

Steps to Healthier Homes

- Start with People
 - House as a System
 - **Keep It:**
 - Dry
 - Pest-Free
 - Safe
 - Maintained
 - Making it Work
- Clean
Ventilated
Contaminant-Free



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Contaminant Buying Decisions

Intentionally Bring In

- Tobacco Smoke
- Pesticides
 - Sprays, Baits & Powders
- Volatile Organic Comp.
 - Air Fresheners & Cleaning Products
 - Glues, Sprays & Coatings
 - Building Materials
- Mercury
 - Thermostats & Fluorescent Lamps
- Asbestos
 - Building Materials
- Meth Labs

Along for the Ride

- Bedbugs and Mice
 - Used Furniture & Mattresses
- Cockroaches
 - Cardboard Boxes & Furniture
- Mice
 - Boxes and Furniture
- Formaldehyde
 - Pressed Wood Products
- Lead
 - Used Building Supplies



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Environmental Tobacco Smoke



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Tobacco Spikes in Particle Levels

RSP (cpm)

1000

750

500

250



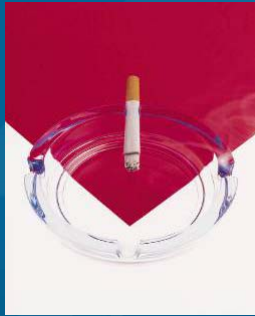
Time (hours)

Source: Indoor Air Quality, Infiltration and
Ventilation in Residential Buildings NYSERDA
1985 [5]



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Why Avoid ETS: Related Health Effects



- Increases the number of episodes and severity of symptoms for children with asthma
- Risk factor for new cases of asthma in children
- Responsible for 150,000 to 300,000 lower respiratory tract infections in infants and children less than 18 months of age
- 60% of US population has biological evidence of exposure to second hand smoke



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Smoke-Free Home Rules: State Performance

	92-93	98-99	2003	% Increase
Total	43.2%	60.2%	72.2%	67.1%
Max.	69.6%	81.1%	88.8%	107.9%
Min.	25.7%	38.9%	53.4%	27.6%



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Non-Smokers Exposed to Tobacco Smoke Have Increased Risk of Acute and Chronic Disease

- Respiratory illness (including arrested lung development)
- Asthma attacks and development
- Middle ear effusions
- Irritant effects
- Children affected by smoking caretaker



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What Can You Do About Tobacco Smoke in Homes and Cars?

- Quit, if you're ready there's help
- Don't smoke around children
- Smoke outside
- Exhaust vent the places where people smoke



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Volatile Organic Compounds

- Air Fresheners
- Cleaning Products
- Sprays & Coatings
- Formaldehyde
- Carpets
- Vinyl Floors
- Drywall
- Hobbies
- Home Maintenance



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Volatile Organic Compounds

EPA found concentration of VOC's to be **2-5 times greater in the home.**

During or immediately after paint stripping activities, VOC levels can be **1,000 times higher** than outdoors.



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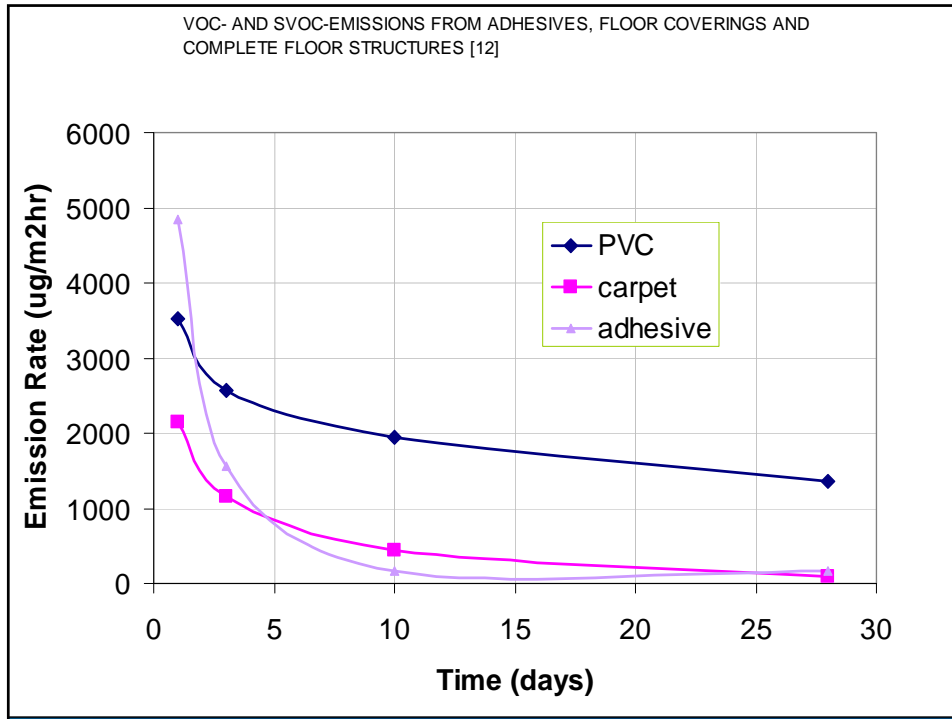


Why Avoid VOCs?

Potential health effects of VOCs:

- Eye, nose, throat irritation
- Headaches, nausea, coordination
- Liver, kidney, and brain damage
- Some can cause cancers
- Child development





Reduce Potential Sources

- Don't use it if you don't have to.
- Substitute with a product that has:
 - low VOC and particle emission
 - low toxicity and irritancy characteristics
 - low risk of chemical reactivity
 - low risk of fungal contamination
 - low maintenance requirements



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Steps to Control VOCs

- Control the source
 - Avoid using products that contain VOCs
 - Use lower VOC options (i.e. paints)
 - Keep containers sealed
 - Store away from air intake
 - Remove unwanted products from home
- Ventilate
 - Open doors and windows



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Third-Party Certifications

- Buildings
 - Green Communities – www.greencommunitiesonline.org
 - Energy Star with Indoor Air Package – www.energystar.gov
 - LEED for Homes – www.usgbc.org/LEED/homes/
- Products and Services
 - Green Seal – www.greenseal.org
 - EcoLogo - www.ecologo.org
 - EPA's Design for the Environment – www.epa.gov/dfe
 - GreenShield Certified (for pest control) – www.greenshieldcertified.org



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Industry Stewardship Programs

- Understand the Motivations & Research the Options
- Examples
 - QualityPro Green for Pest Management – www.qualityprogreen.org
 - Green Label for Carpet and Rugs – www.carpet-rug.org
 - Environmental Stewardship Program for Kitchen Cabinet – www.greencabinetsource.org
 - Ingredient Communications for Consumer Chemicals – www.cspa.org/public/media/info/cpici.html
- Other Programs



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Track Emerging Issues

- Healthyhomes.net listserve
www.afhh.org/res/res_listserve.htm
- Phthalates from Vinyl Products
- Sulfur from Chinese Drywall
 - Corrodes Copper Heat Exchangers
 - Offensive Smell
- Cadmium in Jewelry?



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And then we have meth labs . . .



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What are the health & safety hazards?

- Explosive
 - Lithium metal, sodium, ether
- Flammable
 - Acetone, ethyl alcohol, solvents of all kinds
- Toxic
 - Iodine, red phosphorus, phosphine gas, anhydrous ammonia, methamphetamine,
- Caustic
 - Sodium hydroxide, hydrochloric acid, muriatic acid



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National Healthy Homes Training Center and Network
Avoid Contaminants – Essentials for Healthy Homes Practitioners Course



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Key Messages

- It is easier to prevent exposure to contaminants than it is to remove them and treat their effects.
- Should contamination occur: control, contain, and clean-up.
- Contaminants are not always detectable by our senses.



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