

Is soldering iron solder toxic?

A netizen touted that he soldered in the [PCB factory](#) with a soldering iron for a whole year, are feeling the body began to feel uncomfortable, the abdomen is a bit bloated, solder is toxic? Is not lead poisoning.

In fact, this also depends on the work with a soldering iron soldering leaded solder wire or lead-free, and the need for regular checks of blood lead, not exceeding the standard will not have a problem at all, solder is toxic? Normally speaking, if in accordance with national standards for protection and procurement of raw materials, solder will not cause significant harm. Nowadays, we basically use lead-free products.

Lead is a toxic substance, the human body absorbs too much will cause lead poisoning, intake of low doses may have an impact on human intelligence, nervous system and reproductive system. The alloy of tin and lead, which is commonly used as solder, has good electrical conductivity of the metal and a low melting point, so it has long been used in the soldering process. Its toxicity comes mainly from lead. Lead fumes from soldering can easily lead to lead poisoning.

Lead metal may produce lead compounds, all of which are classified as hazardous substances, and in humans lead affects the central nervous system and the kidneys. The environmental toxicity of lead to a number of organisms is well established. Blood lead concentration of 10 μ g/dl or more will produce sensitive biochemical effects, if long-term exposure to make the blood lead concentration of more than 60~70 μ g/dl will cause clinical lead poisoning.

Lead is definitely toxic, not to mention his big or not, is the general metal, more will be poisoned, soldering, there will be smoke, which contains a harmful element to the body. When working, it is best to wear a mask, but more or less will be a little bit of an impact, of course, if you can use lead-free solder wire, will be more than leaded, to be much safer.

Is lead-free solder toxic?

Soldering with a soldering iron material solder wire, it is the main ingredient is tin, but also contains other metals. It is mainly divided into leaded and lead-free (i.e. environmentally friendly). With the introduction of the EU ROHS standard, now more and more [PCB soldering factories](#) choose the lead-free environmentally friendly, leaded solder wire is also slowly being replaced, not environmentally friendly out of the mouth. Lead-free solder paste, lead-free solder wire, lead-free solder bars are the main products on the market.

Simply put: the harmful general use of solder because of the low melting point, containing lead 60%, containing about 40% tin, so the solder itself is toxic. Most of the solder on the market are hollow, filled with rosin, so the gas you said, it is estimated that the welding of rosin melting inside the solder volatilized out. Rosin volatile gas is also some slightly toxic, this gas is quite unpleasant. Solder in the welding of the most important hazardous factor is lead smoke, even

lead-free solder, which contains more or less lead. Lead fume in GBZ2-2002 in the limit value is very low, very toxic, need to focus on protection. Due to the damage of the welding process on the human body and the environment, in Europe, the protection of welding workers and the protection of the environment has been enforced in the form of legislation, in the absence of how to protect the conditions of welding is not allowed. In the ISO14000 standard on the production process of pollution generated by the treatment and protection of clear provisions.

Tin contains lead, lead in the previous solder wire soldering classified as an occupational hazard positions (in the National Occupational Disease Inventory); now we generally use lead-free solder wire, the main ingredient is tin, the CDC measured tin dioxide; and not in the National Occupational Disease Inventory. Lead-free process (leadfree) generally speaking, lead smoke is not excessive, but there are other hazards of solder, such as flux (rosin-like substances) have a certain degree of harm, depending on the specific circumstances to see. Employees can usually look at the distribution of the tin is what labeling, which belongs to which category, so that you can have evidence and require companies to rectify (you can give advice to the factory's internal trade unions). If the tin that is distributed contains lead, it is definitely harmful to the body. Over time, they accumulate in the body, the nervous system immune damage.

Lead-free solder wire is environmentally friendly, but lead-free solder wire is also harmful to the human body. The low lead content of lead-free solder wire does not mean that it does not contain lead, and compared with lead-containing solder wire, lead-free solder wire is less polluting to the environment and the human body than lead-containing ones. The gas produced when soldering is toxic, there are rosin oil, zinc chloride and other gas vapors produced.

Soldering iron soldering wire is toxic how to prevent:

First of all PCB factories in the soldering iron soldering components to use ROHS tin wire, and to do a good job of prevention: for example, with gloves, masks or gas masks, the workplace attention to ventilation, exhaust system is good, pay attention to cleaning after the work, drink milk is also a way to prevent lead toxicity in the solder.

1. To rest for a period of time, generally take a break of about 1 hour and 15 minutes to relieve fatigue, because fatigue resistance is the worst;
2. Less smoking, drink more water, so that in the daytime can eliminate most of the harmful substances absorbed;
3. Drink green bean soup or honey water before going to bed This can reduce the fire on the mood to help, and green beans and honey can exclude the absorption of a large number of lead and radiation!
4. Can avoid radiation as much as possible to avoid, more use of the phone, less use of cell phones, out of no way to use a cell phone;

5. Can make the soldering iron a little brighter, try to use the PPD soldering head, so that the temperature reached, you can use less soldering oil and rosin, to reduce the harm to the body;
6. Soldering oil soldering smoke when you try to head to the side of the point, brush the time of the water to the side point of the head, try to hold your breath;
7. Less use of water, more use of alcohol, with alcohol more brush for a while the effect is almost the same;
8. To wash your hands;
9. Before going to bed to take a bath, try to go to bed early and get up early to ensure adequate sleep, as long as you sleep well, impurities can basically be discharged with the body;
10. Work with a mask.