



K I T C H E N<sup>®</sup> Dishwasher Q & A

## Dishwasher:

### [Most Common Questions]

#### **How do I know how much detergent to use?**

The amount of detergent depends on your water hardness, how you prepare your dishes for washing, how large your typical load is, and your cycle choice.

For normal loads, (loads not prewashed by hand), fill all cups completely. If there are no cups, use 2–2½ tablespoons of Cascade.

For hard water areas (7.1 grains or more per gallon), heavy soil loads and cycles with more than one wash (such as Pots & Pans), fill both cups completely. Use more product as needed, increasing by one tablespoon at a time until desired cleaning is achieved.

For medium water areas (3.6 grains per gallon) and people who prewash dishes by hand, fill both cups half full.

For soft water areas (0–3.5 grains per gallon), heavy prewashers and small loads or cycles such as Rinse-Hold, use no less than 1 tablespoon of detergent in one cup. Reducing detergent amount too drastically can affect performance. Soft water with no detergent or too little is even more aggressive for etching.

#### **How do I know how hard my water is?**

Check with municipal water authorities to determine your water hardness. If a water softener is installed, check to be sure it is working properly. We recommend consumers have their water softener hardness level set at 3–4 gpg vs. totally softened water (0–1). Hard water areas use more detergent and soft areas use less. Refer to the “Adding Detergent” section for recommended detergent amounts.

#### **What can I do to clean the inside of my automatic dishwasher?**

For yellow or brown buildup (caused by high iron or manganese content in water) do periodic cleanouts with a product designed to remove lime deposits or with citric acid crystal. Citric acid crystals are available from a druggist or in a hardware store. Remove all items from the dishwasher, put one cup of the crystals in the bottom of the dishwasher and run it through a normal cycle without dishes. Follow with a full cycle detergent wash and an empty dishwasher. Using the recommended amount of granular Cascade will retard staining.

#### **What can I do to get rid of spots and filming on my dishes?**

Check to make sure you are using the correct water temperature (at least 120° F). Use the correct amount of detergent. Load dishes properly. Use a rinse agent. Occasionally run a vinegar clean-out to remove hard water filming. Pour two cups of vinegar in a bowl, place in bottom rack of the dishwasher and run dishwasher through wash cycle without detergent. Do not complete the drying portion of the cycle.

Glasses or dishes with spots or film can remain in the dishwasher; however, all metal items must be removed. The acid in the vinegar can harm the metal. Dispenser cup malfunctioning and/or a change in the water supply can also cause spots/film.

#### **How can I get my dishes dry?**

Using a rinse agent will improve drying. Be sure the water temperature is correct. Run the hot water faucet closest to the dishwasher before starting your machine to ensure you have hot water at the beginning of the wash cycle.

#### **What can I do to get rid of the odor in my dishwasher?**

If dishes are permitted to sit in the dishwasher for two or three days (to accumulate a full load), run the Rinse-Hold cycle at least once a day until the load accumulates.

#### **What items are safe to wash in the dishwasher?**



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Check the manufacturer's instructions. Almost all items are marked "dishwasher safe" that can be safely washed in your dishwasher. For silverware and other utensils, never mix metals. Position items in the silverware basket so stainless, silver plate or sterling do not touch each other. Electrolytic action between silverplate and stainless steel can cause pitting in the metal (this damage is permanent).

**Can I wash plastic containers safely in my dishwasher?**

Check the manufacturer's instructions. Plastic items marked "dishwasher safe" are best placed in the upper racks of your dishwasher. Preferably keep plastic items away from the heating element under the bottom rack.

**Should I be using a rinse agent?**

Rinse agents improve the drying process especially in the new dishwashers with plastic (polypropylene) tubs. Rinse agents will also reduce spotting and filming. We also recommend this in hard water areas to help prevent spotting and filming.

**Is it safe to wash my pots and pans in the dishwasher?**

Rinse agents improve the drying process especially in the new dishwashers with plastic (polypropylene) tubs. Rinse agents will also reduce spotting and filming. We also recommend this in hard water areas to help prevent spotting and filming.

Not all items are safe to wash in the dishwasher. Check the manufacturer's instructions first to be sure the items are recommended dishwasher safe. Aluminum items can darken due to minerals in the water and alkalinity of the detergent. Cast iron utensils will lose their "seasoned" finish and rusting can result. Pewter or pewter-like materials may streak, discolor or pit.

**How can I remove the cloudiness from drinking glasses? It won't come off with a vinegar rinse.**

Cloudiness that doesn't come off with a vinegar wash is the early stages of etching on the glass. Etching is a permanent condition that cannot be reversed. It is not completely understood by the glass or automatic dishwashing industry. It appears to result from an unusual combination of factors including soft water, high heat, type of glass, and how the glass was manufactured. It can occur in all dishwasher types regardless of the brand of detergent being used.

To slow or prevent etching, match amount of detergent with your water hardness level and use no less than one tablespoon of detergent. Do not overload the dishwasher, make sure the water temperature is no higher than 130° F, and use the heat off or energy saver option.

**How can I remove the powdery residue left on glasses or cups?**

Rewash the dishes, check for proper loading of dishes and check to see the water temperature is no cooler than 120° F. Use the proper amount of detergent. Always use fresh detergent.

# THOR

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## [Spotting and Filming on Glassware]

- Can be caused by water temperature;
- Can be caused by not using proper amount of detergent;
- Can be caused by not loading the dishwasher properly;
- Can be caused by detergent cup malfunctioning.



### Cause:

Most glasses are spotty when the water temperature is not correct or the right amount of detergent is not used. Always make sure the dishes are loaded properly.

### Treatment:

Water coming into the dishwasher should be hot (water heater should be set no lower than 120 F). If the water temperature is too hot, flash drying will occur (i.e., drying takes place before the water droplets sheet off). Be sure to use the correct amount of detergent. More detergent for hard water areas and less detergent for soft water areas. Load dishes properly in the dishwasher. Make sure detergent cup is functioning properly.

### Prevention:

It may be necessary to run the hot water tap at the kitchen sink for a few minutes before starting the dishwasher. Run your dishwasher when other household demands for hot water (such as bathing or laundering) are low. In hard water areas fill all detergent cups. In soft water areas use less detergent. Be sure the detergent cup is opening properly. Follow the dishwasher manufacturer's instructions. Place dishes so water spray reaches all soiled surfaces. If bottom rack overcrowded, the water spray will be blocked.

### Note:

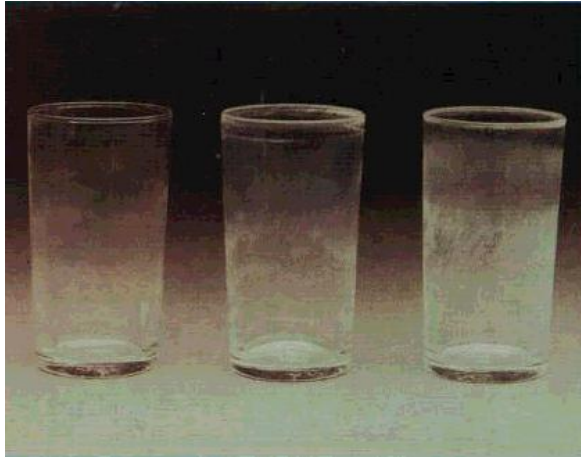
Water spots and filming can be removed by pouring two cups of vinegar into a bowl set on the bottom rack of the dishwasher and rewash the load without detergent. Make sure metal items are removed first. The acid in the vinegar can harm the metal. Then rewash the load with Cascade to remove residual vinegar. In extremely hard water areas, Cascade Powder if preferred, and a rinse agent will help. The drying part of the cycle also could be eliminated.

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[Cloudiness/ Rainbow-like Appearance on Glassware]

- Can be caused by silica filming;
- Can be caused by etching.



**Cause:**

Etching is not completely understood by the glass of automatic dishwashing industry. It appears to result from an unusual combination of factors including the water supply (if occurs more often in soft water), heat, type of glass, and how the glass was manufactured. It occurs in all dishwasher types regardless of the brand of detergent being used.

**Treatment:**

Etching is permanent damage. There's no way to restore glass that has been etched.

**Prevention:**

To help prevent etching, use less detergent in soft water areas. Dry without heat. Load dishwasher properly. Set your water heater at 120 F.

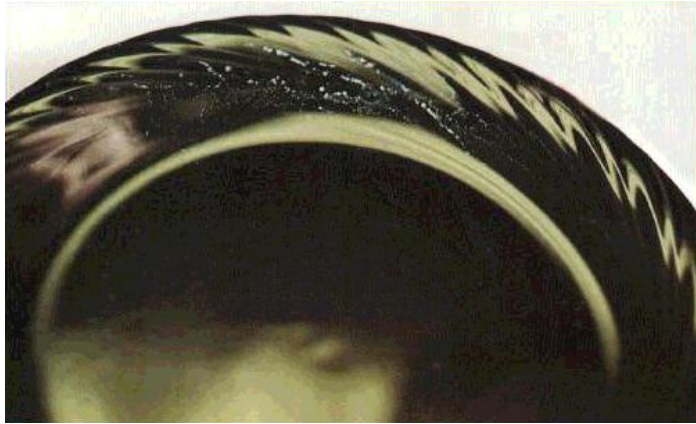
Call your local water company to see what your water hardness is and adjust the amount of detergent usage accordingly. If you have a water softener we recommend the water softener hardness level be set at 3-4 grains per gallon instead of totally softened water at 0-1 grains per gallon.

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## [Residue on Dishes]

- Can be caused by improper loading;
- Can be caused by water temperature too low;
- Can be caused by not using enough detergent;
- Can be caused by using old detergent.



### Cause:

Improper loading can trap water/detergent in between the dishes. If the water temperature is too low, the detergent cannot dissolve properly. Use the proper amount of detergent. Do not use old detergent.

### Treatment:

Check the dishwasher manual for proper loading instructions. Check the water temperature. Use the proper amount of detergent. Use fresh detergent.

### Prevention:

Always load dishes properly, do not overload or overlap dishware. Tilt the glasses in the upper rack, permitting them to drain. Run hot tap water closest to dishwasher prior to starting your machine. Store your detergent in a cool, dry place and use within a few months.

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**[Dishes not Clean]**

- Can be caused by not pretreating tough soils;
- Can be caused by too low water temperature;
- Can be caused by not using the proper amount of detergent;
- Can be caused by improper loading;
- Can be caused by insufficient water fill.



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## [Dishwasher Leaking/Oversudsing]

- Can be caused by using hand-washing detergents;
- Can be caused by water temperature too low;
- Can be caused by not using proper amount of detergent;
- Can be caused by rinse agent leakage;
- Can be caused by dishwasher malfunctioning.



### Cause:

High sudsing products such as hand-washing detergents not rinsed thoroughly from pre-treated dishes. Low water temperatures. Not using enough detergent so that suds can be suppressed by food soils such as eggs, mayonnaise and milk. Leaking rinse agent. Malfunctioning dishwasher such as door gasket failure, low water fill or improper leveling.

### Treatment:

Only use detergents recommended for automatic dishwashers. Make sure the water temperature is hot in the dishwasher. Use the proper amount of detergent. Check the manufacturer's manual to make sure the dishwasher is working properly.

### Prevention:

Thoroughly rinse any items treated with hand-washing detergents. Use enough detergent to suppress suds from soils such as eggs and milk. Run tap water before starting the machine. Check the rinse agent dispenser for leakage. Check door gasket and call for service if problem persists.

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## [Powder Detergent Not Dissolving]

- Can be caused by old detergent;
- Can be caused by water temperature too low;
- Can be caused by improper loading;
- Can be caused by improper water fill;



### Cause:

Old detergent or detergents not stored properly. Low water temperature. Improper loading. Insufficient water fill volume.

### Treatment:

Store detergent in a cool, dry area. Do not store under the sink where it is warm and damp. Always close the container between uses. Buy the size you will use within 2-3 months after opening. Maintain the proper water temperature. Load dishes properly. Be sure machine is filling properly.

### Prevention:

Always store detergent in a cool, dry place. Use detergent within a couple of months. Run faucet closest to the dishwasher prior to starting it. Load dishes properly. To be sure the water is not enough, run your dishwasher when other household demands (such as bathing or laundering) for water are low.

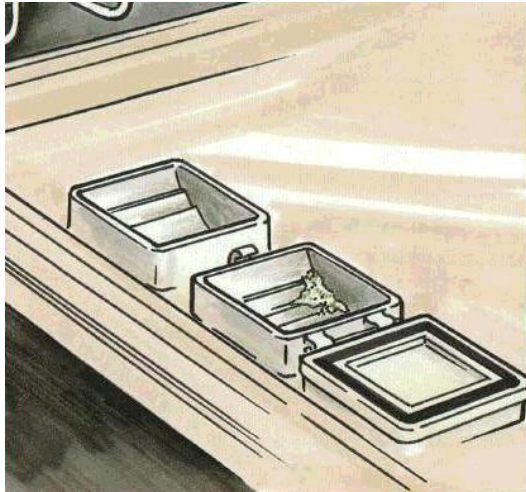


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## [Detergent Remains in the Dispenser Cup]

- Can be caused by dishwasher malfunction;
- Can be caused by wet cup;
- Can be caused by clogged/defective cup;
- Can be caused by detergent left in cup too long;
- Can be caused by overfilling cup.



### Cause:

Detergent dispenser cup malfunctioning/blocked. Adding detergent to a wet cup. Leaving detergent for prolonged period of time in cup. Overfilling the cup.

### Treatment:

Call for service if the cup is not opening or the spray arm not rotating. Always add fresh detergent to a drip cup. Use the correct amount of detergent. Load Properly.

### Prevention:

Check to make sure the detergent cup is working properly. Be sure no utensils are preventing the cup from opening. Add detergent to a dry cup. Add detergent when you are ready to start the dishwasher. Overfilling detergent will cause the cup to jam.

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## [Dark Spots on Silverware & Sterling Silver]

- Can be caused by direct contact with detergent;
- Can be caused by improper loading.



### Cause:

Direct contact between silver and the chlorine in undissolved detergent. Improper loading.

### Treatment:

Avoid spilling detergent directly on silverware. Be sure dispenser cup is closed properly. Close door slowly. Load items in the silverware basket properly.

### Prevention:

Make sure the dispenser cup is closed securely before starting the machine. Close door slowly so detergent won't fall directly onto silverware. Use silver polish to remove dark spots and tarnish. Separate sterling silverware from stainless. Follow manufacturer's instructions.

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## [Pitting of Metals]

- Can be caused by direct contact of dissimilar metals;
- Can be caused by acidic foods.



### Cause:

Contact between two dissimilar metals (like silver and stainless) in dishwasher. Prolonged contact with salty and highly acidic foods.

### Treatment:

Load Properly. Pre-heat.

### Prevention:

Silver and stainless should be placed in the silverware basket so they do not touch each other. Since most silver knives have stainless steel blades, make sure all knives are placed with the blades pointed in the same direction. Rinse salty and acidic foods off metal before putting them into the dishwasher.

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## [Distortion of Plastics]

- Can be caused by placement;
- Can be caused by heat;
- Can be caused by plastic not being recommended for dishwasher use.



### Cause:

Plastics vary in their ability to tolerate heat. The bottom rack is closer to the heating element. Not all items are dishwasher safe.

### Treatment:

Only wash plastic items recommended safe for the dishwasher. Keep plastic items away from the heating element.

### Prevention:

Place plastic items in the upper rack of the dishwasher. Dry without heat. Hand wash extremely heat-sensitive plastic items. Check manufacturer's instructions.

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[Black or Gray Marks on Dishes]

- Can be caused by rubbing;
- Can be caused by improper loading.



**Cause:**

Dishes and aluminium utensils touching each other. Overcrowding the dishwasher.

**Treatment:**

Load dishwasher properly making sure aluminium objects don't come into direct contact with dishes.

**Prevention:**

Load Properly being sure aluminum utensils, foil-type pans, etc., do not rub against dishes. To remove spots use a non-abrasive cleanser. Never overload the dishwasher or stack items on top of each other.

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[Yellow/Brown Stains on Dishes/Dishwasher]

- Can be caused by water;
- Can be caused by not using enough detergent.



**Cause:**

High iron or manganese content in water supply.

**Treatment:**

Fill all detergent cups completely. Use granular detergent.

**Prevention:**

Use granular detergent. Install a water softening unit. Do periodic cleanouts with products designed to remove the lime deposits which are dishwasher safe, or with citric acid crystals. Citric acid crystals can be purchased from a druggist or in a hardware store. Put one cup of the crystals in the bottom of the dishwasher and run it through a normal cycle (without dishes). Follow with full cycle detergent wash (without dishes).

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## [Odor in Dishwasher]

- Can be caused by leaving soiled dishes in dishwasher for several days while accumulating a full load.



### Cause:

Leaving the dishes sit for two or three days before running the dishwasher.

### Treatment:

Pre-treat or rinse dishes.

### Prevention:

Use Rinse-Hold of Short Cycle at least once a day.