon or text marks on walls? Try applying baking soda/water paste on an old toothbrush and lightly brush the affected area.

- Water stains on wooden floors can be removed with a sponge dampened in a solution of baking soda dissolved in water.

- Sprinkle some baking soda into your vacuum bag to help reduce musty/pet smells being spread throughout your house when vacuuming.

- Sprinkle baking soda on rugs and carpets before vacuuming as a deodorizing treatment. Most carpet powders you buy are baking soda based! Just a brief note on this - not recommended for areas that are very humid as the baking soda may stay in the carpet.

- Mops can really stink out areas where they are stored. If your mop is getting on the nose, don't throw it out, try soaking it in a mixture of 4 tablespoons baking soda and a gallon of water for a while.

- Applying a layer of baking soda and then using a damp sponge can remove stains on porcelain sinks, toilets and plastics. I found this to work particularly well on a water stain in a sink that couldn't be shifted otherwise without the use of heavy-duty chemicals and scratching the surface.

## **Plumbing**

- As an alternative to caustic soda for clearing blocked drains, throw a cup of baking soda down the drain, followed by a couple of jugs of boiling water.

## **Garden**

- Baking soda can deter ants - pour a solid line in areas of activity and they won't cross it.

- Mix a tablespoon of baking soda, a teaspoon of (earth friendly) dish detergent and a gallon of water to make a spray for treating roses against black spot fungus.

## **Laundry**

- Work a baking soda and water paste onto stains prior to washing to help remove them from the fabric
- Half a cup of baking soda added to a full load of washing will help brighten your wash and remove odors.

## **Workshop/Auto**

- Mix a paste of baking soda and vinegar and apply with a pot scourer to remove light rusting
- A baking-soda/water paste applied to chrome surfaces, allowed to dry then buffed off will leave chrome shining!
- Baking soda applied to fresh grease and oil spills on your garage floor will draw away the oil, which can then be scraped off.

## **Pets**

- Baking soda lightly sprinkled and mixed into cat litter will help control odor.
- Eliminate odor after you've cleaned up pet accidents by sprinkling over the dampened area with baking soda; allow to dry and then vacuum.

## **Personal**

- Whoofy shoes getting you down? Get a couple of old socks, fill up the toe sections with baking soda, place into the offending shoes and leave overnight to help remove odors.
- A thick paste of baking soda and water applied to bug bites can provide relief.
- A half teaspoon of baking soda mixed into a glass of water can act as mouthwash.
- Sprinkle baking soda onto regular toothpaste to create whitening toothpaste

## **Miscellaneous**

- To clean jewelry, use a paste of 3 parts baking soda to 1 part water, apply the mixture the piece, allow to sit for a couple of minutes, rinse off and then polish with a soft cloth.

- Sprinkle your Christmas tree with baking soda to mimic snow - a much more environmentally friendly alternative to some of those chemical snow sprays!

With so many uses you'll likely use a lot and buying baking soda in small boxes probably won't be too economical. Have a chat to your local baker who may be able to supply you with larger quantities or try contacting a bakery supplies company as some sell direct to the public.

You can also save money on baking soda by re-using it. For example, once it has served its purpose as a fridge deodorizer you can put it down your sink to help keep your drains clear.