

SPOTLIGHT ON... NON-TOXIC CLEANERS

Removing rust from the garden tools that may have been left outside, cleaning your grill or aluminum furniture, and bringing back the luster to the chrome and brass on your boat are just a few of the projects that are normally done outside, where the harmful chemicals from commercial cleaning products can easily run off into Puget Sound. This newsletter will show you how to do these tasks using natural products that are commonly found in the kitchen or laundry, or bought inexpensively in your grocery store, saving money and protecting the health of our marine environment at the same time.

Grill Cleaning Made Simple

One of the dirtiest chores many of us avoid each summer is cleaning the grates of your propane grill. In desperation, many end up using harsh chemical solutions, such as oven cleaner. There is a simpler solution to this problem, however, that is safer to the environment: use washing soda to clean your removable grill grates. No, this is not laundry detergent, nor is it baking soda. Washing soda, otherwise known as sodium carbonate, was traditionally made from the ashes of plants, and was a staple in our grandmothers' laundry rooms. The high alkalinity of washing soda helps it remove a large variety of stains, particularly when used in laundry detergent mixtures when hard water is present. It is also a great way to remove the baked-on residue on your grill grates. Not all stores carry washing soda; you may need to look around. It is typically found in the laundry products section, and sometimes located near either the "green" detergent section or where they carry other old-fashioned products, such as bluing and starch. You will usually find packages made by Arm & Hammer, which is easy to spot. We do not endorse any one brand, and any brand of Washing Soda should work just as well; this is just one brand that is more common to find. (You don't want laundry detergents that contain washing soda; look for a package that states it is just Washing Soda. It is not expensive, usually just a few dollars for a box the size of a laundry detergent box.)



Propane grill grate with months of baked-on food, shown at left. Same grate, right, after soaking in washing soda solution for 24 hours and light scrubbing



First, find a location where this messy job can take place. You probably don't want to do it inside, or where children or animals can get into the washing soda solution. Maybe you can find a location in your garage, or garden shed. Second, find a container or tub large enough for the

grates and any other parts, along with a couple gallons of water. An old five gallon bucket may work for your grates. Use whatever works for the size of your grill parts, but keep in mind that after using it to clean your grates, you may not be able to clean the container for other uses. Place the grates and other parts inside the container. Mix 1 cup of washing soda with 2 gallons of warm water. (You can use a plastic milk jug or other empty one gallon container, mixing ½ cup washing soda with one gallon of water at a time, and repeat.) Make more if needed. Pour slowly over the grates, so that you don't splash. Soak grates overnight or longer. Using an old towel, nylon grill brush, or other stiff non-metal brush, wipe or brush off the residue, which should now be quite soft. When grime is removed, rinse with water and dry. Then wash with soap and water and dry. You may want to coat these with a light coat of olive oil for protection. **WARNING:** washing soda is a caustic product. Wear gloves and eye protection when using this product, as it can cause skin irritation. If you splash it on yourself, you should wash it off with a mild solution of vinegar and water. Do not use steel wool or metal brush for cleaning the grates, as tiny pieces of metal can stick to the grate and be transferred to your food, potentially causing intestinal damage if ingested.



Vinegar, the All-Purpose Rust Remover

You are probably aware of how vinegar can be used for cleaning almost everything, from windows to coffee makers. Typically priced at two to three dollars for a gallon of house-brand white vinegar, it is also quite affordable. You have probably never used it as a rust remover, though, particularly for your garden tools.

A few years ago, I lost a pair of hedge clippers: the long kind with wood handles that are great for cutting through small limbs, blackberries and brush. They turned up a few years later, behind a compost bin I was moving. I had most likely placed them on top of the bin, where they fell off into the dirt in back, hidden from view. After a couple years in the dirt, they had a thick coating of surface rust, and could not be opened or closed. Rather than throw them out, I used pliers to remove the bolt and nut that held them together. I placed one of the blades into a plastic container, covered it with white vinegar, and left it for about 24 hours, wiping off the residue a few times during that time and returning the blade to the vinegar bath. I used a piece of 0000 steel wool (the finest grade) to wipe off the final residues. The blade was clean, with no rust in sight, though it had some surface pitting from the rust. Since the acetic acid in the vinegar would keep on working if left on the blade, eating away at the metal, I neutralized the acid on the blade with some baking soda dissolved in warm water, dried it off, and gave it a light coating of olive oil. Using the same vinegar, I repeated the process with a few other garden tools, as well as a rusty wrench. The results were as good or better than some expensive chemical-based rust removers, and much friendlier to the environment. (If you leave the dirty vinegar undisturbed for a few days in the container that contained the tool, the suspended rust particles will settle to the bottom. You can slowly pour the clean vinegar that rises to the top into a sealable container, to be used again for cleaning projects. Let the dirtied remainder on the bottom evaporate, and discard the dried rust.)



Rust on hedge clipper blade removed by soaking in white vinegar for 24 hours, wiping off residue every 6-8 hours, then neutralizing in baking soda & water.

The photos below show a rusty garden trowel that had been used on an outdoor potting bench for several years. After cutting a few inches off the top off a half gallon juice container, the trowel was placed inside, and the metal blade was covered with white vinegar from a gallon jug. Left overnight, the blade was wiped off with a very fine pad of steel wool (0000, or “four-ought”). The vinegar was poured into a sealable jar for future use, and the trowel was returned to the juice bottle with a half cup of baking soda and warm water, and left for a few minutes to allow the baking soda to neutralize the acid in the vinegar. The blade was then washed off and dried, ready to use!



Cleaning Your Aluminum Deck or Lawn Furniture

If you have painted aluminum furniture, it is best to simply clean it with soap and water, and protect it with a light coating of wax. If the aluminum furniture is unfinished, you may have had it oxidize over months or years of exposure to the outdoor elements. This oxidation actually helps protect the aluminum from the elements, but no longer gives that “like new” shine. If the furniture is lightly oxidized, dump a cup or two of vinegar into a bucket of warm water. Use a cloth or sponge to clean off the oxidation. Rinse thoroughly, and dry off. (Note: you might want to test first in an inconspicuous location, like the bottom of the seat or table.) Do NOT use alkaline cleaners like ammonia or TSP on aluminum; these will cause oxidation!

Another way to clean aluminum furniture (and other aluminum items, including cookware) is to make a paste from Cream of Tartar and water. Dip a cloth or paper towel into the solution and scrub the area to be cleaned. Rinse with water and dry. Photos below show an area on a small aluminum deck table after less than a minute of scrubbing. To save money, do not use the small metal or glass container of Cream of Tartar bought in the spice section of your store. Purchase a couple ounces of it in the bulk spice section found in many larger stores, and you’ll have enough to last awhile at low cost.



Make Your Chrome Shine Again

Though chrome on the exterior of modern cars is not as widely used as it was a few decades ago, it is still used on some wheels and truck bumpers. It is also seen on handles of lawn mowers and yard equipment, bicycle wheels, motorcycle parts, and a variety of other outdoor locations. You may even have fishing reels and other sporting goods that have some rust from their contact with salt water. Many pleasure boat parts are also chromed, and need occasional cleaning. You can find expensive chrome cleaners for sale in many stores, but there are simple and inexpensive alternatives available that won't harm the environment. First, try washing the item thoroughly with soap and water, then drying it with a cloth. If there is rust or tarnish present, and the coating is light, try using some very fine steel wool, grade 0000. This is called "polishing steel wool" due to its softness. Rub the chrome until the rust or tarnish disappears. If the rust is still present, make a paste of salt and lemon juice and let it sit on the item awhile. Rub with the rind of a cut lemon, rinse off and dry. Then use the 0000 steel wool. (Note: Use of steel wool is for chrome that has *already* been damaged by rust. Even the finest steel wool can leave very fine scratches on surfaces. Try this first on a small area that is out of sight, and see how it looks. If it is to your liking, proceed with caution; you are the final decision maker on how this works for your situation.) Since steel wool can leave tiny fragments that can rust, many boat owners use bronze wool, which can be even softer and does not rust. Bronze wool is available at boat supply stores, and is relatively more expensive than steel wool. Note: the fake "plastic chrome" often found inside and outside most modern vehicles will not hold up to any strong cleaning. Do not use anything stronger than soap and water on "plastic chrome".

If the chrome is just lightly tarnished, and you want to give it a bright shine without potentially scratching it through the use of steel or bronze wool, try using olive oil and a cloth! No need to use your best olive oil; any inexpensive brand will work just as well. Photo at left below shows a boat horn that has some mild oxidation of the chrome. A bit of olive oil on a cloth was used to clean off the left side of the horn, in second photo, leaving it shiny and bright again!



Note: when cleaning your boat, it is against Washington's Water Pollution Control Law to discharge or allow to be discharged, any pollutant into our waters (RCW 90.48.080). This includes any substance that changes the physical, biological, or physical nature of the water it enters. No cleaning product, even the non-toxic alternatives offered in this newsletter, meets these requirements. It is preferable to do any boat cleaning when the boat is out of the water. When slip-side, limit boat cleaning to the area above the water surface, from the "boot stripe" up. Make sure that no cleaning agents or residue enter the water.

Brass, Bronze and Copper

Perhaps you've been thinking about shining up those house numbers that have become tarnished. Or bring a luster to your boat propeller, or other brass, bronze or copper items around your house or boat. First, check to see if the item is brass-plated steel by placing a magnet on it. If it sticks to the item, the base metal is steel. Since the brass coating is thin on plated items, use dishwashing detergent and warm water to remove any dirt, and then polish with a soft cloth.

For items that are *not* brass plated over steel, polish by using a rag or piece of 0000 steel wool with a bit of Worcestershire sauce; you'll be surprised at the results. The ingredients of Worcestershire sauce include natural cleaners such as salt and vinegar. Another method: sprinkle salt on half of a cut lemon, and use the cut end to polish the item. Rinse with warm water and polish with a clean cloth.



Restore the shine on brass and bronze by wiping with Worcestershire sauce, as seen on right side of propeller in second photo.



Resources

There are a number of great resources that contain recipes for home-made, environmentally safe cleaning products. These cleaning products usually include common household ingredients such as baking soda, salt, vinegar, lemon, olive oil, cream of tartar, baby oil, hydrogen peroxide, washing soda, etc.

Clean Boating by Boat US Foundation has great information on all aspects of boating, arranged by topic: <http://www.boatus.org/clean-boating.asp>



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