



HEALTHY BUILDING NETWORK

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Vision:

All people and the planet thrive when the environment is free of hazardous chemicals.



Services and Program Areas



Research

Data
Systems

Education
&
Policy
Advocacy

Before **hbn** HEALTHY BUILDING NETWORK



South Quarter
MINNEAPOLIS



The Rose




aeon[®]
Homes for Generations

HOPE
Community

Architect: MSR
Consultant: U of MN, Center for Sustainable Building Research

Affordable Housing Definition:

Housing Costs
(Rent or Mortgage +
Utilities)

are no more than
30% of your annual
income



Sustainability...



Translation:
conservation,
high-performance,
sound business
principles...and
Wellness





Housing

is

H

Healthcare

Today...



VS



“Green” is...**The Way**



hbn

HEALTHY BUILDING NETWORK

Why?

- **Building Products**
- **Affordable Housing**

Home Sweet Home?

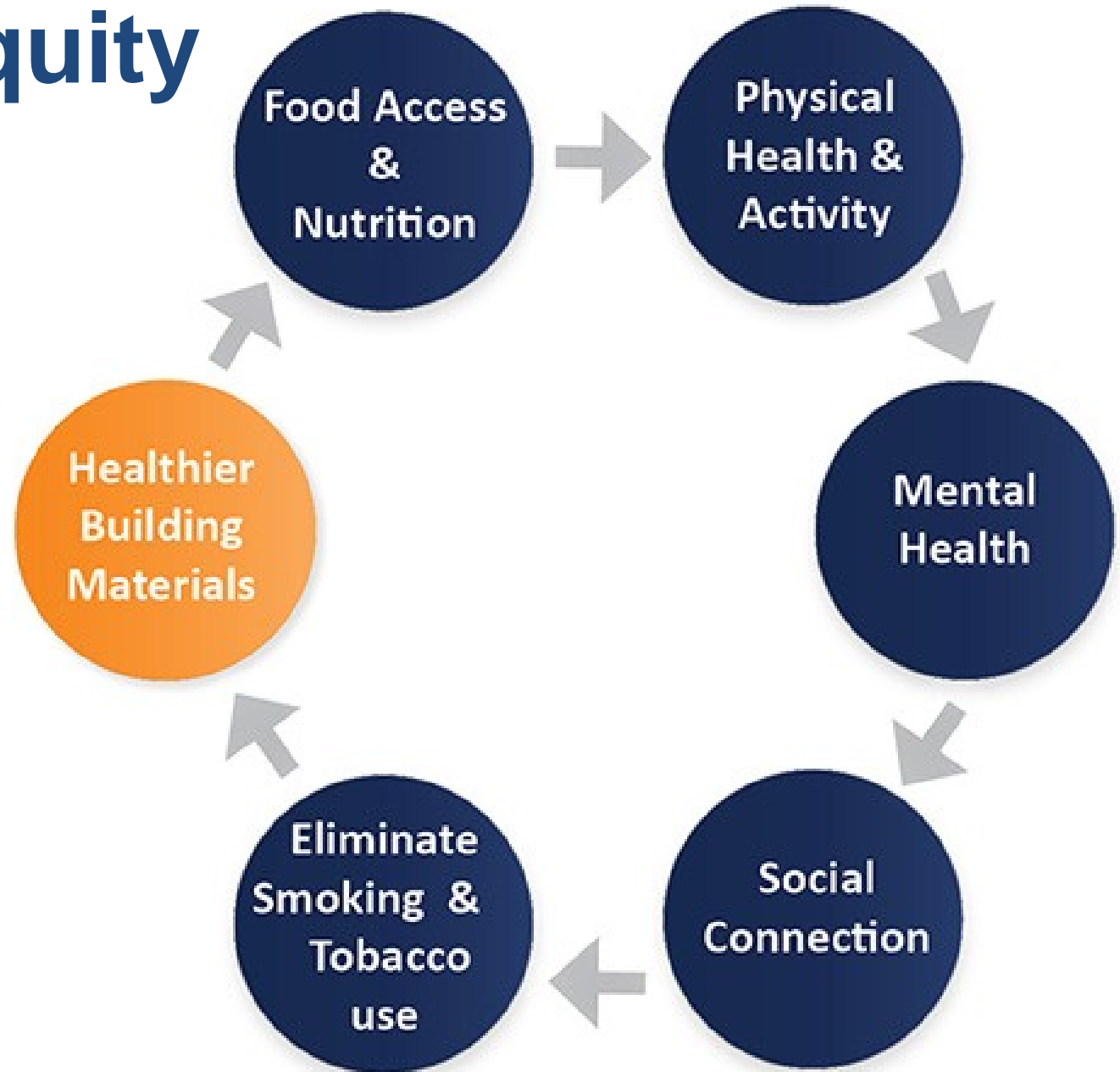


What our home is made from...



Health Equity

What's Missing?



Who is Keeping Them Safe?

- Government?
- Chemists?
- Manufacturers?
- Retailers?

- Or, is it up to you?



Pop Quiz!

1. What is the approximate number of chemicals in the EPA Toxic Substance Control Act (TSCA) inventory?
 - a. 120,000
 - b. 85,000
 - c. 24,000
 - d. 14,000



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Pop Quiz!

2. What is the number of chemicals or chemical groups the EPA has restricted to some degree under TSCA over the last 40 years?
- a. 14,000
 - b. 10,250
 - c. 500
 - d. 9



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Pop Quiz!

3. What endocrine interrupting chemical often found in vinyl floors has already been banned in kids toys?
- a. PVC
 - b. Mercury
 - c. Phthalates
 - d. None of the above

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4. Many sustainability programs incentivize this practice though it is unregulated and can increase toxics.
 - a. LED Lighting
 - b. Recycled Content
 - c. Living Walls
 - d. Eliminating Use of Carpet

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5. According to several research studies, how many industrial chemicals are typically found in newborn babies?
- a. 10
 - b. 25
 - c. 130
 - d. More than 200

Pop Quiz!

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Chemical Hazards & Health Endpoints

- **Persistent and Bioaccumulative Toxicants (PBT)**
- **Carcinogens & Mutagens**
- **Developmental & Reproductive Toxicants, and Endocrine Disruptors**
- **Asthmagens**



Exposure Pathways

Ingestion

Inhalation

Dermal



Exposure Pathways - 2

Ingestion

Inhalation

Dermal



Science...



Hazard vs Risk



Disproportionate Health Impacts



Systems Thinking Approach:



Scale and Market Approach

CNN Money

Business Markets Tech Personal Finance Small Business

April 22, 2015



Huge victory for
Mind
the
Store

Photo: Mike Mozart

The Home Depot will phase out toxic phthalates in flooring in 2015!



Typical Timeline

New Products
Enter Here

Abatement?



Warnings
start here



Health
Declaration
or Banned...
(well, we wish)

Who Will Install the Last Vinyl Floor

“Dangerous to Children?”





COST and PERFORMANCE

Today: there are Healthy Materials that **do not** cost more and have **great** performance

Future: The Affordable Housing sector can drive market change

How?

1. Become Informed
2. Use Tools and Resources
3. Housing Sector – Collective Power

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Communities of Practice



How to start?

Focus Impact and Scale

START WITH THE UNIT

- Drywall
- Thermal Insulation
- Interior Paint
- Flooring
- Cabinets
- Countertops
- Doors & Millwork



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First Project: Baseline Data Collection



BROWN STONE



Demonstration Projects: Lessons Learned



HomeFree

Demonstration Projects = 540 + Units

CALIFORNIA

Partner: First Community Housing
Project: Leigh Avenue (64 units)

MINNESOTA

Partner: CommonBond Communities
Projects: Dublin Crossing (50 units)
Skyline Tower
Seward Towers

PACIFIC NW

Partner: Capitol Hill Housing
Project: Liberty Bank Project (115 units)

LOUISIANA

Partner: Gulf Coast Housing Partnership
Project: Phoenix Square (40 units)

NEW YORK

Partner: Project Renewal & Jonathan Rose
Companies
Project: Bedford Green House (208 units)

WASHINGTON, D.C.

Partner: Homes for America
Project: Homes on Johnson Pond (63 units)

HomeFree

Web Site

HomeFree

EVENTS

PRODUCTS

PROJECTS

NEWS

RESOURCES -



TERESA -

Welcome to HomeFree

A national initiative supporting affordable housing leaders who are improving human health by using less toxic building materials.

READ MORE

<https://homefree.healthybuilding.net/>



Choose the type of product you are looking for



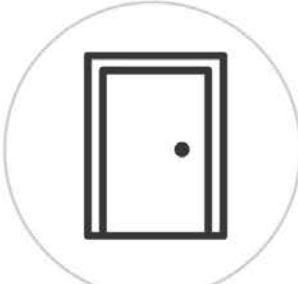
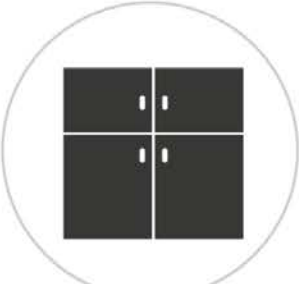
Flooring



Paint



Drywall





Flooring Products by Material

Below is a listing of flooring materials, which HBN has ranked on a simplified spectrum. Products appearing green are better options than those that appear red, and products that appear yellow contain more toxic substances than those at the top, but are better choices than those at the bottom. While individual products can vary significantly in their health profiles, there are some flooring materials that generally come out ahead of others.

[Read more..](#) ▾

[Linoleum](#) ▾

[Pre-finished solid wood floors](#) ▾

[Pre-finished engineered floors](#) ▾

[Ceramic Tiles \(made in the USA/Lead-free\)](#) ▾

Related Product News

A Cheat Sheet for Decoding Vinyl Product Literature

Healthy Building Network recently demo'd our approach to product research for the...

Spectrum of Flooring Options Now Includes Ceramic Tiles

Healthy Building Network and the HomeFree team have now had a chance to talk with sever...

How Common Product Profiles



Help Inform Product Decisions

On the Products section of HomeFree, in addition to individual products, visitors will ...

Biobased floors ▾

Rubber or rubber/cork floors made without crumb rubber ▾

Laminate ▾

Carpets ▾

Finished on-site engineered floors ▾

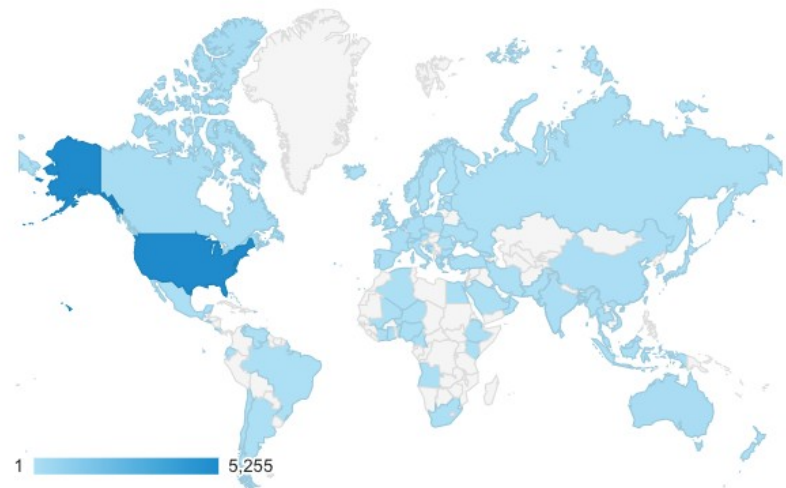
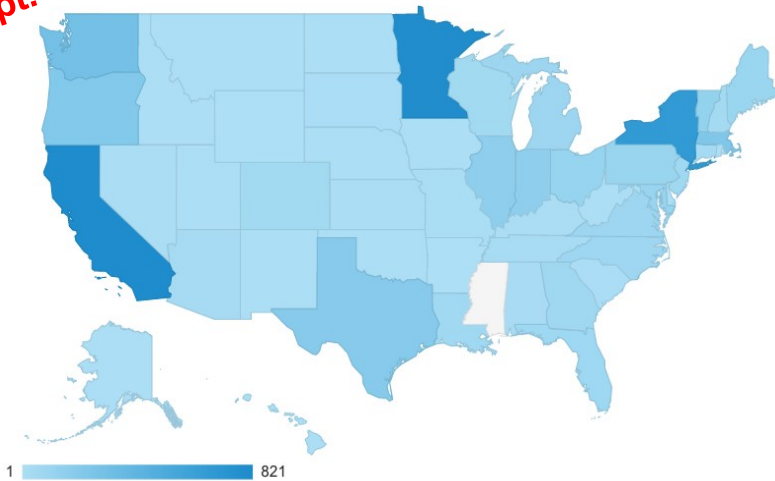
New formulations of vinyl floors ▾

Ceramic Tiles (not made in the USA/presence of Lead is unknown) ▾

Traditional vinyl floors ▾

Metrics By State & Country

Sept. 5



Region	Registered Users
Minnesota	77
California	84
New York	54
Pacific NW	74
District of Columbia	42
New Orleans	10
Other	233
Total	574

	6,301 % of Total: 100.00% (6,301)
1. United States	5,255 (83.40%)
2. United Kingdom	228 (3.62%)
3. Canada	156 (2.48%)
4. Australia	107 (1.70%)
5. Portugal	59 (0.94%)
6. (not set)	50 (0.79%)
7. India	42 (0.67%)
8. South Korea	35 (0.56%)
9. Spain	30 (0.48%)
10. China	28 (0.44%)

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Quantifying Impact

**Replacing hazardous
products can make a big
difference**

Replacing luxury vinyl tile (LVT) flooring

Alternate Flooring	Hazards Avoided
Biobased Sheet Flooring	18 lbs
Linoleum	86 lbs
Rubber Sheet w/o Recycled Content	107 lbs

LVT assumes recycled content. Calculation based on 1,000 SF, 2-BR

Replacing polyurethane flooring adhesive

Alternate Adhesive	Hazards Avoided
2 Part Epoxy	14 lbs
Acrylic	23 lbs

Calculation based on 1,000 SF, 2-BR

The Math for 50 units:

Upgrading from LVT to linoleum

avoids 2 tons of hazardous chemicals!

Upgrading adhesives

avoids ½ ton of hazardous chemicals!

Impact of one product, one building!

A little bit can go a long way...

One Part Per Million (PPM)...



**100 mg = 1% of 1% of 1% of a 200# man
or .0001% of their body mass**

**100 mg in a 200# adult
= 20# child taking 10 pills**





Leadership Initiatives

TARGET'S CHEMICAL POLICY



TRANSPARENCY

We will strive for full visibility to chemicals contained in or used to make the products we sell and use in our operations.



CHEMICAL MANAGEMENT

We will work with business partners to implement policies, practices and tools that facilitate the management of chemicals throughout our supply chain and across our operations.



INNOVATION

We recognize that safer alternatives may not exist today for some chemicals, therefore we will actively pursue and promote new approaches to chemicals development and the commercialization of safer alternatives.

Product Science!



The Recycling Paradox



Recycled Content Case Studies

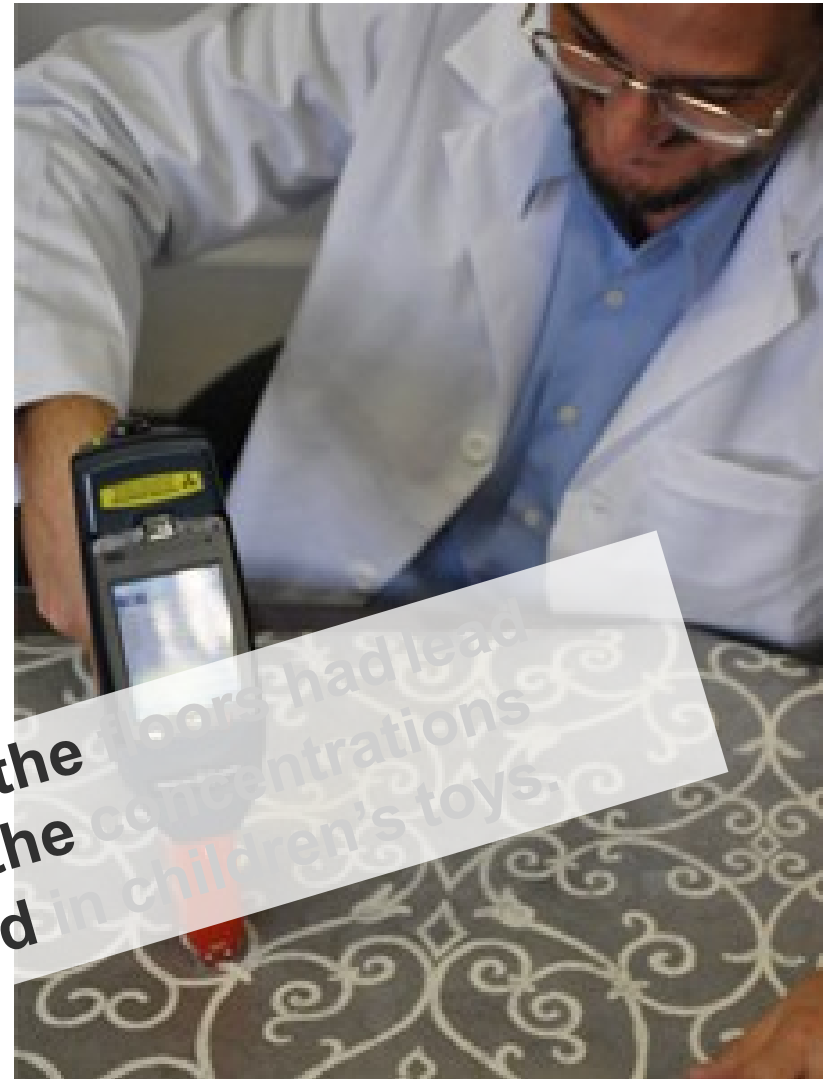
- Flooring



Emerging Issues: Recycled PVC



Post-Consumer Polyvinyl Chloride in Building Products



of the floors had lead
the concentrations
allowed in children's toys.



Lead
Cadmium
Phthalates
PCBs



**Do they
know their
sources?**

Emerging Issues:

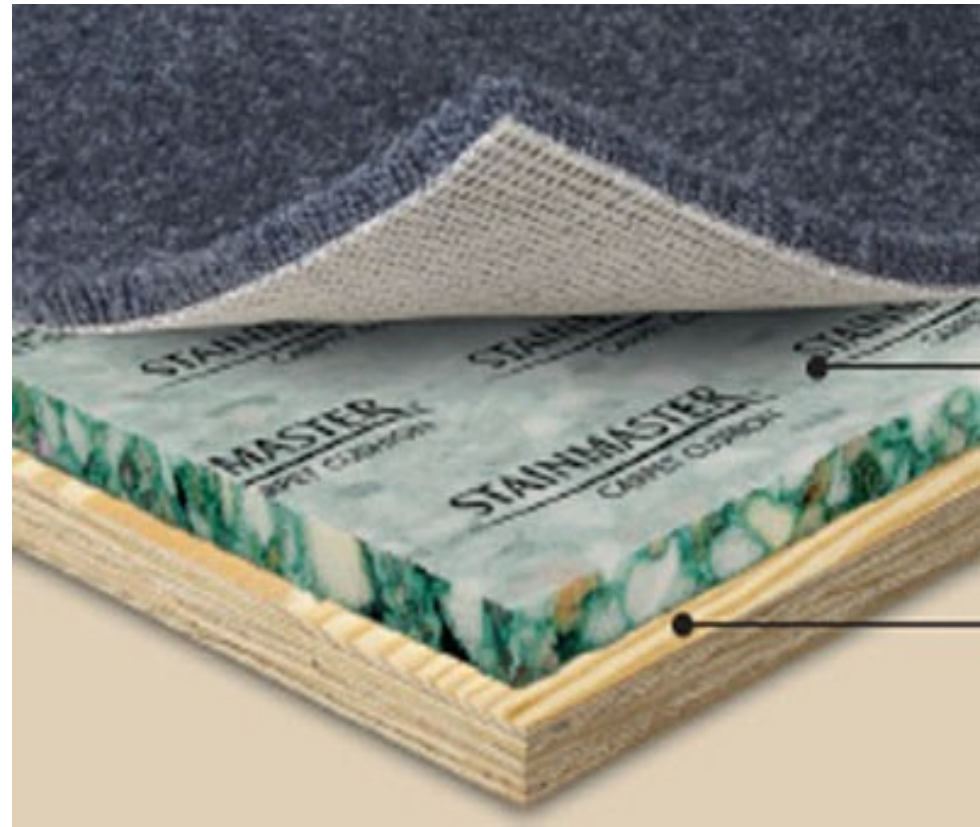
- Flame Retardants
- Antimicrobials

Flame Retardants:

Bad News: Coming back as carpet padding



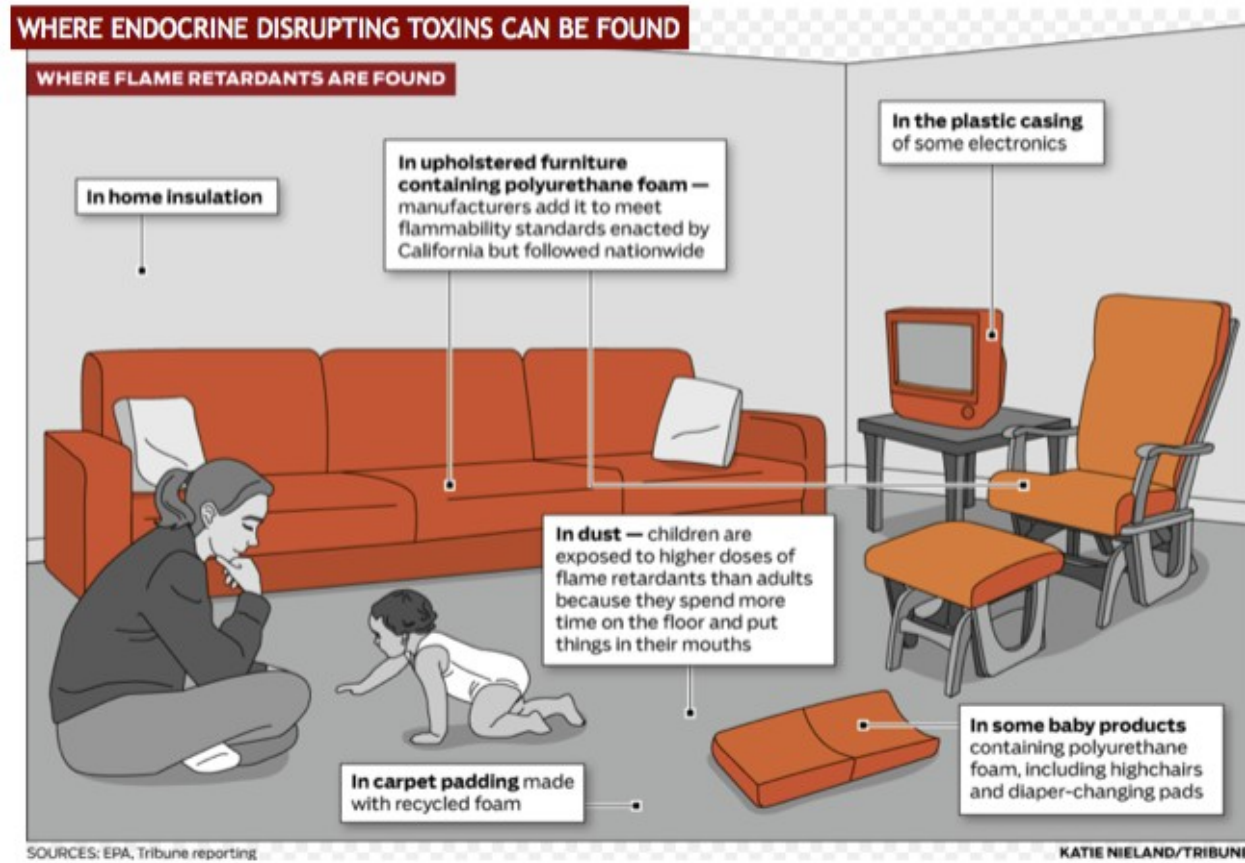
Do they
test &/or
know their
sources?



Flame Retardants

Good News: Being Removed From Furniture

- Developmental & Reproductive Harm
- Exposure from Building Products
- Body burden



Quaternary
Ammonia



Antimicrobials Are Pesticides

Copper

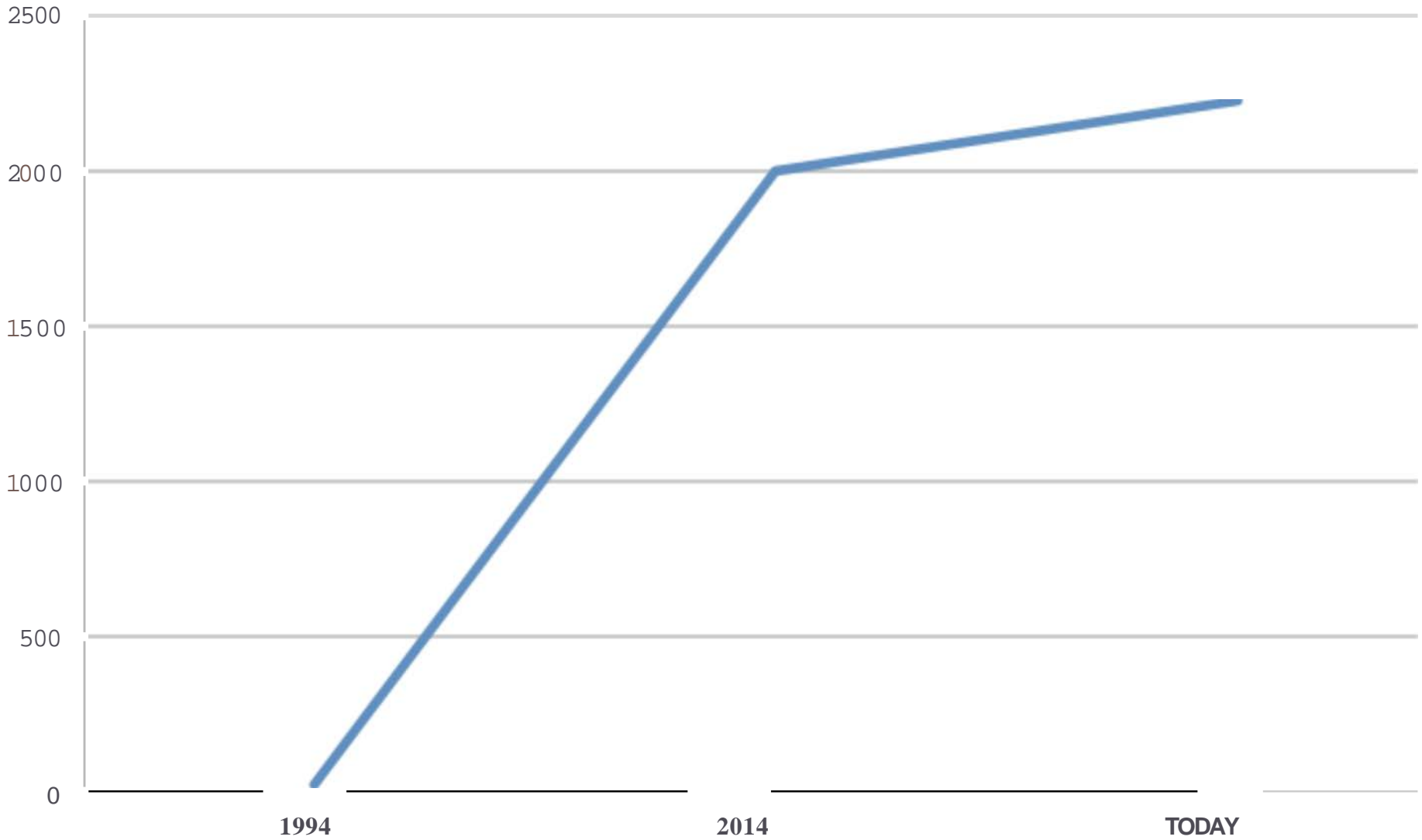
Triclosan

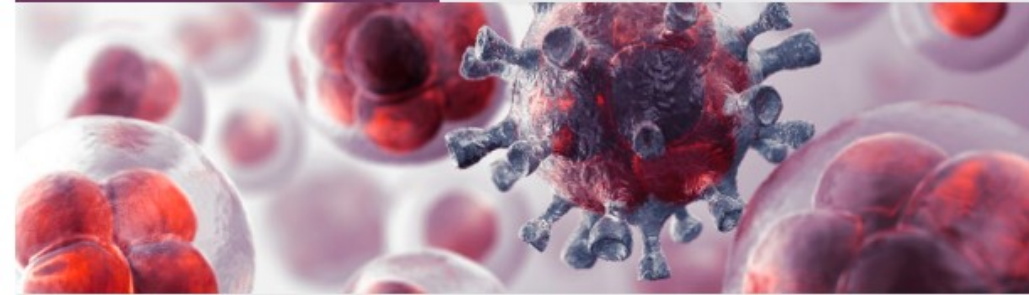
Triclocarban

Nano
Silver



Antimicrobial Consumer Products





Healthy Environments: Understanding Antimicrobial Ingredients in Building Materials

MARCH 2017

Healthy Building Network
Perkins+Will

HomeFree

Posted on MAR 15, 2017 in GENERAL

New Report on Antimicrobial Building Products: Avoid Whenever Possible

Earlier this month, Healthy Building Network and the architecture firm Perkins+Will released the outcome of a year's worth of research on the topic of antimicrobials in building products. After reviewing statements made by several government agencies, scientific and research publications, and claims made about individual products, Healthy Environments: Understanding Antimicrobial Ingredients in Building Materials concludes that there remains no evidence that the use of antimicrobial building products has any benefit to human health, and that these products should be avoided whenever possible.

READ MORE

June 19, 2017 : More than 200 Scientists and Medical Professionals Conclude Anti-Microbials Added To Consumer Products Do More Harm Than Good

The Florence Statement on Triclosan and Triclocarban



A review of scientific research showed that triclosan and triclocarban can harm people and the environment...



FDA News Release

FDA issues final rule on safety and effectiveness of antibacterial soaps

Rule removes triclosan and triclocarban from over-the-counter antibacterial hand and body washes

For Immediate Release

September 2, 2016

|| took 37 years!

"Consumers may think antibacterial washes are more effective at preventing the spread of germs, but we have no scientific evidence that they are any better than plain soap and water," said Janet Woodcock, M.D., director of the FDA's Center for Drug Evaluation and Research (CDER). "In fact, some data suggests that antibacterial ingredients may do more harm than good over the long-term."

Are all antimicrobials unnecessary?



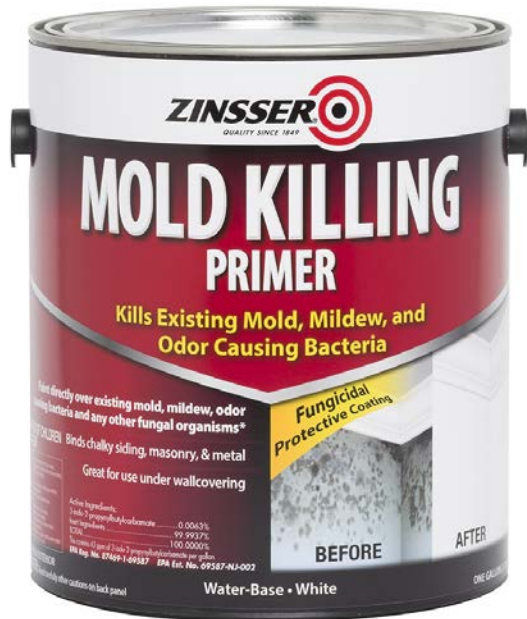
Paints



PVC & other
plastics

Need mold inhibitors or preservatives

Are all antimicrobials unnecessary? - 2



- Preservative
- Not health claim
- **OK**



- “Microbiocidal”
- Health claim
- **Avoid**



3 Antimicrobial Countertops That Stop Kids From Spreading Germs



Staphylococcus Aureus (MRSA) is a dangerous, antibiotic-resistant bacteria that can be responsible for infections to the:



Introducing
The "Clean" Switch
& Wallplate

PROTECTION THAT LIVES ON
MICROBAN

Antimicrobial
Copper



Anti-microbials



3 Antimicrobial Surfaces That Stop Kids From Spreading Germs



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