

Clothes, towels and bed linen are in close contact with us, and can be a big challenge for people with chemical sensitivities. We discuss the different materials, the chemicals they contain and how to look for safer textiles.

Keywords: clothes, bedding, textiles, chemicals, dyes, chemical sensitivity

People with chemical sensitivities (MCS) often have problems tolerating clothes – both the basic materials and the many chemicals used to treat the fabric and the finished garment.

They can cause a variety of symptoms in people with MCS, from rashes and hives to dizziness and brain fog.

When textiles are in contact with the skin, the heat can make chemicals evaporate faster and then inhaled. They can also enter through the skin by direct contact. Over time, fibers get lose and become a part of the household dust which can be inhaled, and small children may ingest them while playing on the floor (KemI, 2014)

Materials

The basic materials used in textiles are:

Natural	Synthetic
Cotton	Polyester
Wool	Polyamide (nylon)
Flax	Viscose
Silk	Acrylic
Hemp	Polyurethane/Polypropylene
Bamboo	PVC (polyvinyl chloride)

Source: KemI (2014) and others.

Some textiles are made of blended materials. Cotton/polyester and wool/polyester blends are very common.

There is no material that is the "safest" for everyone, though in the MCS community the most popular materials appear to cotton, silk and polyamide (nylon).

Cotton is the most popular material both in the MCS community and on the regular market.

Silk is another natural material. It comes from silk worms in Asia. There are different kinds of silk, some people report they feel best wearing one particular type.

Some people prefer nylon, despite it is a synthetic material. There are companies making nylon shirts, dresses and pants.



Polyester is one of the most common clothing materials, but it appears to be particularly problematic for people with chemical sensitivities (Rea, 2002).

Some people who can't wear 100% polyester clothing are able to use it in a cotton/polyester blend (such as 20% polyester) in sweatshirts that have little skin contact.

Organic cotton

Some brands offer clothes made of organic cotton. That does not guarantee the garment is non-toxic – years ago this writer bought an organic polo shirt from a premium brand. It was treated with some horrible chemical that was impossible to wash out.

Nonetheless, organic cotton clothes tend to have fewer chemical treatments and less pesticide residue.

Some people with MCS are sensitive to cotton oil, which is often still present in organic cotton cloth. It can be washed out eventually.

Chemicals added to textiles

There is no list available of all the chemicals used in clothing and bedding. In 2014 the Swedish Chemicals Agency was directed by the Swedish government to investigate hazardous chemicals in clothing.

They were not able to put together a definite list because of trade secrets. Instead they indirectly looked for chemicals that potentially could be used on clothes. They found no less than 3500 different chemicals (KemI, 2014).

Of the 3500 chemicals, a thousand were trade secret protected, so the investigators could not determine how dangerous they were. Of the rest, they identified 368 chemicals as hazardous, though there could be others that had not been tested for toxicity.

They identified a long list of chemical types that might be present in a given textile, such as:

- Dyes
- Fragrances
- Stain repellents
- Water repellents
- Anti-shrinking agents
- Anti-wrinkle agents
- Stiffening agents
- Flame retardants
- Plasticizers
- Biocides
- Preservatives
- Process chemicals

Process chemicals are added to make it easier to work the material in the factory, such as solvents, softeners, surfactants and acids. Some are added to prevent the material from getting moldy during storage and transport.

Cotton may have pesticide residues, as that is a heavily pesticided crop. When cotton is harvested, all the plants in the field are killed by pesticides to make it easy to pick the cotton by machine.

In recent years it has become common to add biocides to clothing to prevent odors from bacteria, especially in athletic wear. These are often marked as "anti-odor" or "bacteria resistant." Or they may be marked with a trade name, such as Microban.

Some countries fumigate containers that arrive from certain other countries to prevent exotic insects from entering the country. Australia and the United States do this.

Dyes

There are many types of dyes and dyeing processes. Each dye and process is usually best suited to a specific type of fiber (DK-EPA, 2014)

This means that people wearing dyed cotton clothes may be exposed to different chemicals than people wearing polyester clothes. Whether this is the reason so many people with MCS do not tolerate polyester is unknown.

Most textile companies don't know what is really in their cloth

The vast majority of the basic cloth is made in countries where environmental laws are very lose or loosely enforced. Even if a garment is labeled "Made in America" or "Made in EU" that just means the garment was finished there, the cloth was very likely imported and who knows what is actually in it. The factories rarely disclose such information (KemI, 2014).

How to buy safer clothing

A number of strategies can help when actually selecting what clothes to buy. Some should be rather obvious, but we include them anyway.

Avoid strongly smelling clothes

That "new clothes smell" is mostly caused by toxic chemicals. Lesser smelling clothes tend to have a smaller toxic load and are easier to detoxify.

Avoid raised prints

Most T-shirts and sweatshirts have some sort of decoration on the front, such as a logo or a message. In some cases this decoration is raised plastic material, which is best avoided. It is also less durable and may rip after a few dozen washes.

Choose lighter colors

Lighter colors means less dye, which should make the textile more tolerable. Some purists use all-white clothing. Lighter colors also age better, which is important when the garment has to be washed many times before it can even be worn. The color black seems to fade sooner than others.

Eco Labels

There are many eco labels across the world. Most of them cover just one country or region. But these labels vary greatly in quality, depending on how much the local industry was able to water down the criteria a textile must conform to in order to be certified.



Eco-label used in the Nordic countries

Actual testing of eco-labeled clothing showed great variety in toxic content. This resulted in this conclusion:

...eco-labeling in its present form does not necessarily protect users or the environment from exposure to toxic chemical substances. (Goran, 2010; KemI, 2014: 5.2)

One of the more widely used and respected labels are the Oeko-Tex/Öko-Tex label, which bans 156 of the 368 hazardous chemicals listed in the Swedish report (KemI, 2018).

Professional office clothes

Suits, slacks, ties and shirts can be more difficult, but we know multiple people who are able to look fully professional in non-toxic clothing.

It is best to avoid clothes that have to be dry-cleaned. The process leaves a nasty residue. Some are able to cope by airing out the dry-cleaned garment for a week or more in an open space, such as a garage or basement. But dry-cleaning is best avoided.

There is an alternative cleaning method called "wet-cleaning," but we have no experience with it. Even if it was benign, there is still the danger that hand creams and fragrances from the staff can contaminate the garment.

We've met one professional who wears suits made of silk, which works better for her than any other material. But silk suits are fussy about cleaning.

Others wear all-cotton suits that do not need dry-cleaning (ask in store).

Stores selling suits can be tough to enter. Fortunately, they generally accept returned items that haven't been tailored, modified or washed. Some people send another person to do their shopping, try the garments at home and return what doesn't suit.

Cotton shirts that do not need to be ironed are treated with chemicals that stiffens the fabric. In most cases it is possible to detox them without ruining the shirt.

Clothing stores

Clothing stores are very toxic. The fumes can be overpowering and impossible for someone with MCS. An alternative is to shop in stores that have mostly other items than clothing, such as sporting goods stores and department stores. Some stores have outdoor displays in the summer (most common in Europe).

A trick here is to NOT let the store employees handle the selected garments, since they might contaminate them with hand creams they might wear. This can be done so smoothly the clerk doesn't even notice they don't get to touch the garment. Some people send a friend, family member or even a hired shopper to pick up clothes. This can work if the store accepts returns.

Other sources for clothing

There are many alternatives to clothing stores, which are less toxic.

Health food stores often sell a few items of clothing, which tends to be less toxic to boot. The staff may be able to suggest other sources as well.

Mail order companies are a popular choice as there is no need to go to a toxic store and they accept returns.

Some clothing brands are consistently safer than others, but it can take some effort to find them.

Here in the United States we personally buy from these mail order companies

- Decent Exposures
- Lands End
- Lifekind
- Sun Precautions (nylon clothes)
- Sunday Afternoons (nylon hats)

Buying second-hand clothing

Second-hand clothing has presumable been washed and worn many times, which should have removed much of the chemicals. However, other chemicals have often been added such as:

- Detergent residue
- Fabric softener
- Fragrances
- Mothballs
- Oily skin care products

They may also have become moldy.

These can be even harder to get out than detoxing new clothes. In fact, anything other than detergent and fragrances may be a lost cause.

Buying used clothes is a lottery. A strategy some people use is to buy a bunch, wash it all a few times, then give each item a cautious sniff. Anything that is still awful is either discarded or donated away. Then continue working on the rest.

More information

More articles about how to cope with chemical sensitivities are available at <u>www.eiwellspring.org</u>.

Sources

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