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Cadmium is a toxic metal, even more toxic than lead. Both, as with mercury, are hard to get out of the body, so should be avoided in smoking, drinking water, fertilisers and supplements. It is a naturally occurring toxic heavy metal that has no useful function in soils, plants, animals or humans. In mammals, Cd is almost absent at birth, but accumulates with age, especially in the liver and kidneys where it can cause health problems. Some soils have high levels of Cd from sludge, the atmosphere in polluted areas, and from some high Cd phosphate fertilisers. Fertiliser levels vary from 2 ppm to 100 ppm. Ask about Cd levels in phosphates before buying them. Once in the soil it is hard to remove. Raw phosphate from Nauru Island that came into NZ until all was used up was very high in Cd. North Carolina reactive phosphate also had very high Cd levels that I complained about in farming magazines in the 1970s until importing it was stopped.

Excess Cd apparently upsets male hormones and can cause kidney damage. Taking Magnesium chloride side effects

Thompson's Organic Magnesium decreases the concentrations of Cd and lead in the body.

Even non-organic foods, fruit and vegetables contain some Cd, while organic ones may have none, unless containing seaweeds in any form.

On a dry weight basis the concentration of Cd in crops grown in non-contaminated soils and not naturally high in Cd, range from 0.01 to 1.0 mg/kg. Leafy vegetables (lettuce, spinach) usually have the highest Cd concentrations, grains (wheat, oats, barley) show the lowest concentrations, and root vegetables (carrot, radish, onion, potato) are between the two extremes. Concentrations of Cd in crops grown on soils elevated in Cd, either naturally or from applicatins, may accumulate substantially greater than 1.0 mg/kg.

Cd concentrations in healthy persons without excessive Cd exposure are generally less than 1 µg/L in either blood or urine. Those who have sustained renal (kidney) damage due to chronic Cd exposure often have blood or urine Cd levels in a range of 25-50 µg/L.

Higher levels of Cd may occur near some industrial areas or hazardous waste sites.

Compounds containing Cd are carcinogenic (cancer causing).

Bones can become soft (osteomalacia), lose bone mineral density (osteoporosis) and become weaker. This causes the pain in the joints and the back, and also increases the risk of fractures. In extreme cases of Cd poisoning, just the body weight can cause a fracture.

Cd damaged kidneys lose their function to remove acids from the blood in proximal renal tubular dysfunction. The kidney damage inflicted by Cd poisoning is irreversible. The proximal renal tubular dysfunction creates low phosphate levels in the blood (hypophosphatemia), causing muscle weakness and sometimes coma. The dysfunction also causes gout, a form of arthritis due to the accumulation of uric acid crystals in the joints because of high acidity of the blood (hyperuricemia). Another side effect is increased levels of chloride in the blood (hyperchloremia). The affected kidneys can shrink by 30%. Cd can cause kidney stones.

Acute exposure to Cd fumes may cause flu-like symptoms including chills, fever, and muscle ache sometimes referred to as "the Cadmium blues." Symptoms may resolve after a week if there is no respiratory damage. More severe exposures can cause tracheo-bronchitis, pneumonitis, and pulmonary edema. Symptoms of inflammation may start hours after the exposure and include cough, dryness and irritation of the nose and throat, headache, dizziness, weakness, fever, chills, and chest pain.

Inhaling -laden dust quickly leads to respiratory tract and kidney problems which can be fatal (often from renal failure). Ingestion of any significant amount of causes immediate poisoning and damage to the liver and the kidneys. Compounds containing are also carcinogenic.

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and sometimes coma. The dysfunction also causes gout, a form of arthritis due to the accumulation of uric acid crystals in the joints because of high acidity of the blood (hyperuricemia). Another side effect is increased levels of chloride in the blood (hyperchloremia). The kidneys can also shrink up to 30%. Exposure is also associated with the development of kidney stones.

Other patients lose their sense of smell (anosmia).

USA Integrated Agricultural Management Specialist, Dr Katherine Buckley, says the Brandon study confirms European research that suggests farmyard manure can render less Cd available to plants by binding it in the organic matter. This is another example of how beneficial organic farming is by increasing organic matter in soils.

### **Control**

The USA Integrated Agricultural Management specialist, Dr Katherine Buckley, says that her research confirms European research that suggests farmyard manure can render less available to plants by binding it in the humus.

Cd has been found in some plastic toys and some food wrappings and containers, and worst of all in some human health supplements. Before I found this, a third of the supplements I was taking had Cd and other toxic metals.

### **Clothing**

After wearing Van Heusen underpants and went to an alternative health specialist about what became a severe itch/pain on my hips. He asked if I was wearing Van Heusen underpants and told me that their rubber in the waist band contained cadmium which entered the body and caused the itch.

I took some to Chris Rhodes in Hamilton (See Health Specialists.) who measures heavy metals in supplements, and he confirmed that the waist band had 7 parts of cadmium!

I Googled and found many negative criticisms about Van Heusen clothing apparently made in India. Some caused bad rashes that led to some of their shirts being withdrawn from the market. They use the poisonous formaldehyde to reduce creasing in their clothing. Formaldehyde in curtain backings has made people sick.

Chris Rhodes tested Jockey underpants and some elastic (not all) contained Cd. Pelaco mens' pyjama trousers also had Cd rubber bands. I complained and both corrected them. Van Heusen in Australia argued about it being a problem. I Muscle Test all rubberware now.

I could not get rid of the itch until Pevaryl was recommended, and that took months twice a day.

### **In plants**

Some weeds take up more Cd than pasture does. As with some other minerals, fast growing nitrogen boosted pasture, takes up less than slow growing pasture.

The world standards state that no more than 10 ppm of Cd should be in any food to be fed to livestock. That is a lot for such a dangerous toxin.

### **In Fertilisers**

Nauru Island (90 ppm) and North Carolina (48 ppm) phosphates prior to the 1990s, caused our soils to get high levels of Cd.

John Turner, consultant to Hill Laboratory, wrote, "Paul C Chiy and Clive J C Phillips found that fertilising with sodium (salt) reduced the concentrations of Cd in soils."

Fertilising with salt, when deficient, based on pasture analysis, at up to 100 kg per hectare reduces the necessity for so much potassium, and reduces its leaching. When applied with organic fertilisers or lime, salt helps reduce other leachings and improves animal health. See Elements > Salt. Superphosphate is mostly made from cheap phosphates which contain Cd and other toxins so cost only \$80/tonne instead of \$400/tonne. Never fertilise with a superphosphate.

### **In Foods**

The maximum Cd allowed in human food in New Zealand is 1 ppm and in Australia 0.5 ppm. Some foods from some countries exceed 0.5 ppm, so are rejected by Australia. In the UK, the maximum allowed is 0.2 ppm.

Smokers usually have Cd blood level of about 40 nmol, while non-smokers have about 5 nmol. Under 5 nmol is healthy.

### **Googling for Van Heusen + formaldehyde, showed -**

“I have been using Van Heusen clothes for over 12 years. In my hair test analysis my antimony is very high. After doing much research, I found Van Heusen wrinkle free and stain free poplin shirts have a chemical they use to make it this way. It contains toxic metals. I was getting ready for a job interview and I just purchased a new Van Heusen Poplin shirt and within 3 mins of wearing it I started to get a headache and noticed a funny smell.”

Another wrote, “My wife and I just came back from a week-long hiking trip in the White Mountains. While we were up there, we took advantage of the local shopping. I went to a Van Heusen outlet store to buy new pants for work. The pants were advertised as wrinkle and stain resistant. I figured that would be good - why iron and worry about stains? So, I picked up 4 pairs of pants and off we went.

“When we took the clothes home, we noticed a distinct smell emanating from the clothes. Upon research, I found out that wrinkle and stain resistant clothing is because formaldehyde, and/or other toxic chemicals.

“Formaldehyde is an excellent preservative and has many beneficial uses, but because its an identified carcinogen, it has to be handled carefully with gloves or respirator masks to avoid inhalation or contact. Clothes are made wrinkle free by either soaking the fabric in formaldehyde or exposing the fabric to formaldehyde gases, and then baking the fabric at 300 degrees Fahrenheit. By using high heat to infuse the chemical into the fabric, the chemicals do not wear off in the wash.

“I called the 1-800 number for Van Heusen to identify which specific chemicals were used in this line of clothing. They said that information was "proprietary" and wouldn't disclose it. I then looked online and saw that Lands End also sold wrinkle and stain resistant clothing. I called them, but they too would not reveal the chemical contents used to make their clothes wrinkle and stain resistant. When I asked why they couldn't tell me the chemicals, they rebutted by saying it was a trade secret - similar to KFC's "Colonel's Secret Recipe" (as a vegan, I didn't necessary appreciate the analogy!). The same happened when I called Brooks Brothers when inquiring about their wrinkle free clothing. I figured if these companies were using healthy chemicals to achieve a stain and wrinkle free nirvana, then they would quickly disclose that information.” End.

I can add that Glyphosates can cause deformities in infants before birth in humans and animals.

Dry and itchy skin can get blamed on gluten. The wide variety of ailments caused by gluten can make it get blamed for things it doesn't cause. An example is Cd poisoning from the rubber or elastic in Van Heusen underpants which wrecked my waist after wearing them for 2.5 years. The itch spread and took two years to get rid of. Google for Van Heusen itch and then formaldehyde and you'll see other problems from their clothing.

Farmers Ltd importing Van Heusen underwear stopped several years ago, but then in 2012 imported Pelaco mens' pyjamas that also had Cd in the elastic waist band!

Muscle Testing reveals Cd in rubberware, so we Muscle test all rubber now.

I got an itch around my waste after wearing Vanheusen underpants and went to an alternative health specialist about what became a pain around my waste. He saw I was wearing Van Heusen underpants and told me that men had stopped wearing underpants because of the pain from them and they later found that it was only Vanheusens doing it.

He'd found that the rubber waste band contained cadmium.

I took some to a specialist who measures heavy metals in supplements and clothing and he confirmed that the band had a cadmium level of seven when it should be zero.

I Googled and found a lot of negative criticisms about Vanheusen clothing apparently made in India, including rashes and a shirt “withdrawal” because they had used ??? to stop shirts getting wrinkles.

Googling revealed that formaldehyde to reduce creasing, has been found in Vanheusen clothing.

I got some Jockey underpants measured and they measure zero so were clear.

### **Abstract**

Blood Cd concentrations were studied in Alzheimer's disease (AD) and non-demented subjects in

Stockholm. Smokers had, as expected, higher Cd levels than non-smokers. In contrast to previous reports no differences in blood cadmium levels were found between AD sufferers and non-demented subjects. Furthermore, there were no correlations between cadmium levels in blood and age or cognitive functions. Smokers usually have cadmium blood level of about 40 nmol, while non-smokers have about 5 nmol. Under 5 is not dangerous.

Some Cd mines, some industrial areas and cigarette smoke are major polluters.

Also read Cadmium in Minerals in Soils, Plants and Animals.