

# ***Purchasers As Change Agents- Healthier, Less Toxic Products***

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Center for Environmental Health*

# Center for Environmental Health (CEH)

A nonprofit organization dedicated to protecting public health from exposures to toxic chemicals.

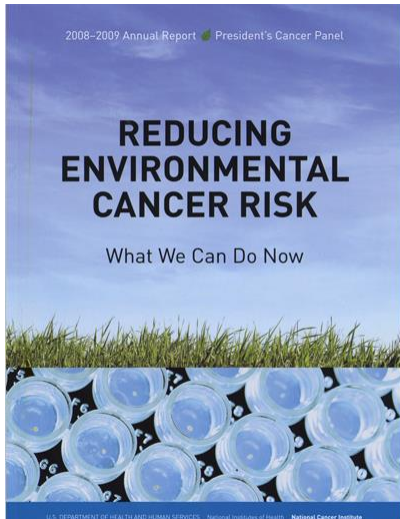


Partnering with large purchasers to utilize their buying power to incentivize the production of environmentally preferable products

Visit us at: [www.ceh.org](http://www.ceh.org)



# Diseases Linked to Environmental Exposure on the Rise



- Asthma up 100%
- Brain cancer up 20%
- Impaired fertility doubled
- 1-in-6 with learning and developmental disabilities
- Leukemia up 20%



# Chemical Policy in the US

## Most Chemicals in the U.S. are Not Regulated

62,000 chemicals “grandfathered in”

- EPA has regulated only five chemicals
- Only 200 chemicals have been tested for threats to human health and the environment
- 85% lack data on chemical health effects
- 2,000 new chemicals enter market each year

# Six Classes Videos

An innovative approach to reducing toxics

1

Highly  
Fluorinated



2

Antimicrobials



3

Flame  
Retardants



4

Bisphenols  
+ Phthalates



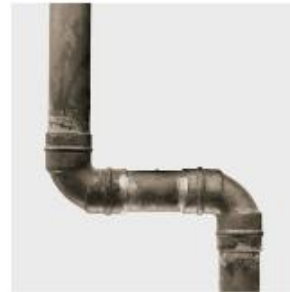
5

Some  
Solvents



6

Certain Metals



**VIEW and SHARE: [www.SixClasses.org](http://www.SixClasses.org)**

Healthier products, healthier people in four minutes!



# Indoor Air Quality

- Most Americans spend up to 90% of their time indoors
- Indoor air can have higher levels of pollutants than outside levels
- Impacts health, comfort, well being, and productivity



<http://www.epa.gov/iaq/pubs/occupgd.htm>

# Case Study: Healthier Furniture

## The “Hazardous Handful”

VOC's (including  
Formaldehyde)

Antimicrobials

PVC

Fluorinated Stain Treatments

Flame Retardants



# Creating Healthy Interiors: Avoiding Chemicals of Concern

**Flame retardants:** Electronics, Building insulation, Upholstered furniture, Wires & Cabling

**PVC:** Furniture, Fabrics, Flooring, Wall coverings

**Formaldehyde:** Furniture, fabrics, composite wood products, adhesives for multiple wood products

**PFAS:** Furniture, Fabrics, Carpeting, disposable food ware, microwave popcorn

**Antimicrobials:** Furniture, Fabrics, Tables, Flooring, Door handles, Ceiling tiles



# Chemical Flame Retardants

- **Health Concerns:**
  - Reproductive
  - Neurodevelopmental
  - Immune system impacts
  - Cancer
- Flame retardants **migrate out** of products: found in humans, breast milk, dust, pets, wildlife, environment
- Do not reduce number or severity of fires in typical furniture

## Recommendation:

Specify products that do not contain FRs and are labeled as such.



**NOTICE**

THIS ARTICLE MEETS THE FLAMMABILITY REQUIREMENTS OF CALIFORNIA BUREAU OF ELECTRONIC AND APPLIANCE REPAIR, HOME FURNISHINGS AND THERMAL INSULATION TECHNICAL BULLETIN 117-2013. CARE SHOULD BE EXERCISED NEAR OPEN FLAME OR WITH BURNING CIGARETTES.

The upholstery materials in this product:  
 contain added flame retardant chemicals  
 contain NO added flame retardant chemicals

The State of California has updated the flammability standard and determined the fire safety requirements for this product can be met without adding flame retardant chemicals. The State has identified many flame retardant chemicals as being known to, or strongly suspected of, adversely impacting human health or development.

# Polyvinyl Chloride (PVC) / Vinyl



## Health Effects:

- Neurodevelopmental, endocrine disruptor, birth defects, reproductive, cancer

## Environmental Impacts:

- Problematic throughout life cycle: manufacture, use and end-of-life

## Recommendation:

- Avoid products with PVC
- Small components exemption: > 1% of product by weight

# Volatile Organic Compounds

## Health Effects:

- Respiratory, cancers, decreased fertility

## Environmental Impacts:

- Negatively affects indoor air quality
- Exposure via inhalation, dermal, or occupational

## Recommendations:

- CA Section 01350 (CA Dept. of Public Health) or SCS Indoor Advantage Gold or Greenguard Gold



Photo courtesy of Perkins+Will



# Fluorinated Compounds (aka PFCs or PFAS)

## Health Impacts:

- Kidney and testicular cancer, thyroid disruption, elevated total cholesterol, obesity

## Environmental Impacts:

- Extremely persistent in environment and may bioaccumulate in people and wildlife
- Migrates out of products
- Exposed via ingestion of contaminated materials, food, (including breast milk) and occupational

## Recommendation:

- Avoid stain or water repellent treatments that contain PFAS




# Antimicrobials

## Antimicrobials in Hospital Furnishings:

Do They  
Healthc

A PERKINS+WILL WHITE PAPER /



**BULLETIN** | K.P. FACILITIES DESIGN PROGRAM

**BULLETIN #:** 2015-05

Approved By: John Kourtellos, AIA, EDAC, National Facilities Services, Vice President, Facilities Planning and Design

**Topic:** Prohibition of Antimicrobial Chemicals in Fabrics, Furniture and Finishes

Date Issued: October 15, 2015 Contact: Jennifer MacDaniel

**ITEM TYPE:**

New  Modification  Lesson Learned  Infection Prevention  Other

**BULLETIN TYPE:**

Recommended  Required; see exceptions below

**PROGRAM ELEMENT(S) IMPACTED:** (Check all that apply)

Space Program  
 Functional Program  
 Room Templates  
 Design Criteria  
 Sourcing Strategy  
 MicroAssess/KP Select  
 Equipment/Furniture  
 Signage  
 Other—  
 not applicable

**BRIEF DESCRIPTION OF CHANGE:**  
Effective immediately, specification of antimicrobial chemical additives or treatments for fabric, furniture, and finishes are prohibited on any Kaiser Permanente project. This prohibition includes all Main Line Fund, FM&R and Expense projects.

**What's Changing:**  
As part of an on going mission to protect public health, Kaiser Permanente seeks to eliminate the specification of antimicrobial chemicals in the projects that we design and build.

Our furniture and fabric vendor partners have been notified of our goal to eliminate the following 13 antimicrobial chemicals or elements:

1. Benzisothiazolin-3-one (BIT)
2. Disicyl dimethyl ammonium chloride (DDAC)
3. Dioctadecyl poly(1) sulfone
4. Hexamethyltetraamine
5. Kathon 665 (CTMTT mixture)
6. Methylchlorothazolinone (CT, CMIT)
7. Methylisothiazolinone (MI I)
8. N-octadecyltrimethyl (2-trimethoxyethyl) propyl ammonium chloride
9. Silver (nano)
10. Silver sodium hydrogen zirconium phosphate
11. Silver zinc zeolites
12. Triclosan
13. Zinc Pyrithione

**POTENTIAL IMPACT TO COST MODEL:**

Yes  No  Not Applicable

**Additional Comments:**

**POTENTIAL IMPACT TO PROJECT BUDGET:**

Yes  No  Not Applicable

**Additional Comments:**

Health  
Under  
Ingre  
Mater

MARCH 2017

Ted Schettler

March 2016

Healthy Building  
Perkins+Will

HCWH and Ted Schettler, MD, MPH, [https://noharm-uscanada.org/sites/default/files/documents-files/3854/Antimicrobials%20Report%202016\\_1.pdf](https://noharm-uscanada.org/sites/default/files/documents-files/3854/Antimicrobials%20Report%202016_1.pdf)

HBN and Perkins+Will, [https://perkinswill.com/sites/default/files/Antimicrobial\\_WhitePaper\\_PerkinsWill.pdf](https://perkinswill.com/sites/default/files/Antimicrobial_WhitePaper_PerkinsWill.pdf)

Kaiser Permanent, Bulletin #201-05: Prohibition of Antimicrobial Chemicals in Fabrics, Furniture, and Finishes

## Health Impacts:

- Endocrine problems, reproductive changes and possible increased allergies in kids.

## Environmental Impacts:

- Limited evidence that antimicrobials added to furnishings reduces spread of infection
- Exposed through ingestion, inhalation and dermally
- Can create “super bugs”

## Recommendation:

- Avoid products with antimicrobials
- Understand marketing claims



# Consider “End of Life”

## Extend Product Life When Possible

- Redeploy
- Reupholster/ Refurbish/  
Remanufacture

## Extending Life Has Other Benefits:

- Energy Savings
- Waste to Energy/Landfill Avoidance
- CO<sub>2</sub> Reduction
- Natural Resource Savings
- Zero Waste Reduction Goal



# Healthier Furniture : “Low Hanging Fruit”

- Healthier People and Communities
  - Market is Receptive
  - Safer Alternatives Exist
  - Cost Neutral or Cost Savings \*
  - Sustainability success story
  - Aligns with organizational mission and values
  - Can contribute to valuable LEED points
  - CEH offering technical assistance and resources
- \* ***Hackensack University Medical Center saved \$65,000 on a \$250,000 spend for lounge furniture***



# Existing Ecolabels/ Standards For Furniture

## Disclosure:



## Single-attribute:

- Air Emissions
- Recycled Content
- Wood
- Chemicals of concern

## Multi-attribute:



for Textiles



FOR INDOOR AIR QUALITY



# ANSI/BIFMA e3-2018

## Updated Furniture Sustainability Standard

### Credit 7.4.4: Targeted Chemical Elimination

**BIFMA**

New criterion restricts:

- ▣ Flame retardants
- ▣ PFASs
- ▣ Antimicrobials
- ▣ PVC
- ▣ Formaldehyde




Can apply to level 1, 2, or 3 products

Specify Products That Meet 7.4.4



# Manufacturers with Products Free of the Key Chemicals of Concern (partial list)

allseating 

Allsteel<sup>®</sup>

DAVID EDWARD

HAWORTH<sup>®</sup>

Gunlocke<sup>®</sup>





Herman Miller

HON.<sup>®</sup>



JASPER DESK

KEILHAUER



Kimball<sup>®</sup>Office

Knoll

LA Z BOY<sup>®</sup>  
CONTRACT FURNITURE

knú  
CONTRACT

NATIONAL  
Furniture with Personality<sup>®</sup>



OFS BRANDS

SitOnIt • Seating<sup>®</sup>



CEH



IDEON

Steelcase

Teknion

WIELAND



# Purchaser Pledge Signers



Genentech



SF Environment



KAISER PERMANENTE®



UNIVERSITY OF CALIFORNIA  
SANTA CRUZ



MASSACHUSETTS



B  
BEAUTYCOUNTER®

PERKINS

+ WILL



# Considerations for EPP Foodware

- Reusable
- Compostable
- Recyclable



## Examples of Additional Environmental Attributes:

- Recycled content
- Forest Stewardship Council (FSC) Certified
- Chlorine-free bleaching

# Disposable Foodware & Fluorinated Additives

- Can end up in food and landfill/compost
- Minimize use of disposables; use reusables where possible.
- Compostable does not equal safe
- (BPI-certified or Cedar-Grove Accepted “compostable” products can still have PFAS)



# Summary of Test Results by Product Material Type

- Plates, bowls, clamshell containers and food trays
- ALL MOLDED FIBER products tested had high fluorine content



Table 2: Summary of Product Materials and their Fluorine Test Results

Material Type Tested:	Non-Fluorinated	Fluorinated	# of Products Tested
All Molded Fibers including: Recycled Paper, Wheat Straw/ Wheat Stalk, Silver Grass (Miscanthus), Sugarcane Waste (Bagasse), Blend of Plant Fibers		X	73
Paper with Unknown Coatings	X		25
PLA-Lined Paper and Paperboard	X		8
"100% Renewable Resources Lined with PLA"	X		5
PLA	X	1-exception	5
Clay-Coated Paper and Paperboard	X		5
Palm Leaf	X		5
Untreated/Uncoated (Non-Molded) Paper	X		4
PLA-lined Molded Sugarcane/ Bagasse		X	3
Plastic-Lined Paper	X		2
Unknown materials		X	2
Bamboo	X		1

# Moving the Market Toward Safer Products

- Test the market with RFIs (if needed)
- Build specifications into RFPs/ contracts
- Identify healthier products and block non-EP products
- Piggyback on “green” cooperative buying agreements
- Use contract extensions as opportunity for change

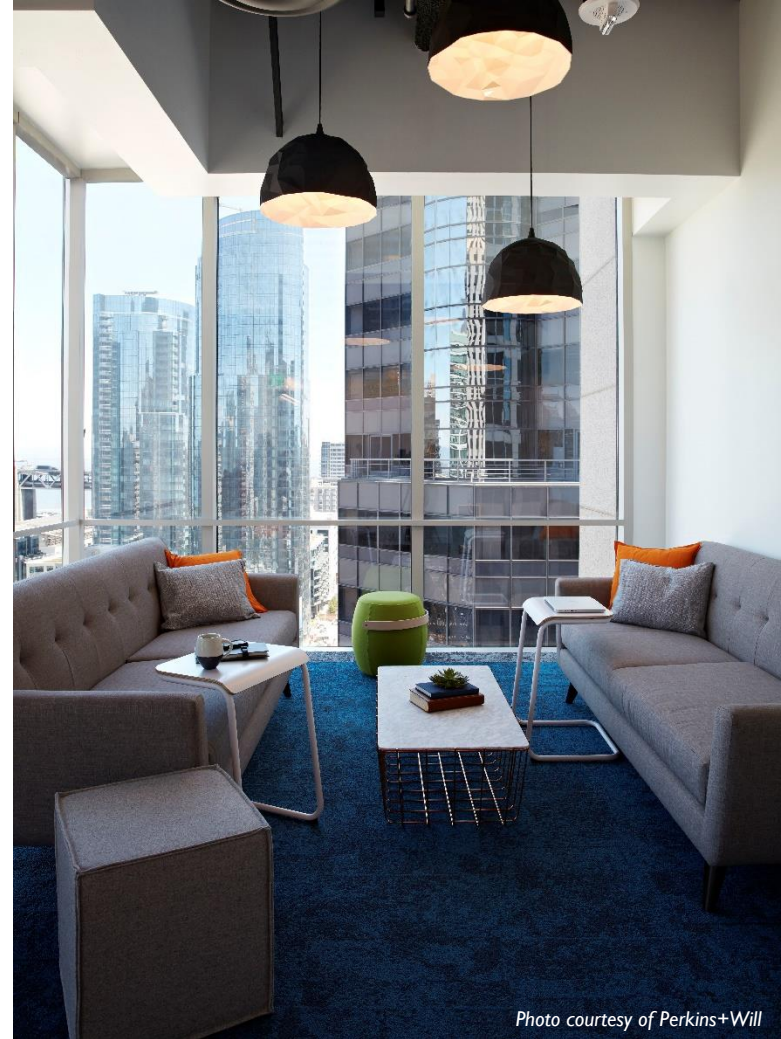


Photo courtesy of Perkins+Will

# Summary:

## Ways CEH Can Help

- Educate key staff (webinars, trainings)
- Participate in product testing (foodware)
- Provide sample letters to suppliers
- Survey manufacturers (if needed)
- Help interpret manufacturer responses
- Provide Tech. Specs. for RFPs/RFIs/Contracts
- Provide technical assistance



# Carpeting and Flooring

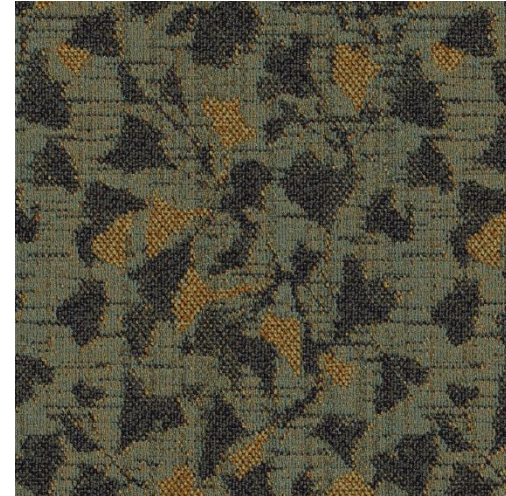
- **Carpeting: San Francisco Specification Available**

- ▣ [https://sfenvironment.org/sites/default/files/policy/regulation\\_sfe-2018-01-ppo\\_gbrco.pdf](https://sfenvironment.org/sites/default/files/policy/regulation_sfe-2018-01-ppo_gbrco.pdf)

Or

- ▣ <https://bit.ly/2K4e3kZ>

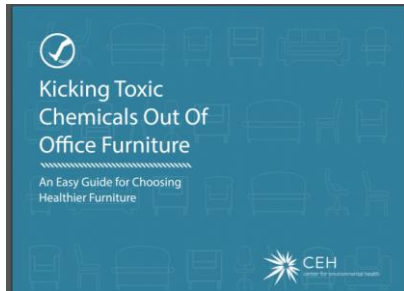
- **Resilient Flooring: Guidelines Upcoming**



# CEH Resources

## Furniture

<https://www.ceh.org/campaigns/flame-retardants/resources/>



## Food and Foodware

<https://www.ceh.org/campaigns/endocrine-disrupting-chemicals/edc-resources/>



Center for Environmental Health's Database of Disposable Food Service Ware Products Tested for Fluorinated Additives (updated 05.01.18).  
Full report available at [www.ceh.org/disposablefoodware](http://www.ceh.org/disposablefoodware)

Lab Results	Manufacturer or Brand	Type of Product	Product Number / SKU #	Product Description (Item No. photo)	Product Material Type	BPA Content?	Cadler Green Accented?	Recycled Content?	Price (USD - \$23.00)	Price/Unit	Other Product Information	Website URL	Testing Company	Product Priced Top?	Date Added to Database
No F	Bambu	Plate	063100	Bambu 7" Diameter Plate	Bamboo	No	Yes	0%	\$75.00 per 100	\$ 0.75		<a href="http://www.bambu.com">http://www.bambu.com</a>	Positive Lab	Partner	
No F	BioMass Packaging (Earthware)	Plate	688-13007	Bambu 7.5" Square Plate	Palm Leaf	No	No	100%	\$64.78 per 100	\$ 0.65		<a href="http://biomasspack.com">http://biomasspack.com</a>	Positive Lab		
No F	BioMass Packaging (Verterra)	Plate	568-02020	Bambu 8" Square Leaf Plate	Palm Leaf	No	No	100%	\$175.22 per 300	\$ 0.58		<a href="http://biomasspack.com">http://biomasspack.com</a>	Positive Lab	N	
No F	Cheeky	Plate	253-05-0446	Multicolored Blue and Coral 6.87" Plate	Paper (Unknown Coating)	No	No	0%	\$9.29 per 48	\$ 0.07	Purchased at Target	<a href="http://www.target.com">http://www.target.com</a>	Positive Lab		
No F	Cheeky	Bowl	253-05-0462	Pink Polyester 20.0L Bowl	Paper (Unknown Coating)	No	No	0%	\$3.00 per 20	\$ 0.15	Purchased at Target	<a href="http://www.target.com">http://www.target.com</a>	Positive Lab		
No F	Choice	Take-out Container	9999FKM71	Bamboo 8.25" x 6.5" x 1.25" 12.5" Round Paper Plate Container	Polycoated Interior Paperboard	No	No	0%	\$5.79 per 50	\$ 0.12		<a href="http://www.choice.com">http://www.choice.com</a>	Positive Lab		4/30/2018
No F	Creative Converting	Plate	9999F76H	White 7" Round Plate	Paperboard (Unknown Coating)	No	No	0%	\$1.89 per 24	\$ 0.08		<a href="http://www.creative.com">http://www.creative.com</a>	Positive Lab		4/30/2018
No F (PL & GL)	Dart/Solo	Plate	MPP-38031	8.5" Semishiny Medium Weight Plate	Clay-Coated Paperboard	No	No	0%	\$0.6 - \$1.1			<a href="http://www.dart.com">http://www.dart.com</a>	Positive and Galbraith Labs		

# Purchasers' Voices Move the Market

- Provide reasonable timelines for supplier conformance
- Be willing to consider new suppliers if needed
- Incentivize manufacturers who step forward
- ***Market demand can influence the market faster than regulations or legislation***



Image: Wolfgang Fieber

# Contact



## Built Environment



## Food and Foodware

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