

# The HPD is a teenager!

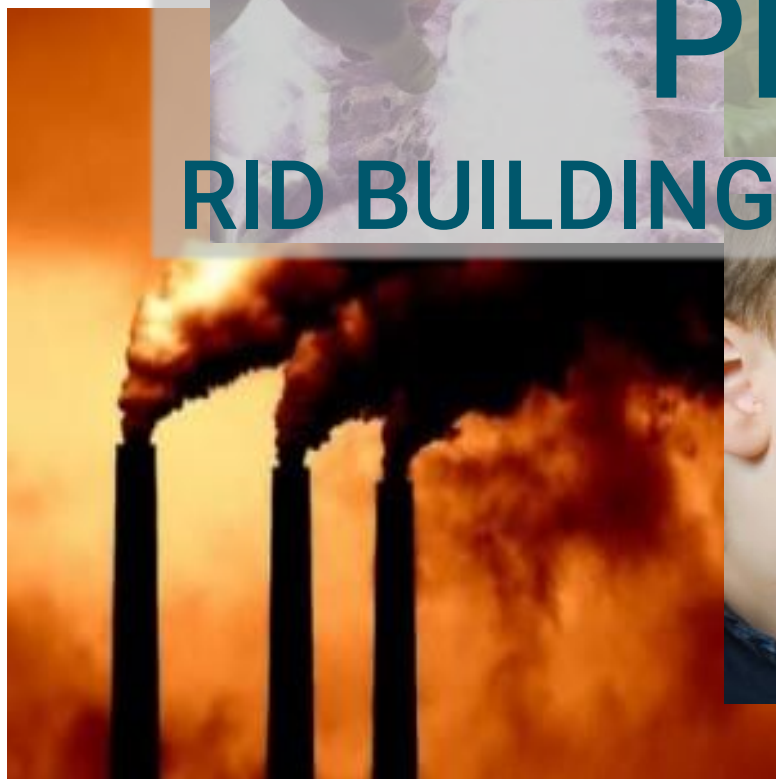


Joz Manzi, Portland, OR

**Born: July 2011**

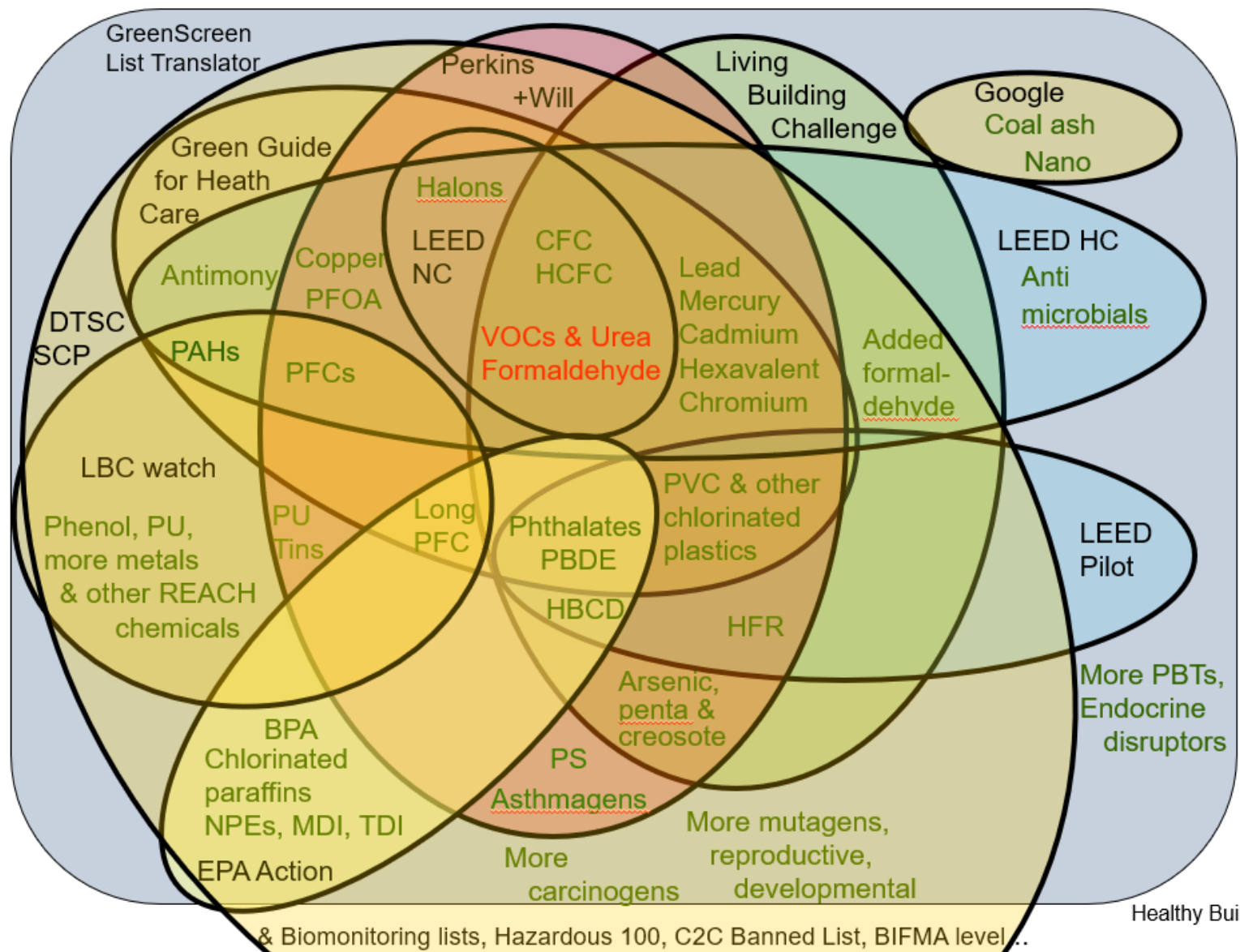


HPD, IslandWood SDL Summit



# PRIMARY GOAL

## ELIMINATE BUILDING INDUSTRY OF TOXIC CHEMICALS





# PREREQUISITE GOAL

## MATERIALS TRANSPARENCY

We can't eliminate what we don't know

2012





# 2012



**12 Years  
Later**



## Harmonized Ecosystem



ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Perkins+Will (P+W)	P&W - Precautionary List  Precautionary list of substances recommended for avoidance
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPH)	

### CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Option 1.  
Pre-checked for LEED v4.1 Option 1.

## Usable Information



## Social Equity Data

## AIA Materials Pledge

Participating firms pledge to:

- support **human health** by preferring products that support and foster life throughout their life cycles and seek to eliminate the use of hazardous substances.
- support **social health & equity** by preferring products from manufacturers that secure human rights in their own operations and in their supply chains, positively impacting their workers and the communities where they operate
- support **ecosystem health** by preferring products that support and regenerate the natural air, water, and biological cycles of life through thoughtful supply chain management and restorative company practices
- support **climate health** by preferring products that reduce carbon emissions and ultimately sequester more carbon than emitted.
- support a **circular economy** by reusing and improving buildings and by designing for resiliency, adaptability, disassembly, and reuse, aspiring to a zero-waste goal for global construction activities.

## Clarity of Goals

The background image shows a coastal scene with waves breaking on a rocky beach. The water is a mix of blue and white, and the rocks are dark and textured. A semi-transparent white rectangular box is centered horizontally across the middle of the image, containing the text "TRANSPARENCY IS HERE!".

**TRANSPARENCY IS HERE!**

Intrinsic to our material selection philosophy is the knowledge that many substances, ubiquitous in the built environment, cause harm to people and the natural environment. On each project, we set out to avoid the chemicals of concern listed below, and with each effort, come one step closer to a world free of these dangerous chemicals.

Intrinsic to our material selection philosophy is the knowledge that many substances, ubiquitous in the built environment, cause harm to people and the natural environment. On each project, we set out to avoid the chemicals of concern listed below, and with each effort, come one step closer to a world free of these dangerous chemicals.

**Polyvinyl Chloride (PVC)  
+ Chlorinated PVC (CPVC)**

Vinyl Flooring  
PVC Roofing  
Vinyl Windows  
Plastic Wall Protection  
Fabrics + Window Coverings  
Furniture

# IN

Antimicrobials

Text  
Computers  
E-Reading Stations  
Many Other Touch Surfa

- Wood Preservatives
- Glazes + Pigments
- Metal Plating
- Fly Ash Recycled Content in Carpet
- Products with Recycled PVC
- Rubber Flooring with Recycled Tires

## Paint

### XPS + Spray Foam Insulation

These substances contribute substantially to global warming. Regulations are gradually phasing out the worst of these, along with those that are ozone-depleting.

### Composite Wood Products Insulation

EPS/XPS Insulation  
Single-Ply Roofing  
Upholstery Foam

Orthopedic Implants

Carpet Backing + Vinyl Flooring  
Woodwork Adhesives + Binders  
Roofing

- Flooring
- Laminate
- Grout + Mortar
- Polycarbonate Panels/Skylights
- Whiteboard Paint

Paints  
Wood Finishes  
Adhesives

# Bora's Chemicals of Concern

Intrinsic to our material selection philosophy is the knowledge that many substances, ubiquitous in the built environment, cause harm to people and the natural environment. On each project, we set out to avoid the chemicals of concern listed below, and with each effort, come one step closer to a world free of these dangerous chemicals.



## EXTERNAL Environmental Concerns

### Polyvinyl Chloride (PVC) + Chlorinated PVC (CPVC)

The production of PVC is extraordinarily toxic and energy intensive, and there are no safe outcomes at the end of its useful life. Its negative impacts bear heavily on lower income and minority communities that live near production and incineration facilities. These inequitable societal and environmental costs are not reflected in the purchase price of PVC products, though alternatives are readily available for most applications.

134

Vinyl Flooring  
Vinyl Wall Coverings  
Furniture  
Furniture  
Protection  
Floor Coverings

### Per and Polyfluorinated Substances (PFAS)

PFAS are reproductive toxins and endocrine disruptors that are extremely persistent and bioaccumulate in the environment. They are used to increase water, stain, or wrinkle resistance in products. Increased awareness of their negative impacts are making them easier to avoid.

10,775

Carpet Backing  
Resilient Flooring  
Floor Sealant + Coatings  
Gaskets  
Textiles

### Antimicrobials

Antimicrobials are developmental and aquatic toxins. Some provide necessary product preservation, but overuse may contribute to increased antibiotic resistance. They provide no proven health benefit and should be avoided when marketed with health claims.

52

Countertops  
Baby Changing Stations  
Many Other Touch Surfaces

### Arsenic, Cadmium, Chromium, Lead, Mercury

These toxic metals are extremely hazardous in very small doses, especially to young children. In addition to some architectural products where they can be avoided, they are found in plumbing and electronic equipment, batteries, and fluorescent lighting.

5,548

Wood  
Glazing  
Metal  
Fly Ash  
Recycled Content in Carpets  
Recycled PVC  
Recycled PVC

### Alkylphenol Ethoxylates

APEs are endocrine disruptors that bioaccumulate in the environment. It is unclear at this time how prevalent they are in the products we specify.

417

Wood  
Glazing  
Metal  
Fly Ash  
Recycled Content in Carpets  
Recycled PVC  
Recycled PVC

### CFC, HCFC, HFC

These substances contribute substantially to global warming. Regulations are gradually phasing out the worst of these, along with those that are ozone-depleting.

203

XPS + Spray Applied Insulation  
Whiteboard



## INTERNAL Health Concerns

### Formaldehyde

Formaldehyde is readily emitted into interior environments causing respiratory and other short and long term health issues. Options for ultra-low emitting or no-added formaldehyde are typically available.

1,164

World Products

### Halogenated + Organophosphate Flame Retardants

Flame retardants are associated with lower IQ and hyperactivity in children, hormone disruption and reduced fertility in adults, and these types are highly persistent and bioaccumulate in the environment. They often do not increase fire safety and pose additional risks to fire-fighting personnel.

620

EPS/XPS Insulation  
Single-Ply Roofing  
Upholstery

### Antimony Trioxide Flame Retardants

Antimony Trioxide is a concerning member of the non-halogenated and non-organophosphate flame retardant categories.

Batt + Spray Applied Insulation  
Carpet Backing + Vinyl Flooring  
Single-Ply Roofing  
Polyurethane + Epoxy Coatings  
PET Textiles

### Orthophthalates

Phthalates are developmental and reproductive toxins, endocrine disruptors, and asthmagens, and persist and bioaccumulate in the environment. They are used primarily to make materials such as PVC softer and more flexible, providing another reason to avoid vinyl products.

639

Carpet Backing  
Woodwork  
Roofing

### Bisphenol A (BPA)

BPA is a reproductive and developmental toxin and endocrine disruptor that persists and bioaccumulates in the environment. It is a component of some polycarbonate plastics and epoxies and should be easy to identify in ingredient disclosure documentation.

159

Grout + Mortar  
Polycarbonate Plastics/Skyline  
Vinyl Wall Coverings

### Isocyanates

Isocyanates are asthmagens and air pollutants. Some provide the only and preferred alternative to formaldehyde binders, but other products with isocyanates should be avoided.

2,936

Spray Foam  
Whiteboard

### Halogenated Solvents

Solvents can cause short term health effects like headaches and contribute to long term neurodevelopmental effects and cancer. Use water-based alternatives.

974

Whiteboard

#### References

Perkins&Will Precautionary List | Green Science Policy Institute Six Classes | Healthy Building Network Transformation Targets  
International Living Future Institute LBC Red List | Cradle to Cradle Products Innovation Institute Restricted Substances List

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PVC Roofing  
Vinyl Windows  
Plastic Wall Protection  
Fabrics + Window Coverings  
Furniture

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Carpet  
Resilient Flooring  
Floor Sealant + Coatings  
Grout  
Textiles

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Textiles  
Countertops  
Baby Changing Stations  
Many Other Touch Surfaces

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Metal Plating  
Fly Ash Recycled Content in Carpet  
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Rubber Flooring with Recycled Tires

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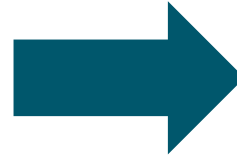
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Paint

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XPS + Spray Foam Insulation



## Material Health ToolSuite™



Automated Tools to Make  
Material Health Evaluation  
Fast, Easy and Accessible  
for Every Project

### Flame Retardants

Flame retardants are associated with lower IQ and hyperactivity in children, hormone disruption and reduced fertility in adults.

### BORA PreCheck

All

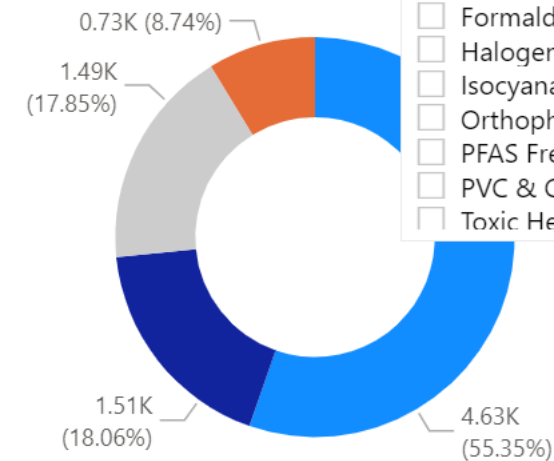
### Bora Chemicals of Concern

All

Search

- ☐ Antimicrobials Free
- ☐ Bisphenol A (BPA) Free
- ☐ CFC, HCFC, CFC Free
- ☐ Flame Retardants Free
- ☐ Formaldehyde Free
- ☐ Halogenated Solvents Free
- ☐ Isocyanates Free
- ☐ Orthophthalates Free
- ☐ PFAS Free
- ☐ PVC & CPVC Free
- ☐ Toxic Heavy Metals Free

### #HPD per Bora PreCheck



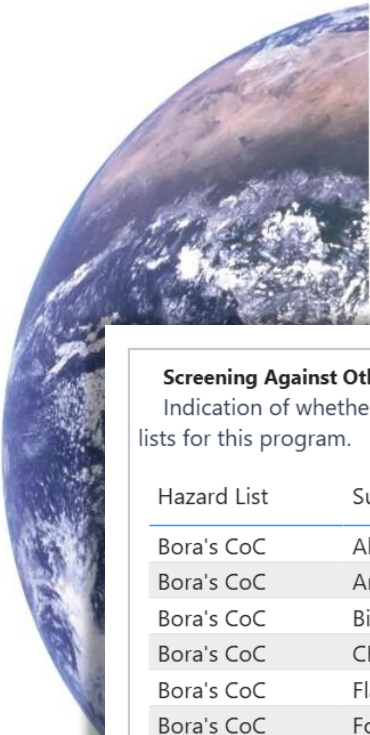
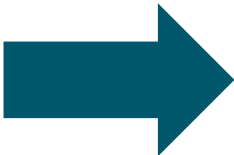
● Not Aligned  
● Preferred

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PVC Roofing  
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Plastic Wall Protection  
Fabrics + Window Coverings  
Furniture

### Per and Polyfluorinated Substances (PFAS)

Carpet  
Resilient Flooring  
Floor Sealant + Coatings  
Paints



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### Screening Against Other Chemical Hazards Lists

Indication of whether the product contains chemicals included in the specified lists for this program.

Hazard List	Sublist	Alignment
Bora's CoC	Alkylphenol Ethoxylates	✓
Bora's CoC	Antimicrobials	✓
Bora's CoC	Bisphenol A (BPA)	✓
Bora's CoC	CFC, HCFC, HFC	✓
Bora's CoC	Flame Retardants	✓
Bora's CoC	Formaldehyde	✓
Bora's CoC	Halogenated Solvents	✓
Bora's CoC	Isocyanates	✓
Bora's CoC	Orthophthalates	✓
Bora's CoC	PFAS	✗
Bora's CoC	PVC & CPVC	✓
Bora's CoC	Toxic Heavy Metals	✓

### Content Screening Results

Substances included in chemical hazards lists specified for this program.

Sublist	Substance	casrn
PFAS	Polytef	9002-84-0

erns

ments causing  
sues. Options for  
typically available.

osphate

Composite Wood Products  
Insulation

EPS/XPS Insulation  
Single-Ply Roofing  
Upholstery Foam

non-halogenated  
ries.

Batt + Spray Applied Insulation  
Carpet Backing + Vinyl Flooring  
Single-Ply Roofing  
Polyurethane + Epoxy Coatings  
PET Textiles

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Carpet Backing + Vinyl Flooring  
Woodwork Adhesives + Binders  
Roofing

Endocrine  
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documentation,

Flooring  
Laminate  
Grout + Mortar  
Polycarbonate Panels/Skylights  
Whiteboard Paint

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Spray Foam Insulation  
Whiteboard Paint

headaches and  
ts and cancer.

Paints  
Wood Finishes  
Adhesives

## Bora Architects HPD Dashboard

Welcome to the Bora Architects HPD Dashboard in the HPD Public Repository, a tool for architects and designers to find Health Product Declarations PreChecked against Bora's Chemicals of Concern criteria.

BORA

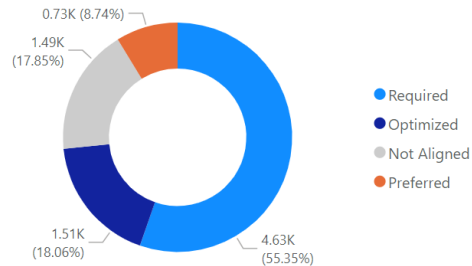
# BORA

8362 Total HPDs  
841 Manufacturers  
340 Verified HPDs  
6869 Bora Required  
5359 Bora Preferred  
1510 Bora Optimized

## Use the Tools\* Design smarter

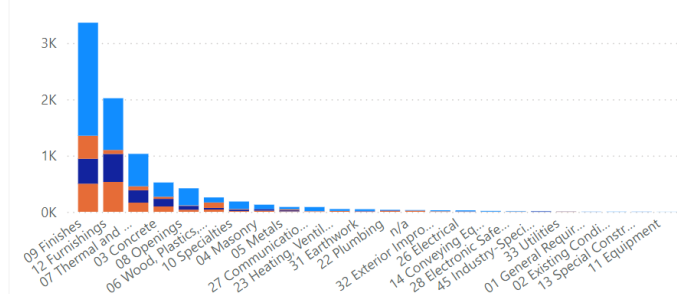
Product: All  
BORA PreCheck: All  
Manufacturer: All  
CSI Division: All  
Clear all

#HPD per Bora PreCheck



HPD Count per CSI Division

BORA: Not Aligned (Red), Optimized (Blue), Preferred (Orange), Required (Green)



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Automated Tools to Make  
Material Health Evaluation Fast,  
Easy and Accessible for Every  
Project



\*Available for HPDC members: As low as \$825/firm or \$175/individual Practitioner