

## The Environment and My Baby Course

**Welcome to the Environment and My Baby Course.** This course will help you as a new parent become aware of many of the environmental factors that will affect your baby. But, more importantly, it will give you steps to make your baby's environment safer and healthier.

### The Environment and My Baby

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Lesson 1 – **Baby’s Breath – Air Quality and My Baby**

There is nothing more peaceful than watching your baby sleeping, hearing their little sighs of contentment and absolute trust. All is right with the world. As parents we want this to be a reality, all is right with the world.



Your baby’s resting breathing rate is twice that of the average adult. So they are using more air than you or me. That air in our homes, according to the EPA, is one of the top 5 health risks to Americans. Your indoor air is likely to be 2 to 6 times more polluted than the outside air even for those living in the “big city”. The air in our homes is contaminated with cleaning chemicals, insulation, dust particles, synthetic fragrances, paint fumes, carpet fumes, dust mites, mold, bacteria, furniture fumes and off gassing, smoke from fireplaces or cook tops, natural gas, and the list could go on and on. We are sealed in our energy efficient homes and on average we spend 90% of our time indoors, probably that is even truer for your baby.

**How can you tell?** Is **your** indoor air safe? There are tests you can run such as Radon testing, formaldehyde testing, particulate count test, mold testing, carbon monoxide testing, etc. And many of these tests are good to do but honestly, look around first. What is in your home?

- Do you use cleaning chemicals?
- Do you use pesticides?
- Do you have synthetic carpet?
- Do you immediately take dry cleaning in your home?
- Have you painted recently or considered painting the baby’s room?
- Do you have furniture made of synthetic materials or particle board? Is it new?
- Do you have pets in your home?
- Do you use natural gas in your home?
- Do you have a crawl space under your home that is less than inviting to visit? Are there cracks in the floors that would let that air in?
- Do you use the least expensive air filter you can find in your HVAC system?
- Do you change your air filter as recommended?
- Do you open your windows daily?
- Do you feel better when you are away from home?

If you are like most of us, you answered “yes” to many of these questions. So now what? This means

you need to improve your indoor air quality. Here is what **you** can do.

1. **Test your home for Radon.**- This is an easy test that you can do yourself and it is very affordable. You should test your home twice a year especially if you live in an area where Radon is prevalent. See resources.
2. **Open your windows and ventilate**– Just 15 minutes a day will let the fresh air in and the polluted indoor air out. Create a cross ventilation.
3. **Check your filters regularly and use a filter with a MERV rating of at least 11.** MERV is an industry measurement that stands for Minimum Efficiency Reporting Value and indicates what size of particles that are filtered out by the filter.
4. **Get rid of the chemical cleaners** – Check the labels, do you really want that stuff around your baby? Your baby is getting twice the dose of what you smell and breathe even in the next room. There are many recipes and how to's available to you. See resources
5. **Skip the carpet** – Carpets are most often made of synthetic fibers that off gas for years and years and years, they trap dirt and pesticides, dust mites and if you track in on them, it most likely is staying. The chemical cleaners that we tend to use to clean the carpets are very toxic. Instead use hard surface flooring and go for natural fiber rugs you can wash or place in the sun to air out. If you have the carpet and can't see getting rid of it or are not able, vacuum regularly, more is better. Use a vacuum with a true HEPA filter and leave the shoes at the back door.
6. **Choose furniture that is made of solid wood, natural fibers and low or no-VOC finishes.** Try slightly used furniture that has already off gassed. You want to skip the particle board which contains formaldehyde and off gases. If you are just set on that new set, make sure you purchase it months before the baby arrives and leave it in the garage open and assembled or other ventilated area to off gas out of your home and before the baby starts breathing it.
7. **Choose a certified organic crib mattress** – the number of chemicals in typical mattresses is staggering. This is the best investment you can make since your baby will spend such a large amount of time sleeping.
8. **Choose No or Low-VOC paints** – VOCs are volatile organic compounds and are usually what you smell in paint. There are healthier options available including AMF Safecoat, BioShield, Mythic, and others. Keep in mind if you get your paint at a local store even if its low-VOC if they mix it with a standard pigment, they just increased the VOC's. If you use one of the paints list they will use a no or low-VOC pigment to create your color selection. Just make sure you ask. If they don't know, go somewhere else. As with any product please test it first for any reactions.
9. **Have the combustion (like gas) appliances checked annually and make sure they are ventilated properly**
10. **Install smoke detectors and CO detectors if you have combustion appliances in the home**
11. **If you live in an older home test for lead and asbestos before doing any renovations**
12. **Do NOT use pesticides in your home**- Use good housekeeping and natural methods for keeping pest out.



So, you have a list of things to do to improve the air your baby breaths. The steps are simple and really not too expensive. Remember you have what it takes to be the best mom or dad for your baby.

It can all be right with the world.



Resources:

Radon: <http://www.epa.gov/iaq/radon/radontest.html>

<http://www.nsc.org/resources/issues/radon/index.aspx>

Air Quality: <http://www.epa.gov/iaq/pubs/insidest.html#Intro1>

<http://healthychild.org/>

Pesticides: <http://www.panna.org/resources/children>

Safer Cleaners: [http://healthychild.org/blog/comments/recipes\\_for\\_safer\\_cleaners/](http://healthychild.org/blog/comments/recipes_for_safer_cleaners/)

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## Lesson 2 – Paint for Baby's Room

The day is coming when you will bring home that precious bundle you have been waiting for and preparing for.....you are probably still preparing and will be up to the big moment. You want the baby's room to be perfect or maybe you just want to make sure that it is safe and healthy.

In either case, choosing the right paint for the walls is a step in the right direction. There are so many options of paints and techniques and colors.....Where to start? At the beginning...

What is in paint? What does the paint emit?

Some water based paints, until recently, used mercury as a fungicide according to the EPA. Older paints contained lead. Lead poisoning can cause the lowering of IQs, learning disabilities, hearing impairment, reduced attention spans, aggression and other behavior problems. Most conventional paints contain solvents such as benzene, styrene, toluene, xylene, and formaldehyde which are known as volatile organic compounds or VOCs. VOCs make that new paint smell and yes, it too is toxic. These VOCs can have mild symptoms that irritate your airways and cause watery eyes or headaches, nausea, and fatigue. Some VOCs are carcinogenic or neurotoxic. Oil-based paints are some of the worst offenders for VOCs but check the labels and you will find VOCs in almost every can of conventional paint, stain, lacquer, varnish, sealant, and polyurethane. The VOC's can last long after the smell is gone and they can be absorbed into porous materials and surfaces affecting the air your baby breaths.

**How do you know?** Check the can, on the label you will see a listing of how many grams of VOCs per liter it contains. You will have to ask what the VOC content of the pigment used to make your color as well, the smaller the number the better. Different colors have different levels of VOC, the darker and stronger the color, are more often higher in VOCs. However, keep in mind that not all solvents are regulated as VOC's and may not be addressed on the labels so a paint usage test is best. This means painting some of the paint the color you want in a small area or on a board and see if you react to it and how strong the smell is. It is that simple.

So, expecting moms should not paint, stain, refinish, or varnish. Before having any sanding on your existing walls done, check to see if there is lead in the existing paint especially if the home was built before 1978. No matter what type of paint you choose, make sure there is plenty of ventilation.

The good news is there are alternatives to the conventional paints and stains.

There are **Low-VOC paints**. These emit some fumes but less than conventional paints. These designations meet the criteria of California guidelines which restrict the amount of chemicals labeled as carcinogenic that may be used in the paints to levels lower than those required by federal regulations. Some of the big name paint suppliers have started addressing this issue so you may find low-VOC paint at your local hardware or paint store. Make sure that you ask about the pigments.



There are **VOC-free** or **No VOC** paints which are designed not to emit fumes at all. There are many companies that specialize in these types of paints, stains, and finishes. These are often considered more expensive but that is becoming less and less of a difference as more people seek safer alternatives. Some of the no-VOC paint manufacturers are AFM Safecoat, BioShield, Mythic, and there are more. Most of these manufacturers can and will match any paint color you choose so don't let the colors sway you toward a less healthy choice. You can even achieve those very creative affects just as well with the healthier paints.

There are also Natural or Organic paints which rely on natural plant based ingredients. These can also have strong odors but they are not usually toxic. Again, test to make sure that you and your family do not react negatively to the smell. These paints will not contain fungicides so be careful where you are using them because they will be less resistant to mold and mildew.

Then the old fashion Milk paints are still available and will not have the chemicals of conventional paints, no fungicides either. They will come in a powder that you mix. So ventilate and mix just what you need.

If you are not sure about a particular paint, ask to see the Material Safety Data Sheet or MSDS. These are designed to help inform you about the chemicals and health risks of a product. Most manufacturers make these available online now.

You can also look for the Green Seal or Green Guard on the can. (Show picture of this label) These are indications that the paints are less toxic and meet specific criteria set by each group or organization. At this time there are several different groups striving to set healthy standards. This is good for us the consumer but does cause some confusion since they have different standards or criteria.

Not mater which paint you choose, test for reactions, ventilate the area well, if ventilating is not an option, use a mask. Allow time for any paint to off gas fumes before occupying the room.

When it comes time to clean up conventional paints must be disposed of as hazardous household waste. Choose a non toxic cleaner. To clean up natural paints and no VOC paints you can often use water but check the label.

Once paint is on the wall it may be hard to see which paint type you chose but you and your baby can breathe easier using one of the healthier options. It's worth it.

Resources:

Air Quality: <http://www.epa.gov/iaq/pubs/insidest.html#Intro1>

<http://healthychild.org/>



### Lesson 3 – Baby’s Stage – The Floor

As baby grows besides the crib, a large part of baby’s time will be spent on the floor, playing, crawling, scooting.....on the floor. So what is it that your baby will be so close to? What will baby be breathing? What will be sticking to your baby’s hands? We must look at what the floor and what is on it.

If your home has carpet then it is most likely a synthetic with a stain proofing finish and a pad underneath the carpet over a subfloor or underlayment. All of which will off gas at varying degrees for years and years. As the pads get older, they off-gas more, most often formaldehyde. If the carpet has ever been cleaned then those harsh chemicals are added to the mix. If pesticides have been used in the house or just tracked in on the shoes, they are in the carpet and at this time there is no effective method of extracting them. This does not include the dust and allergen bits that all carpets harbor even with the most ardent vacuum regime.

If your home has vinyl, it is made of PVC and will also off-gas chloride fumes, a known carcinogen. This is not to be confused with linoleum, they are not the same even though the words are often used interchangeably even in the flooring industry. Linoleum is made of all natural materials instead of the chlorinated petrochemicals of vinyl floors. However, the older the vinyl the less it will off-gas. Vinyls can also cause challenges in humid climates by trapping moisture and creating conditions for mold and delamination of the flooring or subfloor.

So what are your options? If you skip the carpet you have several hard flooring options that are nontoxic.

There are **hardwood floors**, which can be a great option for folks with allergies. Hardwood floors can be healthy with some planning. The subfloor should be of 1” or 2” tongue and groove wood or rough sawn lumber laid diagonally or of exterior grade plywood (CDX) which will off-gas but less than interior grade.



If you have no control over the underlayment or are using CDX then seal it with an acceptable no-VOC vapor barrier sealant prior to laying down the hardwood floor. This will help minimize any off-gassing from the subfloor. Hardwood floors can be glued down but use a solvent-free adhesive or 100 % silicone. You can also nail them down or float them, both good options depending on your situation. You can choose pre-finished or unfinished floors. If you choose a pre-finished floor make sure it has a no- or

low-VOC finish. Ask to see the Materials Safety Data Sheet (MSDS). If you choose to finish the floor in your home, choose a no-VOC finish and use a “dustless” installation method. This process will minimize the dust but will not be truly dustless. Hardwood floors are easy to clean and maintain.

There is **bamboo flooring**, which is now cost-competitive to wood. Bamboo is touted as a renewable source because the bamboo forests continually renew themselves. Bamboo can be harder than rock maple depending on the species and if the plants are harvested after 5-6 years. Some are harvested after only 3-4 years when the bamboo fibers have not reached their full density and will not be as strong. The bamboo flooring is made by splitting the bamboo into strips. These strips are then kiln dried. It becomes more dimensionally stable than wood flooring. The glues used to make the floor should be low or no-VOC, again, ask to see the specifications to insure it meets the air quality emissions standards. Check the manufacturer’s warranty for indications of durability.

There is **cork flooring**, which is also a wonderfully renewable source, resilient, and great for sound. It does not have to look like a bulletin board either. Cork is made from the inner bark of the cork tree. The bark is removed every 9 years. Cork is easy to clean, hypoallergenic, absorbs sound as well as is cushy under those tiny feet, low-static surface is resistant to dust, creates a thermal layer to maintain an even temperature all year round, does not spread flame if it catches on fire, nor does it release toxic gas. It is relatively easy to install and does not require glue. If you choose glue-down-method for installation however, make sure that you choose a low- or no-VOC adhesive.

There is **natural linoleum flooring**, also known as battleship linoleum. This is made of linseed oil, pine resins, wood powder, and jute. It is free of synthetic chemicals. It was developed in the early 1830s and it is still holding up today. Today we have more colors and designs with which to work. It will however still have a strong odor when first installed from the linseed oil fatty acids that could take a few months to dissipate. Linoleum naturally resists bacteria, the color permeates all layers, and it is naturally anti-static. Linoleum can be glued down, use a no- or low-VOC adhesive such as made by AFM Safecoat, or Auro No. 383 Natural Linoleum Glue. There are also tiles that can be laid without adhesive.

So you want that soft feel under your baby’s feet. Go with a natural fiber organic rug, untreated with pesticides. This means that it will need to be made in the USA. We “treat” just about every fiber that comes into the states with some sort of pesticide or antifungal treatment. You will have to do your homework. There are many options natural wool, cotton, sisal, jute, hemp, coir, corn husk, coconut fiber or even woven silk. Rugs have the advantage of being movable. You can take them outside and air them out in the sun.

If you are set on wall to wall carpet, there are some healthier, more natural options. You should ask the supplier, store, or installer to air your carpet out for several days before installing it. If they will not, open it up in the garage or a covered room for a week or more. Choose a natural pad and consider tacking down the carpet instead of gluing it. Ventilate the home for weeks after it has been installed.

Cleaning, yes, we must clean regularly. This means weekly, not weakly. So vacuuming or sweeping or



beating or sunning needs to happen a minimum of every week. Use natural products and always ventilate.

Have we missed anything?.....The shoes.....did you know that 80% of the dirt in our home we track in on our shoes? Consider a no shoes policy for your home and reduce the dirt. Who knows what you walked through in the parking lot, grocery store, gas station, or even the yard. Leave the shoes at the door.

These steps will help you and your baby breath much easier as you see your little one make that first scoot across the floor. That stage where many of your child's performances will take place.

Resources:

Healthy Child Healthy World Creating a Cleaner, Greener, Safer Home by Christopher Gavigan

For Safer Sealers and Finishes check out the following manufacturers from Prescriptions for a Healthy House by Paula Baker Laporte, Erica Elliott, M.D. & John Banta:

Acri-Soy Clear Satin Sealer, Satin Penetrating Sealer  
AFM Safecoat Hard Seal, AFM Safecoat Polyureseal or Polyureseal BP or Lock-In New Wood Sanding Sealer  
Pace Crystal Shield  
Star Bronze Co. - Zip Guard Environmental Water Base Urethane,  
BioShield Penetrating Oil Sealer #5, Hard Oil #9, Natural Floor Resin #92  
Livios – Ardvos Wood Oil or Meldos Hard Oil, Bilo Floor Wax, Gliervo Liquid Wax

Healthier Prefinished Engineered Wood Flooring Systems:

Admont Natural Floors	Junckers
Kahrs	Rappgo

Flooring Resources (not an exhaustive list)

Bangor Cork Company	DLW Linoleums
Dodge-Regupol, Inc.	Eco Design – Natural Choice
Forbo Industries	Hendricksen Naturlich
Natural Cork Co.	

[http://healthychild.org/blog/comments/paints\\_and\\_finishes/](http://healthychild.org/blog/comments/paints_and_finishes/)



#### Lesson 4 – **Baby Furniture**

One of the things we like to do as new parents is to create the perfect nursery for our new arrival. Part of that is the furniture, the perfect crib, a rocker in which to rock away the wee hours, changing table for the business end of things, and dressers to hold those adorable tiny clothes. Of course we consider safety in the process. Can baby fall through, get caught in this, choke on that.....but do you know that one of the largest issues with that new furniture is what it releases into the air your baby will breath.

The air.....what is your baby breathing? That new furniture usually contains particle board which contains glues most often made of urea-formaldehyde which off-gases for many years. Formaldehyde fumes or VOCs are linked to asthma triggers and childhood cancers. The veneers used are glued, again more formaldehyde or other toxic glue. The finishes of many of those beautiful furniture pieces often contain solvents generating high levels of volatile organic compounds (VOC)s. The foams in the cushions are of toxic chemical compositions with flame retardants mixed in. These are known hormone disruptors. Many of the upholstery fabrics or window fabrics have stain repellants and water resistant finishes which are composed of toxic ingredients. And then there is the mattress.....

#### **So what do you do?**

For wood furniture pieces, consider solid wood. Hardwoods are preferable because they emit fewer terpenes than softer woods. This would eliminate the veneers, particle board, pressboard, etc. These would also be great items to get second hand. For cribs, its best if they were made in 2000 or after when the safety standards were updated. If veneer is more fitting to your budget, then you can seal the surfaces and edges with a low- or no-VOC vapor-barrier sealant. Give the furniture time to air out, and then seal it before you bring it in the house. I would recommend airing out the furniture until that new smell is gone. On a helpful note know that veneer furniture from some of the Scandinavian countries like Denmark and Sweden have more stringent air immissions standards for their sheet goods (plywoods) and could be better choices. When it comes to the finishes for the wood furniture, look for low-VOC, water-based natural oil or wax finishes. Another option would be to purchase unfinished furniture and finish it with low- or no-VOC finishes. Finishes do eventually stop off-gassing so you can air them out or purchase slightly loved furniture where the finishes should have already completed the off-gassing process.

For upholstered furniture look for natural stuffing like wool which is naturally flame retardant. You can also find down, kapok, and organic cotton batting. Hardwood frames are also worth the investment. Look for natural untreated upholstery fabrics such as organic cotton, wool, or silk.

For window treatments, consider naturally finished wood shutters, louvers, metallic venetian blinds, or bamboo roll downs. These will not have the synthetic chemicals you experience with fabrics or need dry-cleaning which brings a whole new set of toxins into your home.

The mattress is one of the most important choices for your little one. Babies can spend up to 16 hours a day sleeping with their little faces pressed against that mattress. You will want to find a healthy mattress. This might be the most expensive purchase but it's definitely worth it. What is in it? What was applied to it? Ask. This means, avoid metal springs which can create a magnetic field, choose organic cotton or wool batting that provides breathability. The wool provides flame retardant properties as well resists dust mites. You want the mattress to absorb and expel moisture, the cotton and wool will do this. The organic cotton will not have pesticides. Be careful if the organic cotton is imported because we tend to spray almost everything we bring in from other countries with pesticides. You can use natural latex but make sure that it is certified so that you do not get the toxic chemicals involved in the synthetic latex processes. The manufacturer will have the certificates to show you and they are often posted on the websites. You will want the mattress to be firm and this is not an item that you want used. The sun is a great resource for killing bacteria in your natural mattresses. Take them out and air them in the sun regularly.

If you are stuck with a conventional mattress, make sure that you air it outside until that new smell has dissipated before you bring it into the house. Make sure that you get an organic cotton or wool mattress pad or cover it in polyethylene to help protect your baby from additional fumes. There is some evidence that the chemical off-gassing from conventional mattresses may increase the instances of SIDS. These steps could help reduce some of that risk.

You can find organic cotton and wool mattress pads. Make sure the sheet sets and bumpers are of organic fabrics, unbleached, untreated and do not use synthetic finishes. Always wash the new sheets before putting them on a crib mattress or bed to wash away as much of the manufacturers residues as you can. Of course you will want to use a non-toxic laundry liquid. Add a little baking soda to the wash and you will not need the chlorine bleach.

So you can do it. You can have that beautiful, safe, and healthy nursery for your most precious gift. Just ask the questions and remember if you can smell it, it is probably not what you want.



Resources:

Healthy Child Healthy World Creating a Cleaner, Greener, Safer Home by Christopher Gavigan

For Safer Sealers and Finishes check out the following manufacturers from Prescriptions for a Healthy House by Paula Baker Laporte, Erica Elliott, M.D. & John Banta:

Acri-Soy Clear Satin Sealer, Satin Penetrating Sealer  
AFM Safecoat Hard Seal, AFM Safecoat Polyureseal or Polyureseal BP or Lock-In New Wood Sanding Sealer  
Pace Crystal Shield  
Star Bronze Co. - Zip Guard Environmental Water Base Urethane,  
BioShield Penetrating Oil Sealer #5, Hard Oil #9, Natural Floor Resin #92  
Livos – Ardvos Wood Oil or Meldos Hard Oil, Bilo Floor Wax, Gliervo Liquid Wax

Mattresses (not an exhaustive list):

<http://www.naturepedic.com/research/fiveproblems.php#P4>  
<http://www.debraslist.com/specialty.php?subtopic=Beds%20and%20Bedding>  
<http://savvyrest.com/eshop/10Expand.asp?ProductCode=75>  
<http://www.h3environmental.com/products/>  
<http://www.shepherdsdream.com/c-7-baby-bedding.aspx>  
[http://www.thecleanbedroom.com/Organic\\_Nursery/organic\\_crib\\_mattresses.html](http://www.thecleanbedroom.com/Organic_Nursery/organic_crib_mattresses.html)  
<http://www.allergybuyersclubshopping.com/mattress-bedsets.html>  
<http://www.lifekind.com/>  
<http://www.greennest.com/index.php?cPath=24>  
<http://organicgrace.com/mattresses>  
<http://www.nontoxic.com/>  
[http://www.habitatfutons.com/latex\\_mattress.html](http://www.habitatfutons.com/latex_mattress.html)  
[http://thenaturalsleepstore.com/green\\_sleep.html](http://thenaturalsleepstore.com/green_sleep.html)  
<http://www.ecomattress.com/>



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### Lesson 5– Look What the Cat Dragged In? Dog? Mom and Dad? ( Leave those shoes at the door)

There are so many things about to change in your life with the arrival of your new baby. You cannot even imagine what will change. Most of these changes will involve how you look at the world, how you prioritize your time, resources, what is important; what is safe for the baby. How you live in your home will be part of those changes. You will probably have plastic plugs in your electrical outlets, safety gates at the stairs or in a doorway, safety locks on the cabinet doors and drawers, and you will probably have to allow just a little extra time to get that safety latch open on the commode. We have talked a lot in previous lessons about making changes for improving the air quality in your home.

When you make these changes for safety and health you want to feel like you have created a safe haven, a sanctuary of sorts for your little one and your entire family. By some estimates, we bring in 80% of the dirt in our homes from outside. So why would you bring in all that dirt from outside?

Think about it. Where did the cat go today? What did it track back into your home? Have you treated your cat for fleas with a typical topical treatment? Not a cat person, how about your puppy? Was he digging in the back yard or the neighbor's trash? Flea treatment? No pets? Where did you go today? What did you walk through at the gas station? The parking lot? The office? The grocery store? The public restroom? Did you walk through any pesticides? The answer is most likely yes to more than one of these questions. This is what you are bringing home on your shoes, walking across the floor and possibly the carpet where your little one will spend more time than you imagine. If you have carpet, much of what you track in is staying no matter how much you vacuum.

So what can you do?

Leave the shoes at the door. Simply do not wear them in the house. To entire cultures across the world this is normal behavior. Ask your friends and family to take their shoes off too. Just put a shelf by the door for the shoes and maybe even a sign. You could provide slippers or booties. Ask the people doing repairs or working in your home to remove their shoes or provide them with shoe covers like what you find in the hospital. For those that refuse to remove their shoes or wear booties, make sure you have a mat both outside your door and inside. This will help remove more dirt before it comes in.

Does anyone in your home work with chemicals, toxins, or pesticides? If so, it will probably stick to their clothes. They could change at work. Maybe you have a mudroom where they enter your home. They could have a change of clothes there or go straight to the bathroom or laundry room and remove the clothes. Keep these clothes in a separate laundry basket from the rest of the family, especially the baby.

Maybe there are no toxic chemicals that you know of at work. Do you have those suits dry cleaned? It is estimated that 80% of dry cleaners use the chemical perchloroethylene or PERC also known as tetrachloroethylene. PERC is neurotoxin and a known carcinogen. When you rip off the plastic cover



from the dry cleaning you are getting a dose of PERC. It then dissipates throughout the house. Instead of taking it right in and hanging those clothes in your closet, take off the plastic cover and let them air out a day or two in the garage or outside. Then bring in the clothes. The hangers that come home with your clothes covered in paper are soaked in the chemical as well. Better yet, find a dry cleaner that used a “wet” cleaning method. This is a much healthier option for you, your baby, and your dry cleaner.

Removing your shoes and contaminated clothing at the door will go a long way to reducing the dirt and toxins that come into your home, your sanctuary. It will also go a long way to improving your concern the first time your new baby picks up that cereal off the floor and before you can stop it, it is in their mouth.

You will still have dirty floors. You will still have to mop and clean but the toxic level of the dirt in your home will be much less which is healthier for your little one.

Resources:

<http://www.shoetikit.com/index.html>

<http://www.epa.gov/drycleaningrule/index.html>

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## Lesson 6– Love that clean baby smell?.....Not if it's toxic

One of my favorite smells is that fresh smell of my baby, nothing like it. This of course is after a diaper change. We equate that smell with clean, fresh, new, and how it is suppose to be. But the reality of baby smells is pretty extreme and we often work to create them or cover them up using air fresheners, deodorizers, creams, or powders. Our sense of smell is a powerful tool that the cosmetic, cleaning, and even the pesticide industries have tapped into. You would be amazed at the products we use that have “fragrance” as an ingredient.

Did you know that most labels just list “fragrance” as an ingredient? There are over 3,000 synthetic chemicals used today to create fragrance. Unfortunately, very few of these have even been tested for health effect, cancer-causing or otherwise. The fragrance industry is self regulated. The FDA does little testing of the raw chemicals much less how they react together. Some deodorizers contain antimicrobials that add even more chemicals. Many fragrances use known irritants that cause the eyes to water, develop skin irritations, and difficulty breathing. Most fragrances have at least 10 chemicals and some have over 100. Phthalates are also found in fragrances. The two most common are diethyl phthalate (DEP) and dimethyl phthalate (DMP). These are used to slow the release of the fragrance so it will last longer. There are a lot of chemicals covered under the word “fragrance”. Even the term “fragrance-free” on the label may not tell the whole story. A product may contain fragrance but have not detectable smell.

Skin irritations and allergic reactions are on the rise and the most immediate response to fragrances. Many people respond by getting headaches or migraines. But it could take years for the body to develop cancer. Many of the phthalates are suspected endocrine disruptors and carcinogens. Most of us have reacted to a smell or fragrance at one time or another.

So what do you do?

**Reduce use of scented products.** Most scented products contain multiple chemicals, including dangerous solvents, to achieve the fragrance. These chemicals pollute indoor air, and may irritate children and asthmatics. Start by replacing the products that seem to spread the most scent: laundry detergents, fabric softeners, general purpose cleaners, floor cleaners, and air fresheners.

**Choose "fragrance-free" and environmentally friendly products.** Many "green" cleaners don't contain heavy doses of fragrance. And, while a "fragrance-free" label on cleaners and personal care products doesn't necessarily mean fragrance chemicals were not added, the product will have little, if any, noticeable scent.

**Look for organic personal care products.** Organic soaps, body washes, diaper creams, lotions,



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shampoos, conditioners, hair care products, cosmetics may or may not contain synthetic fragrances — it's important to read labels. Some manufacturers specialize in personal care products that don't cause irritation to people who are chemically sensitive. These products are the least-likely to contain synthetic ingredients and can be found in natural foods stores. Also, before you shop, check out the Environmental Working Group website. They are a non-profit, independent organization that test cosmetics and other personal care items for potential health hazards including fragrance. You can see if that diaper cream really is a safer choice.

**Avoid chemical-laden air fresheners.** Most air fresheners mask odors with their more pleasant fragrance, but they do nothing to eliminate the source of the odor. Aerosol air fresheners spew out tiny droplets of chemicals that are easily inhaled into the lungs. Instead, ventilate well and choose natural deodorizers, such as zeolite or baking soda, which contain minerals that absorb odors.

**Make your own "fragrance-free" cleaners.** Cleaning products often contain unnecessary fragrances. Combined with other potentially harmful ingredients, they can pack an environmental wallop.

**Avoid burning incense, especially in small rooms, enclosed spaces, or without adequate ventilation.** Incense releases cancer-causing particles called polycyclic aromatic hydrocarbons into the air. These particles can cling to fibers. Children can easily ingest or inhale them when they play on the floor.

**Limit your use of scented candles and avoid candles with stiff, metallic wicks.** Scented candles tend to release more chemicals and soot than unscented candles. Candles with metallic wicks may contain lead. You can reduce candle soot by trimming candlewicks to 1/4-inch and keeping candles out of drafts. If you are going to burn candles choose natural soy or beeswax to minimize toxins.



**Some naturally derived fragrance ingredients can irritate the skin or lungs.** The following natural scent ingredients can cause skin irritation and rashes or other sensitivities, according to The Safe Shopper's Bible (Macmillan, 1995): cinnamon bark oil, clove oil, vanillin, hydroxycitronellal, eugenol, citral, diethyl maleate, fennel oil, peruvian balsam, bergamot oil, marigold oil, cumin oil, orange bitter/essence/oil, lemon essence/juice/oil, rue oil, lime essence/juice/oil, verbena oil, patchouli oil, civet, galbanum, and asafetida. You and your baby are unique so what could irritate your baby may be something in else. Always test first.

So you can still love that fresh new baby smell, just make sure it is the real thing and leave the chemicals at the store.



Resources:

[http://healthychild.org/blog/comments/fragrances\\_what\\_your\\_nose\\_needs\\_to\\_know](http://healthychild.org/blog/comments/fragrances_what_your_nose_needs_to_know)

<http://www.cfsan.fda.gov/~dms/fdconfus.html>

[http://healthychild.org/live-healthy/checklist/avoid\\_overexposure\\_to\\_fragrances/](http://healthychild.org/live-healthy/checklist/avoid_overexposure_to_fragrances/)

[http://healthychild.org/live-healthy/checklist/freshen\\_indoor\\_air\\_naturally/](http://healthychild.org/live-healthy/checklist/freshen_indoor_air_naturally/)

<http://www.ewg.org/node/17479>

[http://cosmeticsdatabase.com/searchres.php?searchtype=products&allproducts=all&fragrance\\_dni=N&ingredientexclude=sample%20search:%20ingredient%201;%20ingredient%202;%20ingredient%203&ingredientinclude=sample%20search:%20ingredient%201;%20ingredient%202;%20ingredient%203&submit=FINDD%20PRODUCTS&nothanks=1](http://cosmeticsdatabase.com/searchres.php?searchtype=products&allproducts=all&fragrance_dni=N&ingredientexclude=sample%20search:%20ingredient%201;%20ingredient%202;%20ingredient%203&ingredientinclude=sample%20search:%20ingredient%201;%20ingredient%202;%20ingredient%203&submit=FINDD%20PRODUCTS&nothanks=1)



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Course: Environment and My Baby

## Lesson 7– **Baby Bottles, Sippy Cups, and Food Containers and more**

Getting ready for your new arrival brings lots of celebration and a wonderful excuse to have a party or as we like to refer to them as baby showers at least in the US. Everyone will ask you if you have registered and if so where? The websites are very helpful to make suggestions for things you will “need”. What do you choose when it comes to feeding your baby? Not just if you will breast feed or use formula but what will you feed your baby from? There are hundreds of choices when it comes to baby bottles and you can purchase them almost anywhere including the local grocery store or gas station. But have you considered what they are made from?

Seriously, 95% of plastic baby bottles contain Bisphenol-A (BPA), a developmental, neural, and reproductive toxicant that mimics estrogen and can interfere with healthy growth and body function. Animal studies demonstrate that the chemical causes damage to reproductive, neurological and immune systems during critical stages of development, such as infancy and in the womb. The levels sufficient to cause harm in animals are beneath the average levels reported in people living throughout the developed world. The chemical is now utilized in hard, polycarbonate plastics, as well as the epoxy resins used in the linings of some food and beverage containers, dental sealants and numerous other consumer products. Some of the organic baby foods currently on the market are packaged in containers that contain BPA.....amazing. The leaching can happen in any product that contains BPA but it happens more easily when bottles are heated, become scratched, or cloudy. Food items stored in storage containers the have BPA and have a high fat content also show higher levels of BPA in them from the containers.

The FDA has yet to take a firm stand on the issue of BPA. Canada has banned the use of BPA.

The pacifier and teether you choose are important as well. Many of these are made of polyvinyl chloride or PVC which often contain toxic additives such as phthalates and lead not to mention the toxic process of creating the PVC. These pacifiers are typically of a yellowish color or cloudy. Then there are the toys, the plastic toys. Many contain lead from the PVC.

There are so many types of plastics. So what should you do?

When it comes to bottles, sippy cups, and food containers consider using glass or polypropylene bottles (#5 plastic) instead of polycarbonate (hard, shiny, clear or tinted plastic, usually with a number 7 or “PC” on the bottom/underside) bottles or sippy cups.

If you continue to use polycarbonate bottles (#7 plastic), do not use harsh detergents or put bottles in the dishwasher. Instead, clean them with warm soapy water and a sponge. Scouring brushes can scratch the surface of the bottles and increase leaching rates. When the bottles become cloudy or scratched,



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throw them away. Do not heat food or milk in a polycarbonate bottle or container as this increases leaching.

Avoid use of infant formula brands in cans that use BPA as an epoxy liner. These tend to be liquids but check the list. <http://www.ewg.org/reports/infantformula>

Minimize or avoid canned food. The lining in most canned foods contains BPA. If the fat content is high it is even worse.

Be informed. Safer choices of plastics are plastics that use polyethylene (#1, #2, and #4) and polypropylene (#5), which require the use of less toxic additives. They also are non-chlorinated.



Avoid choosing products that use polyvinyl chloride (#3), polystyrene (#6), and polycarbonate (#7) which often are found in baby bottles or sippy cups. #7 plastics are a miscellaneous group of plastics so it is the category that polycarbonates fall into but not all #7 plastics contain polycarbonates. How do you tell? Not so easy. You will have to do a lot of detective work and call the manufacturer. Then be very persistent or you could avoid #7 plastics.



For heating food, glass and lead free ceramics are still a great choice.

Choose PVC-free pacifiers and teethers. Silicone pacifiers are available; many companies have stopped using PVC for teethers.

When it comes to toys, look for labels that read PVC, phthalate, and lead-free. Look for toys made with materials like organic cotton and sustainably harvested wood that use lead-free paints. The Consumer Product Safety Improvement Act was passed by the US Consumer Product Safety Commission (CPSC) and changed the industry and its use of lead and certain phthalate. While the legislation is confusing it is a huge step in the right direction in limiting lead and phthalates in children's toys, clothing, bedding, etc. There will be more changes through 2009 so check the CPSC website for specifics.

Information is your best weapon for protecting your baby. Natural is your best choice.



Resources:

Vandenberg, L.N. 2007. Human exposure to bisphenol A. *Reproductive Toxicology* 24:139-177

<http://www.besafenet.com/pvc/about.htm>

[http://www.chej.org/BPA\\_Website.htm](http://www.chej.org/BPA_Website.htm)

[http://www.epa.gov/aging/press/othernews/2008/2008\\_0903\\_ons\\_2.htm](http://www.epa.gov/aging/press/othernews/2008/2008_0903_ons_2.htm)

<http://www.ewg.org/reports/infantformula>

<http://www.cpsc.gov/about/cpsia/cpsia.html>

Safer Baby Bottles:

<http://www.newbornfree.com>

<http://thinkbabybottles.com>

<http://gobabylife.com>

