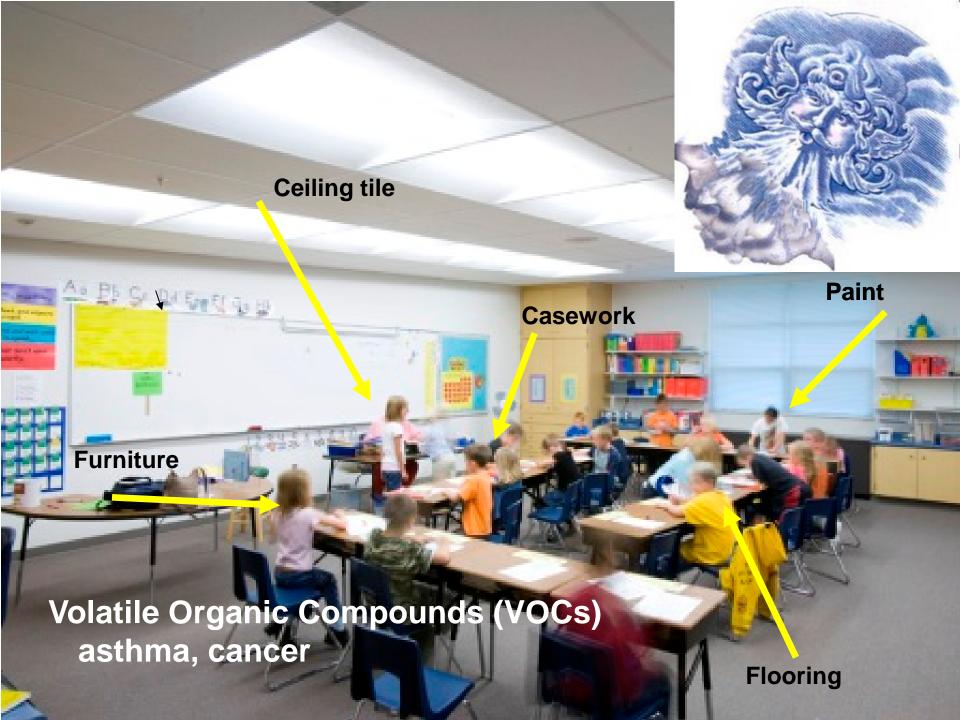
## **Building with Safer Products**

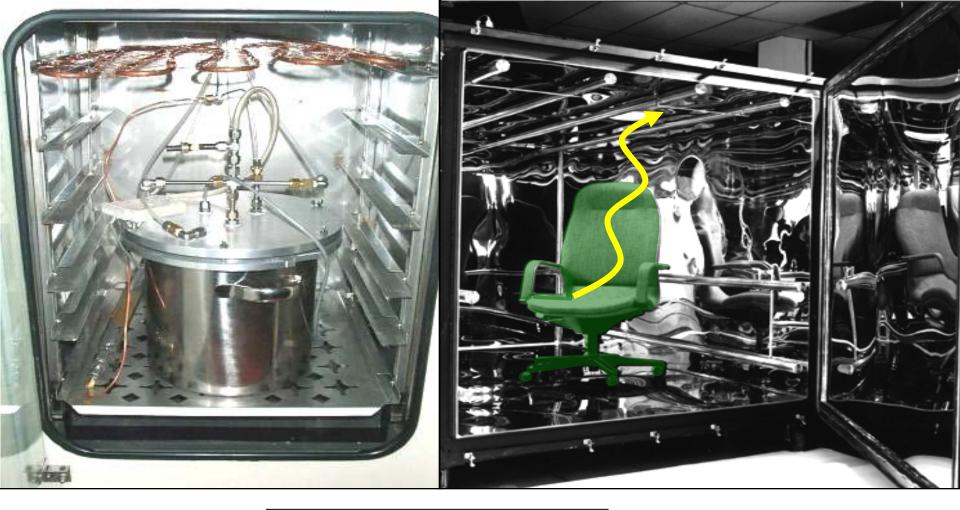
Finding out what's inside

November 30, 2011 BizNGO Annual Meeting Framingham, MA

Tom Lent Healthy Building Network

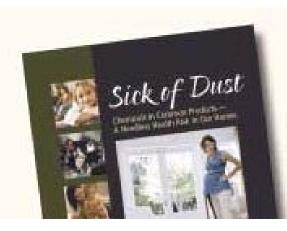






Measured Emissions> Model Amount of product Volume of building Ventilation rate

# Predicted >Concentration





Chemicals in Common Products— A Needless Health Risk in Our Homes

> Pat Costner, Beverley Thorpe & Alexandra McPherson

> > Nooring flexible

70 household dust samples - 10 states **Phthalate** plasticizers upic uit

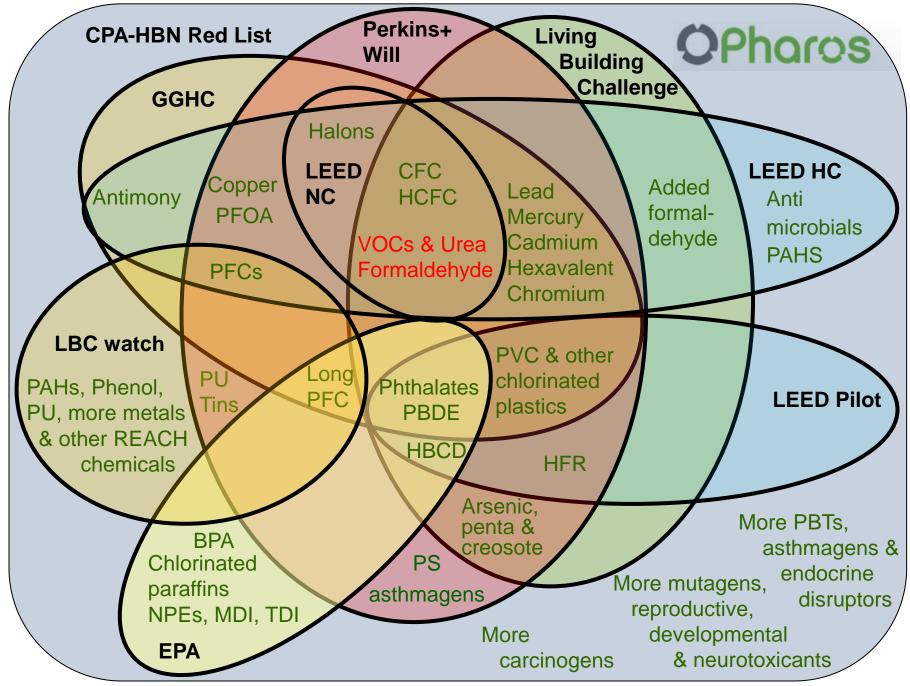
Us

## Polybro, the Duphenyl Ether (PBDE)

omak

• Widely used in foams, fabrics, and plastic





& More beyond...

Healthy Building Network © 2011

This chemical passes all of the criteria.

#### **BENCHMARK 4**

ready biodegradability (low P) + low B + low Human Toxicity + low Ecotoxicity (+ additional ecotoxicity endprints when available)

#### Prefer—Safer Chemical

#### BENCHMARK 3

- a. moderate P or moderate B
- b. moderate Ecotoxicity
- c. moderate Human Toxicity
- d. moderate Flammability or moderate Explosivenesness

#### **Use but Still Opportunity for Improvement**

#### **BENCHMARK 2**

- a. moderate P + moderate B + moderate T (moderate Human Toxicity or moderate Ecotoxicity)
- b. high P + high B
- c. (high P + moderate T) or (high B + moderate T)
- d. moderate Human Toxicity for any priority effect or high Human Toxicity
- e. high Flammability or high Explosiveness

#### **Use but Search for Safer Substitutes**

#### BENCHMARK 1

- a. PBT: high P + high B + high T1 (high Human Toxicity2 or high Ecotoxicity)
- b. vPvB: very high P + very high B
- c. vPT (vP + high T) or vBT (vB + high T)
- d. high Human Toxicity for any priority effect<sup>3</sup>

Avoid—Chemical of High Concern

chemical s broakproducts If this chemical and its breakdown products pass all of these offeria, then move on to Benchmark 4

If this chemical and its breakdown products pass of of these criteria, then move on to Benchmark 3



triffis chemical and its breakdown products pass all of these criteria, then move on to Benchmark 2







### **Over 9000 chemicals**

### Screened against 26 authoritative chemical hazard lists Ranked on a GreenScreen-informed hazard scale

- Priority health endpoints
- Confidence in the science

| ٠ |                       |                      | s, NWMP Priority PBTs, TRI PBT, Global Warming                                                                                                                                     | g Potentials                     |
|---|-----------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| • | and Ozon<br>NTP ROC   | Very High<br>Concern | Persistent Organic Pollutants (POPs) targeted in the Stockholm POPs treaty<br>and other Persistent Bioaccumulative Toxicants (PBTs)*                                               | Highest priority<br>to eliminate |
| • | NIOSH Ca              | High Concern         | Known or likely carcinogens, mutagens, reproductive toxicants,                                                                                                                     |                                  |
| • | IARC Canc<br>European |                      | developmental toxicants or endocrine disruptors.                                                                                                                                   |                                  |
| • | State of V            | Moderate<br>Concern  | Significant possibility of above hazards but lower confidence <i>or</i> known or likely <b>neurotoxicants, respiratory</b> sensitizers or leading to <b>other chronic human or</b> |                                  |
| • | State of C            | Caution              | ecotoxicity endpoints.<br>Moderate concern for any of the above health endpoints <i>or</i> preliminary                                                                             | Use with caution.                |
| • | OSPAR Pr<br>Rotterdar | Caution              | indications of higher concern but with inadequate test data or acute human<br>health concern                                                                                       | Avoid where<br>possible          |
| • | Stockholn             | Low Concern          | Tested with low concern for any of the above endpoints**                                                                                                                           |                                  |
| • | State of C            |                      |                                                                                                                                                                                    | Prefer                           |
| • | Association           | ot Occupat           | ional and Environmental Clinics Exposure Codes                                                                                                                                     |                                  |

Association of Occupational and Environmental Clinics Exposure Codes

## **Ö**Pharos



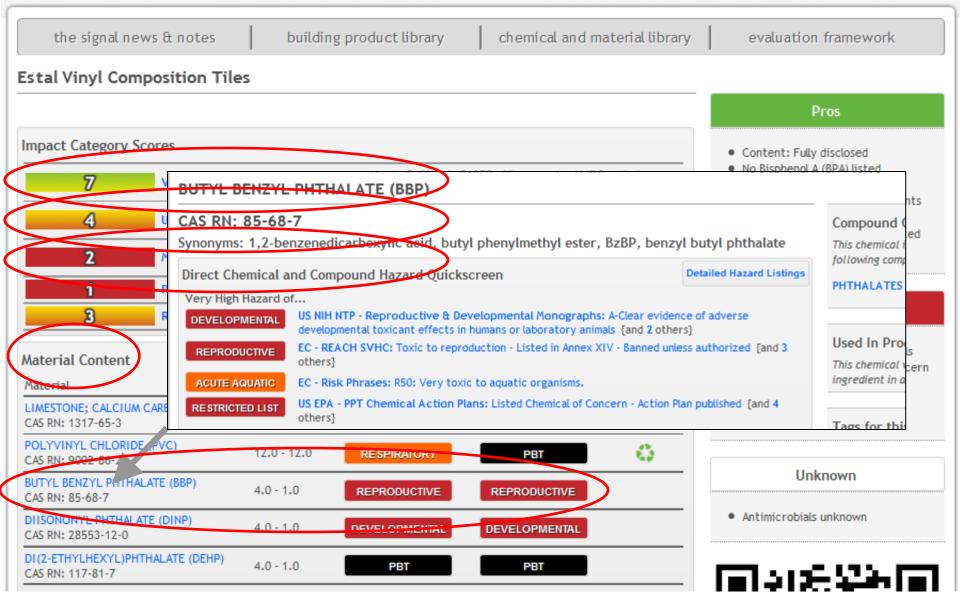
| T                                              | BUTYL BENZYL                            | PHTHALATE                             | (BBP)                                         |                                                                       |                   |                            |                                                     |
|------------------------------------------------|-----------------------------------------|---------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|-------------------|----------------------------|-----------------------------------------------------|
| b                                              | CAS RN: 85-68-<br>Synonyms: 1,2-be      |                                       | lic acid, butyl ph                            | enylmethyl ester,                                                     | BzBP, benzy       | l butyl phthalate          | Compound Groups<br>This chemical is a member of the |
| 60-7] BUTYL BE                                 | Direct Chemical a<br>Very High Hazard o | -                                     | Detailed Hazard Listings                      | following compound groups:<br>PHTHALATES                              |                   |                            |                                                     |
| 77-3] ISO <b>BUTYL</b><br>bbased material      | DEVELOPMENTAL                           | developmental tox<br>EC - REACH SVH   | kicant effects in huma                        | opmental Monograp<br>ans or laboratory anin<br>tion - Listed in Annex | nals {and 2 othe  |                            | Tags for this chemical                              |
| n the Chemical I                               | ACUTE AQUATIC                           | US EPA - PPT Ch                       | s: R50: Very toxic to<br>emical Action Plans: |                                                                       | oncern - Action   | Plan published {and 4      | Add a New Tag                                       |
| iemical Hazar                                  | High Hazard of                          | others}<br>EC - Endocrine D<br>other} | )isrupters Strategy                           | : Category 1 - Eviden                                                 | e of endocrine of | disruption activity {and 1 | Sources                                             |
| ibrary identifi<br>ances that ma               | CHRON AQUATIC<br>Medium Hazard of.      | EC - Risk Phrases                     | a: R53: May cause lon                         | ig-term adverse effec                                                 | ts in the aquatic | environment.               | Hazardous Substances Databank (HSDE<br>(NHIS)       |
| Direct healt<br>potential hea<br>receive the I | CANCER<br>Potential concern.            |                                       | cinogens: 1986 Guid                           | delines Group C: Possi                                                | ble human carcii  | nogen {and 1 other}        |                                                     |
| reproductive<br>Life cycle h                   |                                         |                                       | 1                                             | for the following he                                                  |                   | xicity endpoints           | 85 Hold 12                                          |
| used, create                                   | PBT<br>EYE IRRITATION                   | GENE MUTATION                         | RESPIRATORY<br>SKIN SENSITIZE                 | ORGAN TOXICANT                                                        | MAMMALIAN         |                            | 11. A. A. A. A. A.                                  |
| identify pote<br>mined or gro                  | FLAMMABLE                               | REACTIVE                              |                                               | OZONE DEPLETION                                                       |                   |                            | - 5 <b>5 4 3 5 5 4 3 5</b> 4                        |

The Pharos team has undertaken a preliminary literature review of some of the processes involved in the manufacture of this substance and identified the following chemicals. This list of chemicals is not exhaustive of all chemicals that may be involved

## **Ö**Pharos

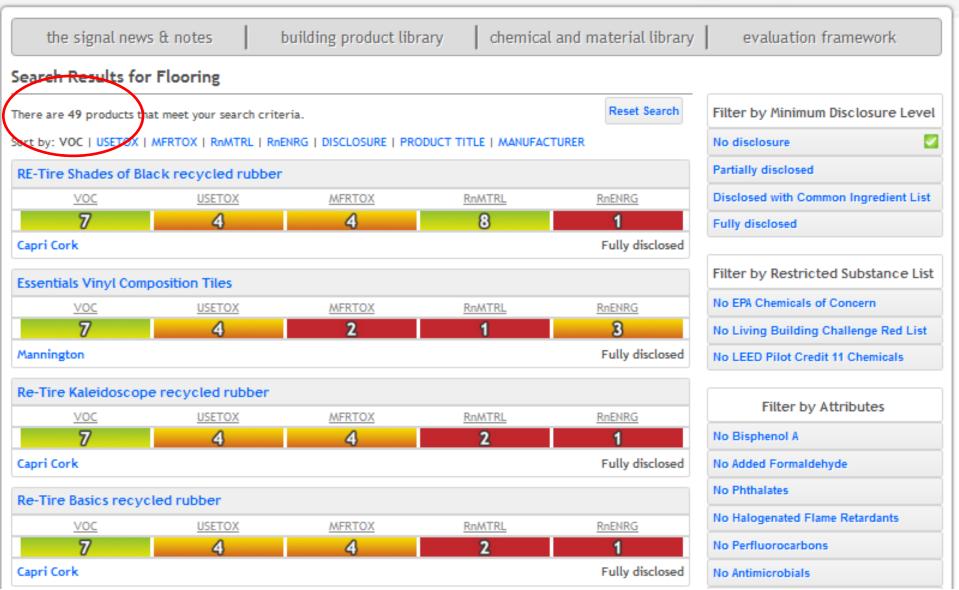
l 🐸 in 🗄

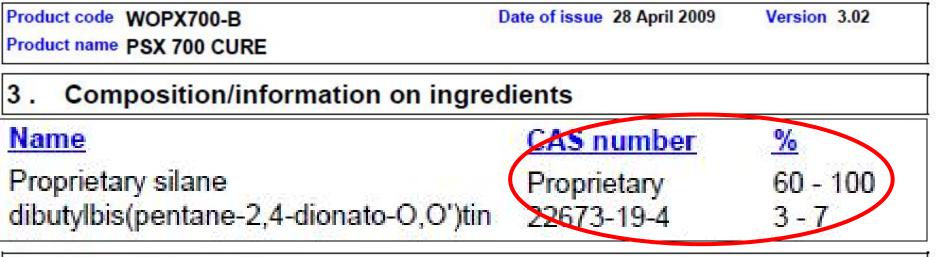
Search...



## **O**Pharos







#### 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

| Eye contact  | <ul> <li>Check for and remove any contact lenses. Immediately flush eyes with running water<br/>for at least 15 minutes, keeping eyelids open.</li> </ul>                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skin contact | <ul> <li>Remove contaminated clothing and shoes. Wash skin thoroughly with soap and<br/>water or use recognized skin cleanser. Do not use solvents or thinners.</li> </ul>                                                 |
| Inhalation   | <ul> <li>Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is<br/>irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by<br/>trained personnel.</li> </ul> |



Low fat!

### **Nutrition Facts**

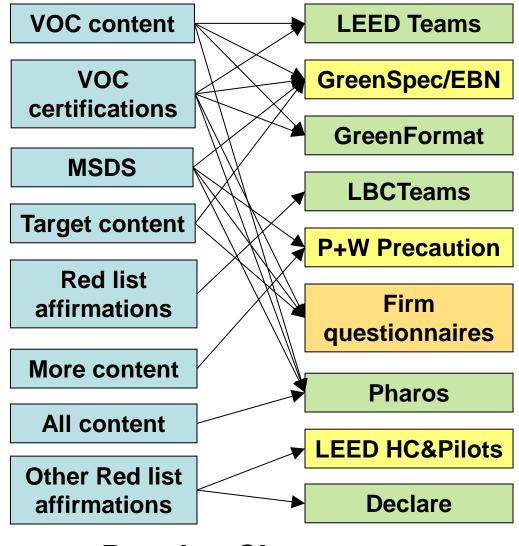
Serving Size: About (20g) Servings Per Container: 16

|                                     | Amount<br>Per Serving | % Daily<br>Value* |
|-------------------------------------|-----------------------|-------------------|
| otal Calories                       | 60                    |                   |
| Patrice Grant Fatres                |                       |                   |
|                                     | <u>î</u>              | 3%                |
| Sa rate                             | g a start             | 4 %               |
|                                     |                       |                   |
| holesterol                          | 0 mg                  | 0.96              |
| odium                               | 45 mg                 | 296               |
| otal Carbobydrates                  | 15.0                  | 5%                |
|                                     |                       | 17%               |
|                                     |                       |                   |
| itamin A                            |                       | 0.96              |
| itamin C                            |                       | 0.%               |
| alcium                              |                       | 296               |
| on                                  |                       | 2%                |
| Percent Daily Values are based      | l on a 2,000 ca       | alorie            |
| iet.                                |                       |                   |
| igredients: Wheat flour, unswe      | etened chocol         | ate.              |
| rythritol, inulin, oat flour, cocoa |                       |                   |

rythritol, inulin, oat flour, cocoa powder, evaporated ane juice, whey protein concentrate, corn starch (low lycemic), natural flavors, salt, baking soda, wheat

iten, guar gum

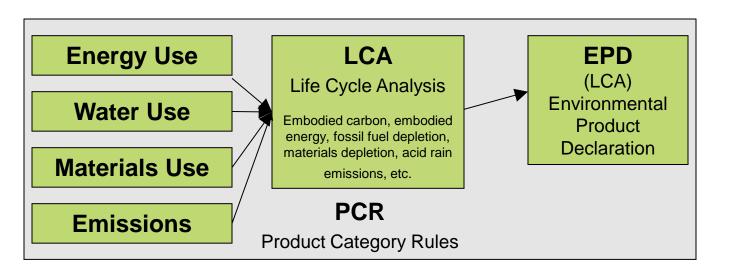
### User demand for transparency at all time high



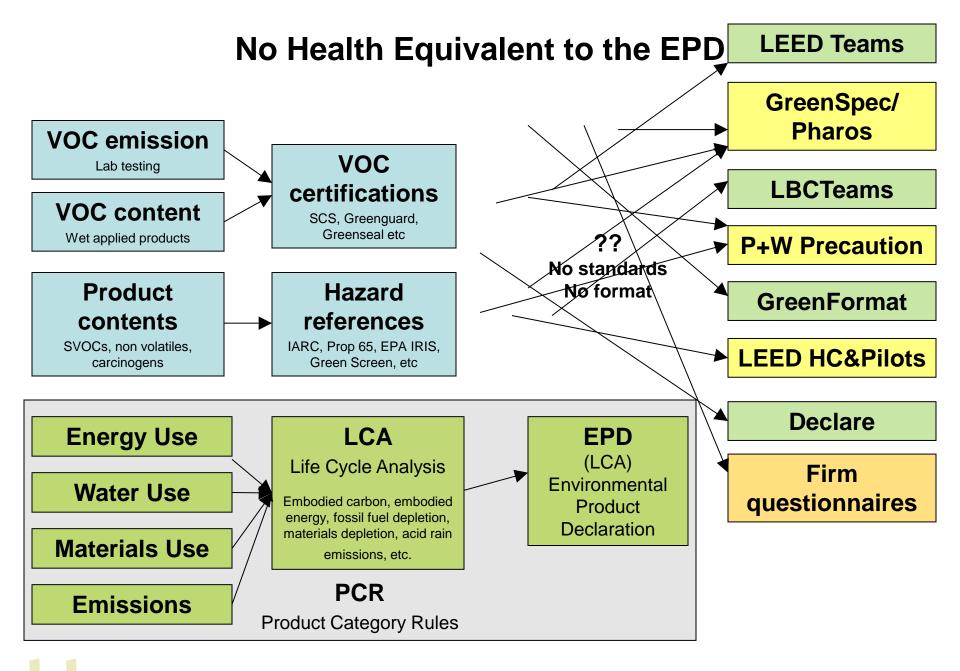
**Result = Chaos** 

### **Environmental Product Declaration**

# Health???



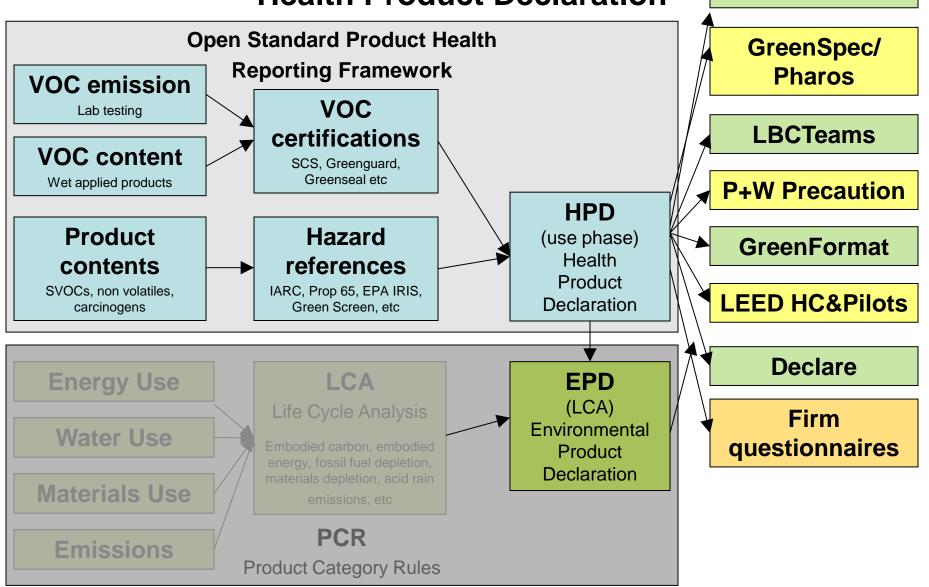
HEALTHY BUILDING NETWORK BuildingGreen.com



HEALTHY BUILDING NETWORK R BuildingGreen.com

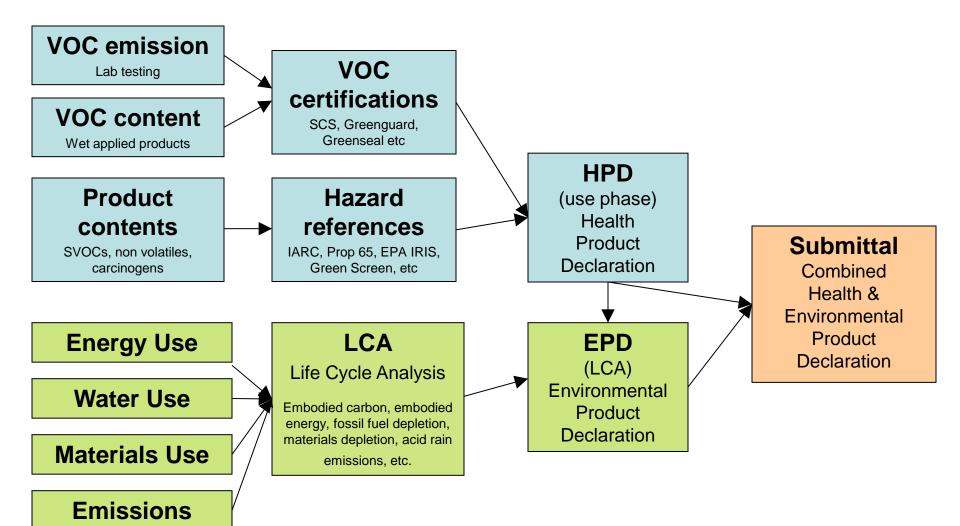
### **Health Product Declaration**

**LEED Teams** 



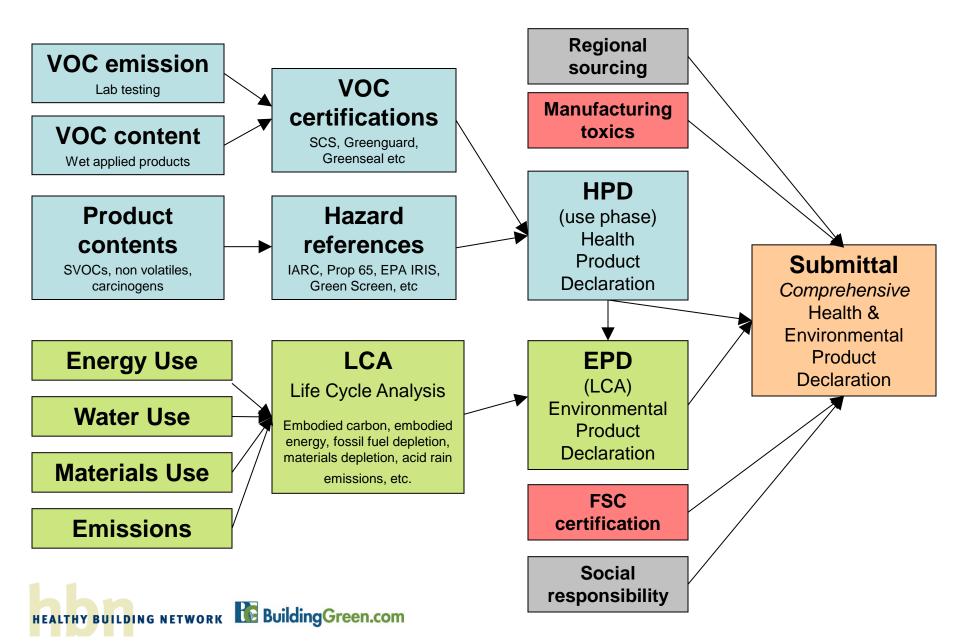
HEALTHY BUILDING NETWORK BuildingGreen.com

### **Combined Health & Environmental Product Declaration**

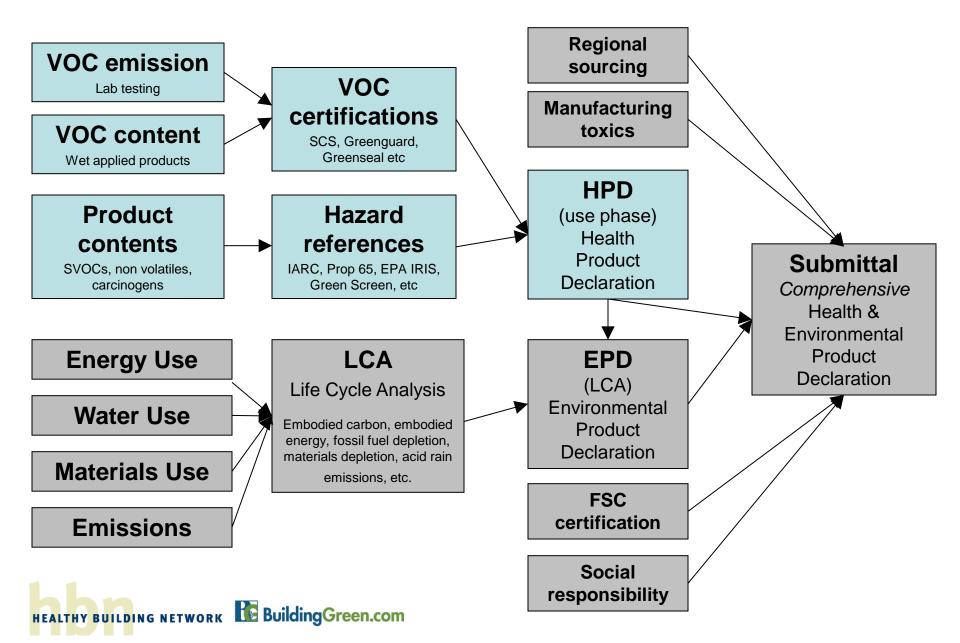




### **Comprehensive Health & Environmental Product Declaration**



### **Product Health Reporting Framework**



Goal:

### A Health Product Declaration Designed by and for design professionals and building owners

### HPD Working Group Representatives of 30 firms

#### Convener



#### **Steering Committee**

Anthony Bernheim Eden Brukman Mary Davidge Susan M Kaplan Nadav Malin Mike Manzi Peter Syrett Bill Walsh

AECOM International Living Building Challenge Mary Davidge Associates HLW International BuildingGreen, Inc. boora architects Perkin + Will Healthy Building Network

#### Sample Health Product Declaration - 9/26/2011 draft

#### 1) Product Description

| Name & IDs   | Tuff Stuff X42, product SKU SB4353                                                      | MasterFormat     | 09 96 00 (MF10) |
|--------------|-----------------------------------------------------------------------------------------|------------------|-----------------|
| Manufacturer | Ajax Manufacturing                                                                      | Declaration date | June 9, 2011    |
| Description  | High performance coating designed for painting bath stall walls and other wet surfaces. |                  |                 |

#### 2) Product Contents Disclosure

| Di | Disclosure level 94 percent of intentionally added content s fully disclosed (100 percent is ideal). |             |            |                                                                                                                          |                |             |  |  |  |
|----|------------------------------------------------------------------------------------------------------|-------------|------------|--------------------------------------------------------------------------------------------------------------------------|----------------|-------------|--|--|--|
| Na | ame                                                                                                  | CAS RN      | %          | Health Hazard Warnings                                                                                                   | RC             | Nano        |  |  |  |
| 1  | Phenyl Glycidyl Ether                                                                                | 122-60-1    | 55%        | Cancer and Male reproductive toxicity (CA Prop 65)                                                                       | Ν              | N           |  |  |  |
|    |                                                                                                      |             |            | R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic<br>environment (EC Risk) |                |             |  |  |  |
| 2  | Alkyl (C12, C14) Glycidyl Ether                                                                      | 68609-97-2  | 21%        | Irritating to skin and May cause sensitization by skin contact. (EC Risk)                                                | Ν              | N           |  |  |  |
|    |                                                                                                      |             |            | Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2011. Report is at<br>www.ChemService.com/GS54345        |                |             |  |  |  |
| 3  | Bis(2-(dimethylamino)ethyl) ether                                                                    | 3033-62-3   | 8%         | No warnings found                                                                                                        | Ν              | N           |  |  |  |
| 4  | Polyethylene                                                                                         | 9002-88-4   | 7%         | No warnings found                                                                                                        | PC             | Ν           |  |  |  |
| 5  | Trade secret                                                                                         | Not         | 3%         | Category 1 Evidence of endocrine disruption activity (EC Endocrine)                                                      | N              | N           |  |  |  |
|    |                                                                                                      | disclosed   |            | Very toxic to aquatic organisms and possible risk of impaired fertility (EC Risk)                                        |                |             |  |  |  |
| 6  | Acme Zap-It Antimicrobial                                                                            | Content not | 3%         | Not available                                                                                                            | N              | N           |  |  |  |
|    |                                                                                                      | disclosed   |            |                                                                                                                          |                |             |  |  |  |
| 7  | Silver                                                                                               | 7440-22-4   | 2%         | No warnings found                                                                                                        | N              | Y           |  |  |  |
| 8  | Distillate Fuel Oils, Light                                                                          | 13463-41-7  | 1%         | No warnings found                                                                                                        | N              | N           |  |  |  |
| AI | I known residuals disclosed to                                                                       | Lowest      | equirement |                                                                                                                          |                |             |  |  |  |
| 9  | Formaldehyde                                                                                         | 50-00-0     | <1000      | Group 1: Agent is carcinogenic to humans (IARC) and other cancer warnings (see notes)                                    | N              | N           |  |  |  |
|    |                                                                                                      |             | ppm        | Generally accepted asthmagen (AOEC)                                                                                      |                |             |  |  |  |
|    |                                                                                                      |             |            | R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and                             |                |             |  |  |  |
|    |                                                                                                      |             |            | R34: Causes burns and R43: May cause sensitization by skin contact.(EC Risk)                                             |                |             |  |  |  |
|    | The manufacturer affirms that all kr                                                                 |             |            |                                                                                                                          | 6, 2011        |             |  |  |  |
|    | for chemicals of con                                                                                 |             |            |                                                                                                                          |                |             |  |  |  |
|    |                                                                                                      |             |            | emicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclarat          | ion.org/pri    | oritylists. |  |  |  |
|    | C = Recycled Content: PC-Post Consume                                                                |             |            | Nano = comprised of nanoscale particles or nanotechnology                                                                |                |             |  |  |  |
| To | otal Volatile Organic Compound                                                                       | Content (TV | OC) Ma     | terial VOC 50 g/l Regulatory VOC 30 g/l Total VOC incl. EPA exempt compoun                                               | n <b>ds</b> 60 | g/I         |  |  |  |
|    |                                                                                                      |             | A STREET   | F Contraction of the second          |                |             |  |  |  |

## **Contents Inventory**

| Disctosure level         94         percent of intentionally added content s fully disclosed (100 percent is ideal).           Name         CAS RN         %         Health Hazard Warnings         RC         Nano           1         Phenyl Glycidyl Ether         122-60-1         55%         Cancer and Male reproductive toxicity (CA Prop 65)<br>R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic<br>environment (EC Risk)         N         N           2         Alkyl (C12, C14) Glycidyl Ether         68609-97-2         21%         Irritating to skin and May cause sensitization by skin contact. (EC Risk)<br>Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2014, Report is at<br>www.chemService.com/C54345         N         N           All known residuals disclosed to         Lowest requirements (ideal         X         100 ppm         As required on MSDS         Not disclosed           3         Formaldehyde         50-00-0         <1000         Group         Agent is carcinogesic to humans (IARC) and other cancer warnings (see notes)         N         N           4         The manufacturer affirms that all known material contents were screened<br>for chemicals of concer and health warning listings using:         Pharos Chemical and Material Library from the Healthy<br>Building Network         Screening date         June 6, 2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------|--------------|-------------------------------------------------------------------------------------------------|-------------|------------|--|--|--|--|
| Name         CAS RN         %         Health Hazard Warnings         RC         Nano           1         Phenyl Glycidyl Ether         122-60-1         55%         Cancer and Male reproductive toxicity (CA Prop 65)<br>R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic<br>environment (EC Risk)         N         N           2         Alkyl (C12, C14) Glycidyl Ether         68609-97-2         21%         Irritating to skin and May cause sensitization by skin contact. (EC Risk)<br>Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2011, Report is at<br>www./nemService.com/c654345         N         N         N           All known residuals disclosed to         Lowest requirements (ideal)         X         100 ppm         As required on MSDS         Not disclosed           3         Formaldehyde         50-00-0         <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2) Product Contents Disclosure        |                  |              |                                                                                                 |             |            |  |  |  |  |
| 1       Phenyl Glycidyl Ether       122-60-1       55%       Cancer and Male reproductive toxicity (CA Prop 65)<br>R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic<br>environment (EC Risk)       N       N         2       Alkyl (C12, C14) Glycidyl Ether       68609-97-2       21%       Irritating to skin and May cause sensitization by skin contact. (EC Risk)<br>Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2011 Report is at<br>www.chemService.com/C54345       N       N       N         All known residuals disclosed to       Lowest requirements (ideal       X       100 ppm       As required on MSDS       Not disclosed         3       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disclosure level 94 perce             | ent of intention | ally added   | content s fully disclosed (100 percent is ideal).                                               |             |            |  |  |  |  |
| R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic environment (EC Risk)       N         2       Alkyl (C12, C14) Glycidyl Ether       68609-97-2       21%       Irritating to skin and May cause sensitization by skin contact. (EC Risk)       N       N         2       Alkyl (C12, C14) Glycidyl Ether       68609-97-2       21%       Irritating to skin and May cause sensitization by skin contact. (EC Risk)       N       N         All known residuals disclosed to       Lowest requirements (ideal X 100 ppm       1000 ppm       As required on MSDS       Not disclosed         3       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Name                                  | CAS RN           | %            | Health Hazard Warnings                                                                          | RC          | Nano       |  |  |  |  |
| environment (EC Risk)       N         2       Alkyl (C12, C14) Glycidyl Ether       68609-97-2       21%       Irritating to skin and May cause sensitization by skin contact. (EC Risk)       N       N         All known residuals disclosed to       Lowest requirements (ideal       X       100 ppm       1000 ppm       As required on MSDS       Not disclosed         All known residuals disclosed to       Lowest requirements (ideal       X       100 ppm       1000 ppm       As required on MSDS       Not disclosed         3       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 Phenyl Glycidyl Ether               | 122-60-1         | 55%          |                                                                                                 | Ν           | Ν          |  |  |  |  |
| 2       Alkyl (C12, C14) Glycidyl Ether       68609-97-2       21%       Irritating to skin and May cause sensitization by skin contact. (EC Risk)       N       N       N         All known residuals disclosed to       Lowest requirements (ideal       X       100 ppm       1000 ppm       As required on MSDS       Not disclosed         9       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                  |              | R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic |             |            |  |  |  |  |
| Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2011 Report is at         All known residuals disclosed to       Lowest requirements (idea)       X       100 ppm       As required on MSDS       Not disclosed         9       Formaldehyde       50-00-0       <1000       Generally accepted asthmagen (AOEC)<br>R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and<br>R34: Causes burns and R43: May cause sensitization by skin contact.(EC Risk)       N       N         The manufacturer affirms that all known material contents were screened<br>for chemicals of concern and health warning listings using:       Pharos Chemical and Material Library from the Healthy<br>Building Network       Screening date       June 6, 2011         Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
| All known residuals disclosed to       Lowest requirements (ideal       X       100 ppm       As required on MSDS       Not disclosed         P       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 Alkyl (C12, C14) Glycidyl Ether     | 68609-97-2       | 21%          |                                                                                                 | N           | N          |  |  |  |  |
| All known residuals disclosed to       Lowest requirements (idea)       X       100 ppm       As required on MSDS       Not disclosed         9       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
| 9       Formaldehyde       50-00-0       <1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                  |              | www.ChemService.com/CS54345                                                                     |             |            |  |  |  |  |
| ppm       Generally accepted asthmagen (AOEC)<br>R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and<br>R34: Causes burns and R43: May cause sensitization by skin contact.(EC Risk)         The manufacturer affirms that all known material contents were screened<br>for chemicals of concern and health warning listings using:       Pharos Chemical and Material Library from the Healthy<br>Building Network       Screening date       June 6, 2011         Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | All known residuals disclosed to      | Lowest r         | equirements  | s (ideal) X 100 ppm / 1000 ppm / As required on MSDS / Not disclosed                            |             |            |  |  |  |  |
| R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and<br>R34: Causes burns and R43: May cause sensitization by skin contact.(EC Risk)         The manufacturer affirms that all known material contents were screened<br>for chemicals of concern and health warning listings using:       Pharos Chemical and Material Library from the Healthy<br>Building Network       Screening date       June 6, 2011         Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 9 Formaldehyde                        | 50-00-0          | <1000        | Group 1. Agent is carcinogenic to humans (IARC) and other cancer warnings (see notes)           | Ν           | Ν          |  |  |  |  |
| R34: Causes burns and R43: May cause sensitization by skin contact.(EC Risk)         The manufacturer affirms that all known material contents were screened for chemicals of concern and health warning listings using:       Pharos Chemical and Material Library from the Healthy Building Network       Screening date       June 6, 2011         Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
| The manufacturer affirms that all known material contents were screened for chemicals of concern and health warning listings using: Building Network Building N |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
| for chemicals of concern and health warning listings using: Building Network Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/priority/lists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
| Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The manufacturer affirms that all k   | nown material o  | contents wer | re screened Pharos Chemical and Material Library from the Healthy Screening date June 6         | , 2011      |            |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                  |              |                                                                                                 | on.org/prio | ritylists. |  |  |  |  |
| RC = Recycled Content: PC-Post Consumer PI = Post industrial Nano = comprised of nanoscale particles or nanotechnology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | RC = Recycled Content: PC-Post Consum | er PI=Postind    | ustrial      | Nano = comprised of nanoscale particles or nanotechnology                                       |             |            |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |                  |              |                                                                                                 |             |            |  |  |  |  |

### 1. All intentionally added contents

- plus health hazard warnings from hazard lists
- 2. Known residuals (contaminant from manufacturing or feedstock)
  - accommodating varying levels of disclosure

## **Testing & Certifications**

#### 3) Product Testing & Certifications

| Туре                     | Standard or<br>certification | Certifier / laboratory                       | Certify<br>party | Test Date      | Expires          | Certificate URL                 | Applicable<br>Facilities | CA DP<br>V1.1 St |  |  |  |
|--------------------------|------------------------------|----------------------------------------------|------------------|----------------|------------------|---------------------------------|--------------------------|------------------|--|--|--|
| VOC emissions            | Indoor Advantage             | Scientific Certifications Systems /          | 3rd              | 5/12/2010      | 6/1/2012         | http://www.scscertified.com/pro | Smithville TX,           | Yes              |  |  |  |
|                          | Gold                         | Berkeley Analytic Associates                 |                  |                |                  | ducts/cert_pdfs/Ajax010611.pdf  | Jonesvile OK             |                  |  |  |  |
| VOC content              | SCAQMD Rule                  | Manufacturer self-certified claim            | 1st              | 4/11/2009      | N/A              | N/A                             | all                      |                  |  |  |  |
|                          | 1113                         |                                              |                  |                |                  |                                 |                          |                  |  |  |  |
| Recycled content         | N/A                          | N/A                                          | N/A              | N/A            | N/A              | N/A                             | N/A                      |                  |  |  |  |
| Other                    |                              |                                              |                  |                |                  |                                 |                          |                  |  |  |  |
| Certifying party: Manu   | facturer is 1st party, Tr    | ade association or other interested party is | 2nd party, I     | ndependent cer | tifier is 3rd pa | rty                             |                          |                  |  |  |  |
| Applicable facilities: M | an ufacturing aites to ul    | high the testing emplies                     |                  |                |                  |                                 |                          |                  |  |  |  |

oplicable facilities: Manufacturing sites to which the testing applies

- Type (VOC content, emissions or recycled content)
- Certifying program (or standard)
- Certifier/laboratory
- Certifier type (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>)
- Date of testing & Expiration & URL
- Applicable Facilities
- CADPH V1.1 (VOC emissions testing)

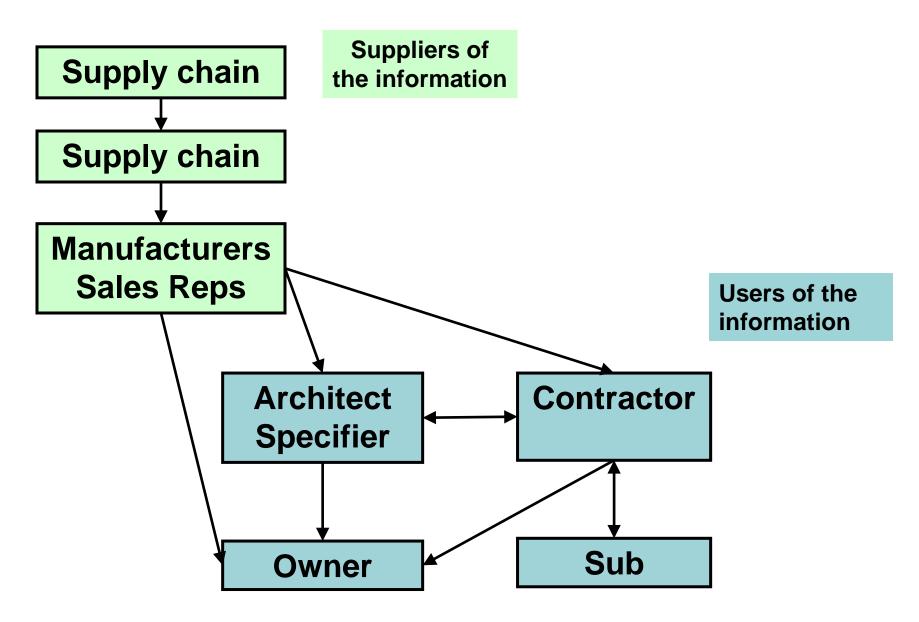
## **Accessory Materials**

4) Accessory Materials Additional products required for an installation such as adhesives, fasteners, or factory coatings) or for maintenance, cleaning or operative operation of the second se

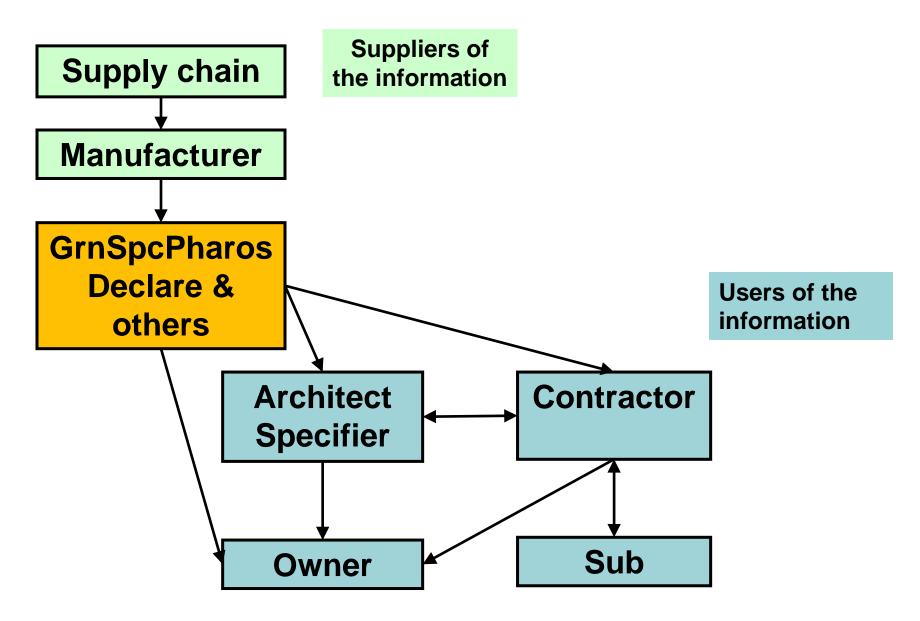
| Required or recommended products                                 | Condition when required/recommended                                   | Health Product Declaration URL                           |
|------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------|
| Tuff Stuff Precoat Sealer                                        | When applying to highly absorbent surfaces                            | www.Ajax.com/pdfs/TuffStuffDecI103                       |
|                                                                  |                                                                       |                                                          |
| All products required for installation of the product (such as a | n adhesive or top coat), maintenance, cleaning or operation under the | manufacturer warranty as well as options are listed here |
| listed Health Product Declarations for those products to get a   | a complete view of the product                                        |                                                          |

### Products suggested or required by warranty Installation, maintenance or cleaning

## **HPD Communication Chains**



## **HPD Communication Chains**



### HPD Founding Endorsers

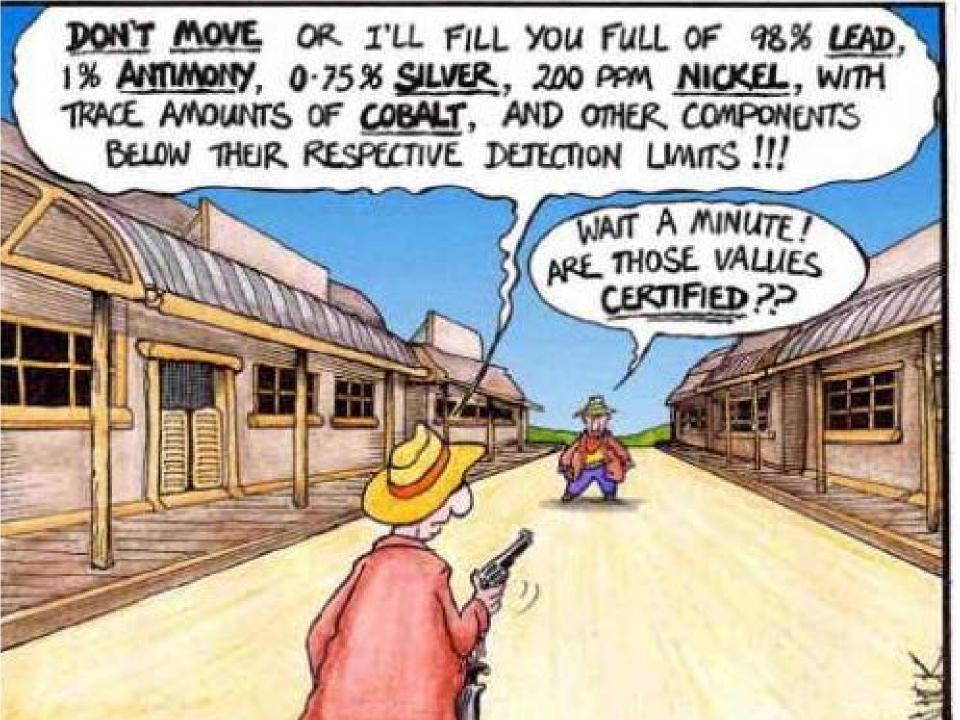
| Google                                                    | The Durst<br>Organization<br>Dwnet, Bultder and Manager<br>Since 1915 | MARY<br>DAVIDGE<br>ASSOCIATES<br>STRATEGIC ENVIRONMENTS |
|-----------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------|
| Gensler                                                   | hlw                                                                   | Pankow<br>THINKING SEFOND THE BUILDING                  |
| boora                                                     | crobs                                                                 | SMMA                                                    |
| мітнūм                                                    | PERKINS<br>+ WILL                                                     | SERA<br>INTERIOR DESIGN                                 |
| SMITHGROUP<br>architecture engineering interiors planning | SASAKI                                                                | FXFOWLE                                                 |
| YOST GRUBE HALL<br>ARCHITECTURE                           | <b>CANNON</b> DESIGN                                                  | INTERNATIONAL<br>LIVING FUTURE<br>INSTITUTE"            |
| h-k                                                       | HDR                                                                   |                                                         |
|                                                           |                                                                       | KMDARCHITECTS                                           |

## Pilot in Q1 2012



- Tandus flooring
- Kingspan insulated panels
- Herman Miller furniture
- Steelcase furniture
- Teknion furniture
- Haworth furniture

- Knoll furniture
- Wilsonart laminates
- Neil Kelly cabinets
- **3form** panels
- Crossville tile
- Serious Energy wallboard



## **Our Challenges**

- What levels of residuals matter?
   How can we uniquely identify chemicals?
- Are any IP issues real?
  - How can we deal with complex supply chains?
  - Full disclosure vs. 3<sup>rd</sup> party assessment?
- Who else is moving to greater transparency & hazard assessment?
  - How can we cross-fertilize?
  - How can messaging build on our efforts?

| the signal news & notes                         | building product libra         | ry chemical and material libr                                                           |                          | ovaluati                   | on framework                                                                                                                                    | Les .                                               | UIL               |               |
|-------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------|--------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------|---------------|
| 5                                               | 1                              | y Chemical and material upr                                                             | rary                     | evaluat                    | on trainework                                                                                                                                   | 2                                                   |                   |               |
| tal Vinyl Composition Til                       | es                             |                                                                                         |                          |                            | (                                                                                                                                               | 0                                                   |                   |               |
|                                                 |                                |                                                                                         |                          |                            | Pros                                                                                                                                            | ທີ                                                  |                   | 1/3           |
| pact Category Scores                            |                                |                                                                                         | • (                      | Content: F                 | ully disclosed                                                                                                                                  | 30                                                  |                   | 12            |
| 7 VOC :: Volati                                 |                                | ornia 01350 office or school VOC emissions                                              | • •                      | lo Bisphen                 | ol A (BPA) listed<br>ehyde listed                                                                                                               |                                                     | FF                | -             |
| U                                               | test.                          |                                                                                         | • •                      | lo Haloger                 | ated Flame Retardants                                                                                                                           |                                                     | EE                | D             |
| 4 UseTox :: Us                                  |                                | t least basic VOC emissions test - but contai<br>f concern that could become available. | (                        | HFRs) liste<br>Io Perfluoi | d<br>ocarbons (PFCs) listed                                                                                                                     | 1                                                   | SCE               | C             |
| 2 MfrTox :: Ma                                  | nufacturer Toxics Black flagge | d chemical/s in listed material contents or                                             |                          |                            | terials listed                                                                                                                                  |                                                     | 300               |               |
| 1 RoMtri :: Ren                                 | 5                              | tage of value renewable materials.                                                      | _                        |                            |                                                                                                                                                 |                                                     |                   |               |
|                                                 | newable Energy Modest ren      | -                                                                                       |                          |                            | Cons                                                                                                                                            |                                                     |                   |               |
|                                                 | понавіо спотру інодозстої      |                                                                                         | San                      | nple He                    | alth Product Declaration - 9/26/2011 draft                                                                                                      |                                                     |                   |               |
| aterial Content                                 |                                | 1) Product Description                                                                  |                          |                            |                                                                                                                                                 |                                                     |                   |               |
| iterial                                         | Max% - Min% Toxic Conter       |                                                                                         | oduct SKU SB4            | 353                        |                                                                                                                                                 | MasterFormat                                        | 09 96 00 (MF      | -10)          |
| MESTONE: CALCIUM CARBONATE                      |                                | Manufacturer Ajax Manufacturin                                                          |                          |                            |                                                                                                                                                 | Declaration date                                    | June 9, 2011      |               |
| AS RN: 1317-65-3                                | 84.0 - 84.0                    | Description High performance                                                            | e coating desigr         | ned for pa                 | nting bath stall walls and other wet surfaces.                                                                                                  |                                                     |                   |               |
| OLYVINYL CHLORIDE (PVC)<br>AS RN: 9002-86-2     | 12.0 - 12.0 RESPIRATOR         | 2) Product Contents Disclo                                                              | osure                    |                            |                                                                                                                                                 |                                                     |                   |               |
| JTYL BENZYL PHTHALATE (BBP)                     |                                |                                                                                         |                          |                            | content s fully disclosed (100 percent is ideal).                                                                                               |                                                     |                   | _             |
| AS RN: 85-68-7                                  | 4.0 - 1.0 REPRODUCTIV          | Name     Phenyl Glycidyl Ether                                                          | CAS RN<br>122-60-1       | %<br>55%                   | Health Hazard Warnings<br>Cancer and Male reproductive toxicity (CA Prop 65)                                                                    |                                                     | RC                | Nano<br>N     |
| IISONONYL PHTHALATE (DINP)<br>AS RN: 28553-12-0 | 4.0 - 1.0 DEVELOPMENT          |                                                                                         | 122-00-1                 | 55%                        | R37 Irritating to respiratory system and R53 May cause long-term adve<br>environment (EC Risk)                                                  | erse effects in the aq                              |                   | IN            |
| I(2-ETHYLHEXYL)PHTHALATE (DEHP)                 | 4.0 - 1.0 PBT                  | 2 Alkyl (C12, C14) Glycidyl Ether                                                       | 68609-97-2               | 21%                        | Irritating to skin and May cause sensitization by skin contact. (EC Risk<br>Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/.   |                                                     | N                 | N             |
| AS RN: 117-81-7                                 | 4.0 1.0                        |                                                                                         |                          |                            | www.ChemService.com/GS54345                                                                                                                     | zu i i. Repuit is at                                |                   |               |
|                                                 |                                | 3 Bis(2-(dimethylamino)ethyl) ether                                                     | 3033-62-3                | 8%                         | No warnings found                                                                                                                               |                                                     | N                 | N             |
|                                                 |                                | 4 Polyethylene<br>5 Trade secret                                                        | 9002-88-4                | 7%<br>3%                   | No warnings found<br>Category 1 Evidence of endocrine disruption activity (EC Endocrine)                                                        |                                                     | PC<br>N           | N             |
|                                                 |                                | 5 Trade Secret                                                                          | Not<br>disclosed         | 3%                         | Very toxic to aquatic organisms and possible risk of impaired fertility (E                                                                      | C Risk)                                             | IN                | N             |
|                                                 |                                | 6 Acme Zap-It Antimicrobial                                                             | Content not<br>disclosed | 3%                         | Not available                                                                                                                                   |                                                     | N                 | N             |
|                                                 |                                | 7 Silver                                                                                | 7440-22-4                | 2%                         | No warnings found                                                                                                                               |                                                     | N                 | Y             |
|                                                 |                                | 8 Distillate Fuel Oils, Light                                                           | 13463-41-7               | 1%                         | No warnings found                                                                                                                               |                                                     | N                 | N             |
|                                                 |                                | All known residuals disclosed to<br>9 Formaldehyde                                      | 50-00-0                  | equiremen<br><1000         | ts (ideal) X 100 ppm 1000 ppm As required on M<br>Group 1: Agent is carcinogenic to humans (IARC) and other cancer wa                           |                                                     | losed N           | N             |
|                                                 |                                | 9 Formaldenyde                                                                          | 50-00-0                  | ppm                        | Generally accepted asthmagen (AOEC)                                                                                                             | annings (see notes)                                 | IN                | IN            |
|                                                 |                                |                                                                                         |                          |                            | R23: Toxic by inhalation and R24: Toxic in contact with skin and R25:                                                                           |                                                     | ld                |               |
|                                                 |                                | The mean of a true of the tail it                                                       |                          |                            | R34: Causes burns and R43: May cause sensitization by skin contact.                                                                             |                                                     | him 0, 2014       |               |
|                                                 |                                | for chemicals of co                                                                     |                          |                            | re screened Pharos Chemical and Material Library from the Healthy<br>stings using: Building Network                                             | Screening date                                      | June 6, 2011      |               |
|                                                 |                                |                                                                                         |                          |                            |                                                                                                                                                 |                                                     |                   |               |
|                                                 |                                | Hazard warnings associated with each ingr                                               |                          |                            | emicals listed on any of the Health Product Declaration (HPD) Priority lists found                                                              | at www.healthproduct                                | declaration.org/p | rioritylists. |
|                                                 |                                |                                                                                         | mer PI=Postind           | ustrial                    | emicals listed on any of the Health Product Declaration (HPD) Priority lists found<br>Nano = comprised of nanoscale particles or nanotechnology | l at <u>www.healthproduct</u><br>ncl. EPA exempt co |                   |               |

For more extensive information on the human health impact and lifecycle information of this **PediTred<sup>®</sup> G4** product visit:

#### S transparency.c-sgroup.com

Manufacturer: Construction Specialties, Inc., Muncy, Pennsylvania 17756 Want Back Program: 800.233.8493 or transparency.floor@c-sgroup.com Recycling Assistance: PCI FlorTech 630.458.0760 for carpet insert strips

#### **Product Content:**

Aluminum, Nylon carpet fiber, Polypropylene backing, Polypropylene monofilament, EPDM cushions and rail connectors. EPA Eliminates "Confidential Business Information" Exemption For Reporting Of Chemical Hazards



TSCA reform CA Green Chemistry Initiative







## **Our Challenges**

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- Which IP issues are real?
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- Who else is moving to greater transparency & hazard assessment?
  - How can we cross-fertilize?
  - How can messaging build on our efforts? www.HPDWorkingGroup.org www.PharosProject.net