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CCCCGC

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On occasion I will supplement our Monthly newsletter with an additional newsworthy issue. I find in researching the Web, interesting and relevant articles that are too lengthy for our monthly Bytes. I hope you find the articles interesting and informative.

Yvette, Bytes Editor



You Just Spilled Water Or Coffee On Your Laptop – Here's What You Should Do

April 15, 2013 By Guy McDowell

Okay, let's take a deep breath and deal with the emergency first. Any emergency requires us to take a moment or two and assess the situation. That way we aren't just reacting, we are acting with intent. Usually, that works out better in the long run. Time is precious in emergencies, but so is rational thinking and that's what you came here for, isn't it?

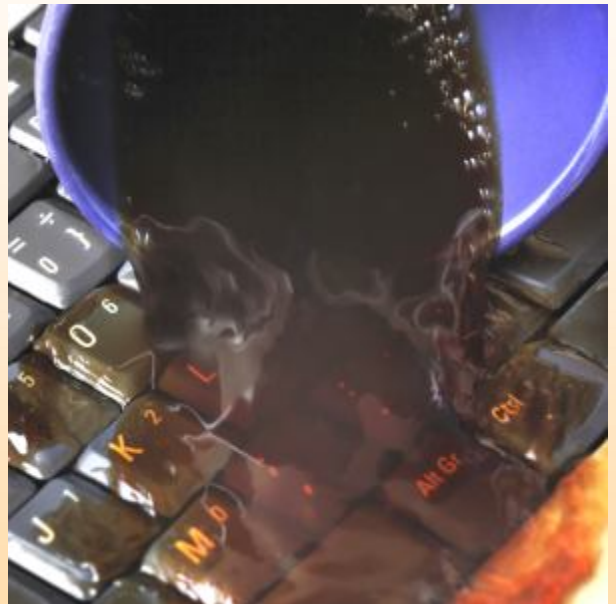
So take another calming breath and answer the following questions. They'll help you figure out what you need to do next.

Can you still see things on your laptop's monitor? Or are there flames, sparks, and smoke?

Remain calm and carry on reading this article. It WILL help you.

There Are Flames, Sparks & Smoke!

1. Stop the spill. Stop whatever is spilling on it from spilling on it more. If this means tossing your water or coffee cup away from the laptop, do so and worry about that mess later. That mess won't hurt you.



2. Cut the power to your laptop. Unplug your laptop's power cord AND network cable from the wall. Do NOT remove any other cables from the laptop itself. Trying to do so might result in an electric shock for you.



3. Call for Help.

1. **First**, yell **FIRE, FIRE, FIRE!** This alerts people around you that there is a fire so they can leave the building to safety.

2. **Second**, call 911 or the fire department. Be prepared to tell them who you are, where you are, and the nature of the fire.

3. **Third**, try to put out the fire with a fire extinguisher rated C for electrical fires.

If you don't have a C-rated fire extinguisher, you can try using baking soda. Baking soda, when heated releases CO₂. That takes the oxygen away from the fire and smothers it. Do NOT use water or liquids. Do your best, but don't waste time.

Get Out. Whether you put the fire out or not, get out of the building. Laptops are made of many chemicals and metals which can be nasty when burning. Don't try to be a hero.

No Flames, Sparks Or Smoke.

Good. Remain calm. Chances are this will be the case since many laptops have a degree of water-resistance to their keyboards these days. Still, if you want to save your laptop you'll need to act fast. The first two steps are the same here as above:

1. **Stop the spill.** Adding more liquid isn't going to make things better.

2. **Cut the power to your laptop.** Unplug the laptop and the network cable from the wall. **Now**, disconnect the power cable from the laptop. Please be careful when doing this. Some power sources have capacitors in them that can still store a charge and if you touch it with wet hands will give you a nasty shock.

3. **Turn the laptop over and remove the battery.** This cuts all power to the laptop. Electronics and water don't have as hard a time together as they do when there is electricity flowing through them. Turning the laptop over will also help in draining the liquid off of your laptop.

4. **Observe.** Don't do anything with the laptop for a good while, maybe 30 minutes or more. I say this just in case something is smoldering away in the laptop that could become a fire.

If it **DOES** turn into a fire, **Call for Help** and **Get Out**, just like it says at the beginning of this article. If you notice a pungent odor near your laptop, there might have been a short-circuit in your laptop and you don't want that becoming a fire. If you've ever short-circuited something, you'll know that ozone

smell all too well. It's the smell of unicorn tears to us geeks.

Those steps are the emergency steps. By following those steps, you may have saved your laptop, prevented a fire, and prevented injury to yourself. That's all that is really important here – **your safety**. Laptops we can replace, replacing you requires a lot more paperwork and involves a hiring campaign.

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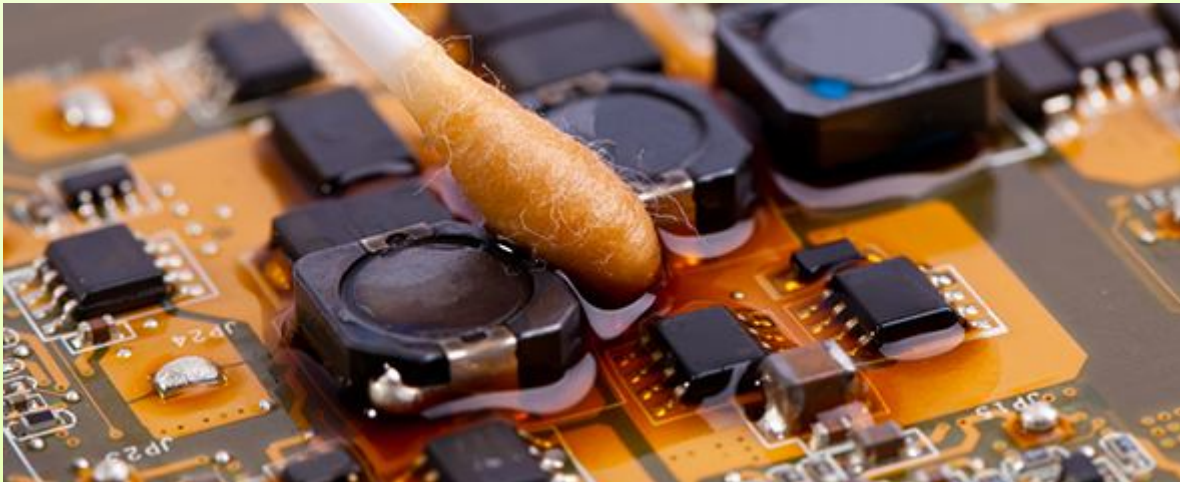


Now What?

Assuming that the fire department didn't have to come out and that there is something left of your laptop, we can try to restore the laptop to see if it's still useable. If not, then we can try salvaging parts from it to recover data, or maybe have some useful RAM for our next laptop, maybe some other things like the screen and electrical components can be saved for kit-bashing into other fun electronics projects.

Tina just wrote an excellent article on how to dispose of an old laptop. If you're looking for greater detail on how to remove components like your hard drive and RAM from your laptop, I recommend Matt Smith's [How To Upgrade Your Laptop In a Flash: Add a New Hard Drive & Increase RAM](#).

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The 3 D's

If you are lucky, it was just a water spill. Or at least some other drink that doesn't have sugar or sugar substitutes in them. The sugary stuff be-

comes nasty sticky when it dries, you no doubt know.

1. **Drain.** Drain as much of the liquid off of the laptop as you can. This usually involves turning it upside down like we did in a step above, but we want to drain it to the point where nothing is dripping off anymore.

2. **Dab.** Using a super absorbent moist-but-completely-wrung-out sponge or cloth, dab the exterior surface of the laptop extensively. Believe it or not, the Sham-Wow really does work very well for this, said the man with experience. Keep rinsing and wringing out the dabber and keep dabbing. Get all the water or sugary stuff off of the laptop. Press gently on and between all the keys, buttons, and ports. You might want to use a Q-Tip for the ports and vents. If you feel comfortable taking access panels off of your laptop, go ahead and do that, and use your dabber to remove any moisture in those areas. You could go as far as removing the hard drive and the RAM and checking the connections on those for any moisture. I don't recommend taking the entire laptop apart for anybody, since that's quite an undertaking. Plus, if you know how to take your laptop completely apart and put it back together again, this article is probably a little on the amateur side for you.

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Refurbisher

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Using dessicants is probably overkill, but they are worth considering if you have them and you've removed your hard drive and RAM. This is not a good method for drying out the entire laptop, unless you have a big bin and a big bag of dessicant.



There are professional grade silica dessicants, like the little packets you sometimes see in medicine bottles, or you can use the household remedy we call rice.



Rice can absorb up to twice its volume in water, making it a handy dessicant to keep around for such emergencies. Rice is also big enough that it is easily removed from the surface of most electronics. You put the hard drive and RAM into a bucket of rice big enough that the rice will completely cover the parts. Let it sit for at least 24 hours, longer if you can stand it. Then remove the parts and inspect for any residual moisture, or globs of sugary drink. Remove those with the dabber, like mentioned above.

If you've got a bunch of silica packets, you'll want to empty the contents and immerse your electronics in the beads. The packet material does limit absorption somewhat.



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Sugary Drink Glob Removal

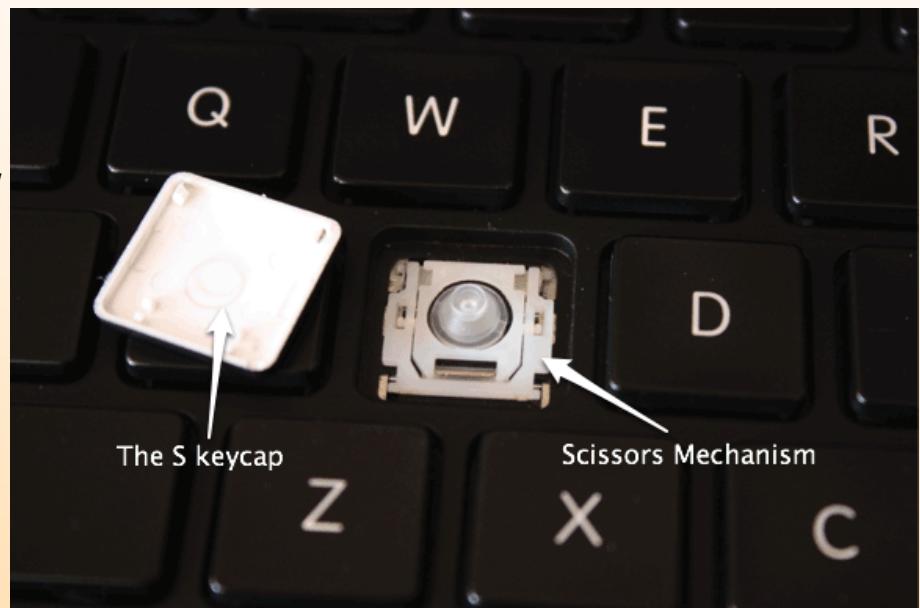
If there is any residue left on the parts or the laptop from a sugary drink, use only the dabber rinsed in warm water and completely wrung out. You may have to gently rub on the residue to remove it, but be careful not to scratch any surfaces if you can – especially your screen.

You might notice that some of the keys on the laptop aren't functioning like they used to – now they stick a little or a lot! Laptop keys are fairly easily removed and replaced. Gently pry up the key until it pops off. Underneath the key, you may see an scissor like mechanism. This is what holds the key on, and pushes it back up into place after your press the key.

Gently clean around that part with either your dabber or a slightly moist Q-tip until all the residue is gone. Jackson did an article on doing this same thing on his MacBook.

You can use either plain warm water, or rubbing alcohol as mentioned above. Personally, I don't recommend soapy water. Do the same with the key itself. Once you've removed all the residue, gently push the key into place. If done well, you'll hear a satisfying little click and feel the key go down and come right back up again. Now move on to the next sticky key and do the same thing.

Once you've gone through your keyboard one by one, give the laptop some time to air out and try the keys again.



Data Recovery

Maybe the laptop's motherboard is cooked, or the RAM is no good. Really, that's for a technician to decide. What you can do is try to recover your files off of the hard drive. Here's how we go about doing that.

1. Remove the access plate above the hard drive. This is usually indicated by an icon that looks a bit like a hard drive or the initials HDD or SSD. If you aren't sure what access plate to remove, refer to the manufacturer's website for details.
2. Discharge any static electricity on you. You can do this by using a static discharge wrist band or touching something metal that is grounded.

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3. Remove the hard drive. Usually this is done by gently sliding the hard drive back from the connectors maybe half an inch. Once the hard drive is clear of the connectors, put it in a place safe from spills, Spilly McSpillypants.

4. Get an external hard drive enclosure or SATA to USB device, or hard drive dock. Any of these devices should allow you to connect the hard drive to another computer so that you can access the files. If the plates spin on your hard drive, you should be able to recover the files. Solid State Drives might not be as easy to troubleshoot. Now back up all of your files to this computer and save them for transferring to a new laptop. Or, if you already bought a new laptop, use the device to connect to the laptop and transfer the files on to the new laptop. Either way, data saved!

5. If all of the above fails, you may need to contact a data recovery specialist. They have an array of hardware and software tools to help them recover as much data as possible. Their services aren't cheap, but if it's your only copies of important photographs or sensitive data, this option may well be worth it.

There will be no next-time. You got a no-spill sippy cup right? But just in case, make sure that you are making regular backups of important data to an external hard drive or cloud storage like DropBox or GDrive. That way, you can at least avoid the panic of whether your important data is safe or not. You may also consider looking into hardware insurance for your laptop. Some plans cover replacement due to perils like spillage or even dropping. These plans are usually purchased from someone other than the manufacturer, and you need to read the plan very carefully before buying into it.

We've covered the emergency measures to make sure that you are safe in the event of a spill on your laptop. We've also gone over the cleaning and drying of your laptop to try to save it and keep it useful. We've also gone over some steps on data recover if your laptop simply didn't make it. We've also touched on preventative measures so that this incident doesn't repeat itself.

I hope you've found the information here useful, or at least it opened your eyes to what can possibly happen with spills around electronics. If you've found it useful, or have some stories about spills to share, please do so in the comments below. I respond to as many comments as I can.

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