

# ITFreeTraining



## Toxic Waste Handling

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In this video from ITFreeTraining, I will look at toxic waste handling. When handling IT equipment, it is important to understand these, to keep yourself safe and the environment.

# Why is E-Waste Disposal Important?

- Approximately 50 million tons of e-waste worldwide
- Almost 100% can be recycled



0:11 To start with, I will first look at why it is important to dispose of electronic waste or e-waste responsibly. It is estimated that approximately 50 million tons of e-waste is currently created worldwide.

That is a lot of waste. There have been a lot of improvements in recycling and almost 100% of e-waste can now be recycled. Nowadays there is money to be made recycling e-waste, so don't be surprised if your local recycling management center will take your e-waste from you free of charge. In some cases, your local council may pick up your e-waste from you on certain days of the year. Let's have a look at some of the things you may need to recycle when working with computers.

# CRT Monitors

- Largely obsolete nowadays



Heavy and bulky

Vacuum tube



Contains high-voltage capacitors

0:55 Although largely obsolete nowadays, you may come across a cathode-ray tube or CRT monitor. Around the 2000's, LCD started replacing CRT monitors in the market place. Before this, LCDs were quite expensive and CRT was superior in frame rate and quality.

LCD overtook CRT in frame rate and quality, but CRT still has some advantages over LCD. However, the gap is so small and the LCD price is so low, most areas where CRT would have been used have now been replaced by LCD. It is good to have a basic understanding of CRT in case you come across one when cleaning out a storage room.

CRT monitors compared to LCD are heavy and bulky. The reason they are bulky is that they contain a vacuum tube. There needs to be room for this tube and thus CRT monitors cannot be flat like LCDs. The glass tube is shatter proof, but if you drop it hard enough it will break. So, if you have a few CRT monitors I would not stack them on top of each other.

CRT monitors contain high voltage capacitors to make them operate. Keep this in mind if you take one apart. This is most likely to happen when you are fixing a device that is an all in one device. That is, the CRT monitor and the computer are the one device. If you are disposing of it and it is in pieces, remember it can still keep a charge for a long time, so be careful when handling it. Best if you are disposing of it to leave it in its plastic case. Also, when disposing of it, take it to an e-waste management center or drop-off point. If you dispose of it in regular rubbish it will just go to landfill.

# Batteries

- Dispose of appropriately
- Contains toxic/corrosive materials



2:44 A lot of devices nowadays contain some kind of battery. It is important to dispose of batteries appropriately. Where you live in the world will determine how you can dispose of batteries. In some countries, certain batteries are required to be disposed of through a recycling center while others can go to landfill. Generally, there should be somewhere you can drop off your batteries in your local area. Your local shopping center may have a disposal area.

Batteries also contain toxic and corrosive materials. If you have a battery that is leaking you should use gloves and safety goggles to minimize the risk of burns.

# Electronic Devices

- Devices may contain lead, mercury and arsenic
- Do not dispose of in landfill or incinerators

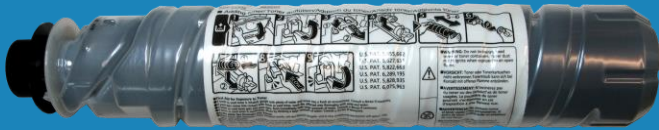


3:21 In your career you will need to dispose of old computer equipment. These devices include old computers, their components like motherboards and expansion cards, old telephones and cell phones and other devices like tablets and printers.

These devices may contain toxic materials like lead, mercury and arsenic. Ensure you dispose of these items at an approved waste management facility. Do not dispose of them in landfill or using an incinerator. Particularly don't use an incinerator as this will release the harmful materials from the components into the atmosphere. If the equipment you are disposing of is still in working order there are places you can donate the equipment to.

# Toner Kits and Ink Cartridges

- Not considered hazardous
- Don't wash toner off with warm water



4:06 The next items that you are likely to come across are toner kits and ink cartridges. These items are not considered to be hazardous, however I would be careful about not inhaling or consuming them. They can still cause health problems. If there is a lot of toner in the air, consider using an air filter mask.

If you spill toner on yourself, do not wash the toner off with warm water. Toner bonds when it gets hot. Washing the toner with warm water may cause the toner to bond to your skin. Eventually the toner will disappear, but you don't want to have toner stuck to your skin if you can avoid it. The same goes if you get it on your clothes. Wash your clothes with cold water.

# Summary

- Don't disassemble CRT screens
  - Risk of electrical shock
- When working with corrosive material
  - Use gloves and goggles to minimize risk
- Use air filter masks when handling toner
  - Use approved equipment to clean up toner
- Dispose of equipment at approved waste facility

4:48 To end this video, I will do a quick summary of the major points. If you have any old CRT screens, don't dismantle them unless you are trained to do so. CRTs contain capacitors which can hold a charge for a long time and thus dismantling them puts you at risk of getting an electric shock.

When you are working with corrosive materials, use gloves and goggles to minimize risk. A lot of the time corrosive material will be encased in a protective material, usually plastic. If it is not broken or leaking you won't need to worry, but if it is leaking use precautions.

If you are handling material that can get into the air, like toners, use an air filter to prevent the toner getting into your lungs. If you have a spill, use approved equipment to clean up the toner. The manufacturer will be able to give you advice on how to safely dispose of the toner. Toner cartridges are well designed to not leak, so unless it is damaged this should not be a problem.

If you need to dispose of equipment, do so using an approved waste facility. There should be an e-waste facility near you. If not, sometimes a collection can be arranged. This may be limited to certain days of the year. If the business you work for is big enough, they may already have special disposal bins at the business.

Thanks for watching this video from ITFreeTraining. I hope you have found this video useful and I hope to see you in other videos from us. Until the next video, I would like to thank you for watching.

## References

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Trainer: Austin Mason <http://ITFreeTraining.com>

Voice Talent: HP Lewis <http://hplewis.com>

Quality Assurance: Brett Batson <http://www.pbb-proofreading.uk>