

Building Clean

Do You Know What you're Putting in Your Houses?
a discussion on energy efficient products

2/21/2017

Dale W Reckman

daler@bluegreenalliance.org



**BLUEGREEN
ALLIANCE
FOUNDATION**

www.bgafoundation.org



From protecting workers and communities by finding safer, healthier chemical alternatives, to identifying market opportunities for businesses in the U.S. supply chain for energy efficient products, the BlueGreen Alliance Foundation educates the public about the job-creating potential of environmental solutions.

As a result of a generous grant from the McKnight Foundation, the CEMC and BGA are involved in an initiative that helps interested and suitable manufacturing companies enter or further diversify into the renewable energy market sector.

The process includes on-site interviews, capability and compatibility analysis and then match making to prospective original equipment manufacturers.

To compliment the work that CEMC conducted with Manufacturers, BGA met with policy makers and economic development professionals to hear their opinion on policy that could help manufactures diversify. What we learned is that the current tax policies are helpful to support manufactures in the and creating a few more that help create a steady market would be helpful We also learned that there may need to be other programs to support the community and the manufacturers as manufactures diversify. These programs may need to address worker training and retention, daycare support, worker/affordable housing and transportation.

The CEMC Nationwide

Companies

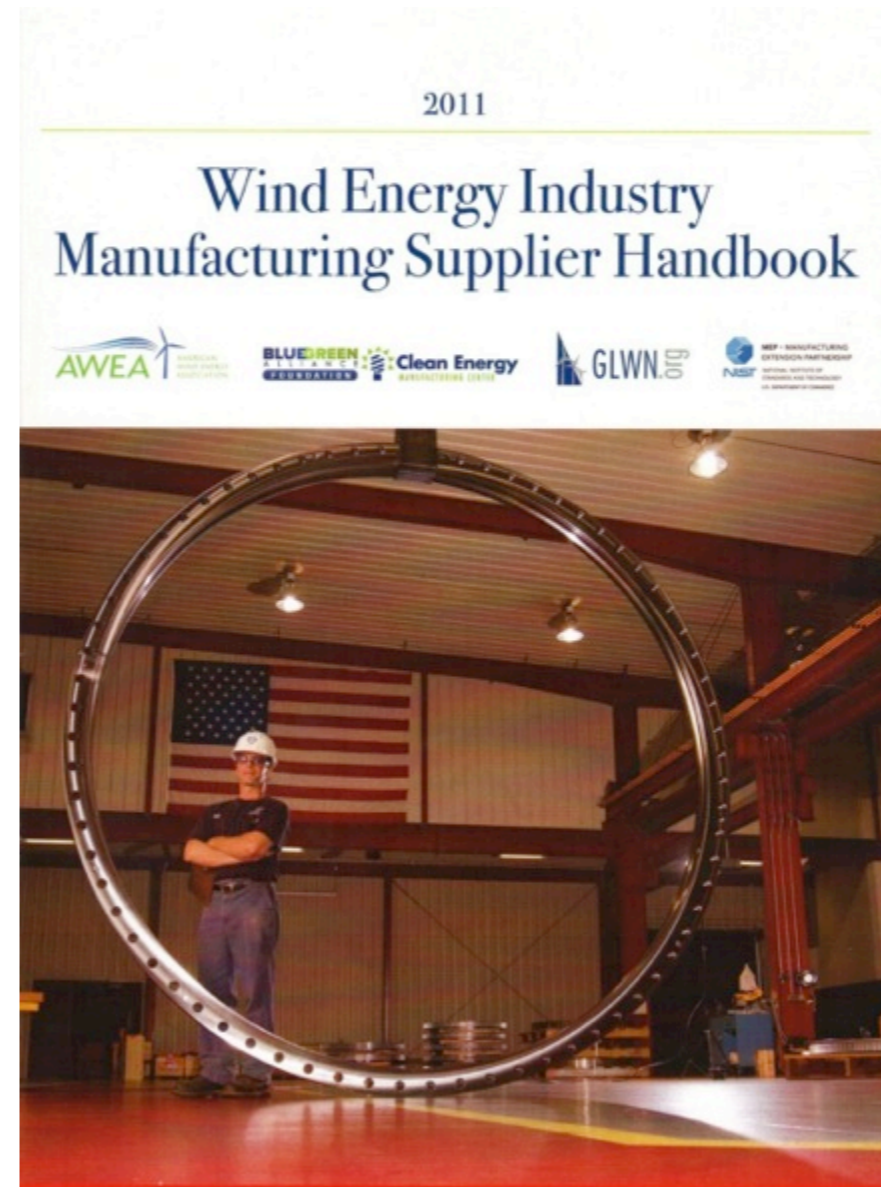
- 1100 companies served
 - Workshops: 879 Companies
 - Webinars: 217 Companies
 - One-on-One Services: 82 Companies through 9/30/13
- 124 manufacturers referred to local MEP centers for assistance

Workshops

- 31 workshops in 18 states
- Co-hosted two national conferences on clean energy manufacturing opportunities.

MEP System

- 50 MEP Centers have participated in CEMC offerings
- 12 Center staff trained and 80 center staff participated in workshops/webinars





Building Clean

Project Background and Goals

Project Background and Goals

- The primary project goal is to grow the number of multifamily, affordable housing energy efficient retrofits that use healthy, U.S. made products.
- We are active in the Network for Energy, Water and Health in Affordable Buildings (NEWHAB) and Energy Efficiency for All (EEFA) – national networks of organizations dedicated to improving the energy efficiency and health of low-income multifamily housing.

Project Background and Goals

BGAF and CEMC have a unique role in this effort among other housing stakeholders:

- Expand the overall market for energy efficient products.
- Create manufacturing supply chain opportunities for U.S. manufacturers currently or interested in making energy efficient products and create jobs.
- Increase awareness of harmful chemicals used in energy efficient housing products.

How we are helping grow the market and supply chain

1. Mapping the manufacturing footprint of energy efficient products in the U.S. to understand who makes what products and where. For example, is it produced in the U.S., imported into the country or exported into the U.S. market by companies abroad?
2. Educating manufacturers on the significant opportunities available to them in the multifamily affordable housing market while educating housing stakeholders including contractors, architects, non-profits government officials and others on the benefits of using healthy, U.S. made products for their energy efficiency projects.
3. Making information available to manufacturers, housing stakeholders and others interested in energy efficient products and markets through a free online tool.

Working in Partnership

- Helping housing stakeholders understand the availability of healthy, U.S. (often within state) made products and that they are not always higher in cost
- Building connections between local housing stakeholders and area manufacturers making these products
- Working with the IUE-CWA Housing Corporation in Upstate New York



The Manufacturing Picture for Energy Efficient Products in the US

Where are different products made?

The Mfg. Picture for EE Products in the US

Where are different products made?

To date, 2,500 individual company locations have been researched and cataloged within the HVAC, Appliances, Water, Lighting and Building Shell market sectors. (Note that inside Building Shell, windows, doors and skylights have been researched though the data has not been updated in the online database as of this event)

Specific identified OEM's being targeted for additional supply chain intelligence thus affording a glimpse into possible supply chain opportunities for other Mfg's looking to either enter the EE products market sector or simply further expand already existent efforts.

A few examples of included OEM's:

OEM (Original Equipment Manufacturer)

associated market place Trade Names

Frigidaire,
White
Westinghouse
Cool
Totaline
Standard

Electrolux

Haier

Living Direct
Carrier Corp.

Trane

Electrolux, AEG,
Kelvinator,

Haier, Commercial

EdgeStar, KoldFront
Carrier, Bryant, Payne,

American

What we're learning.....

Though still in process, discussions have already yielded possible opportunities that include:

- Tanks and Pressure Vessels for the water heating sector
- Specialized polished stainless steel sheet and raw plate materials for the appliance sector
- Tier 1 integration and sub-assembly within both the appliance and HVAC sector's
- Point of retail sale sub-assembly systems (vending) that may include lighting, water and appliance sectors.
- Inventory management combined with Mfg.

What we're learning.....contd.

A common theme abundant within most energy efficient product market sectors is that larger, more logistically sensitive items tend to be more domestic and at times even regional in terms of supply chain. Smaller items and those in specialized niche markets tend to be globalized in nature.

Market Sector	Product	Supply Chain
HVAC	conventional heating units	enclosures regional with controls global
HVAC	packaged complete units	globalized
Water	sinks, lavatories (water closets)	National
Water	faucets, drains	National &
Water	Faucet, drain sub Tier components	highly globalized
Building Shell	Windows, doors, skylights	National &
Building Shell	Insulation	National &
Appliances	Appliance's	National &





Tools to Help Manufacturers Find What They Need

Where are different products made?

Tools to Help Mfg's. Find What They Need

Online Database

To date, research has been completed on some 2,500 individual company locations in **HVAC, Appliances, Water, Lighting & Building Shell** (insulation, sealants, roofing, windows, doors & skylights) market sectors.

This ongoing research is compiling data on both Mfg. and corporate office geographic locations, specific market & product involvement, supply chain Tier, associated Trade Names, health certification, ownership, CSI code + more.

Database Entry Portal

The screenshot shows a web browser window with the URL bgadata.org. The page features a dark blue navigation bar with the following links: Home, About, Housing Product Database, Harmful Chemicals, Supply Chain Map, and My Account. A search bar is located on the right side of the navigation bar. The main content area has a white brick background and a wooden floor. The title "Multifamily Housing Retrofits" is prominently displayed, followed by the subtitle "A Database of Energy Efficient Products and Harmful Chemicals". Below the title, there are six categories represented by images and labels: BUILDING SHELL (a worker in a white protective suit), HVAC (a pressure gauge and pipes), APPLIANCES (a refrigerator, microwave, and washing machine), LIGHTING (three different types of light bulbs), WATER (a water tap with a single drop falling into a pool of water), and HARMFUL CHEMICALS (a person in a white protective suit holding a yellow biohazard warning sign). At the bottom of the page, it states "AN INITIATIVE OF THE BLUEGREEN ALLIANCE FOUNDATION" and provides copyright information for the BlueGreen Alliance Foundation and the Clean Economy Manufacturing Center. There are also links for "Terms of use" and "Privacy policy". The Windows taskbar at the bottom shows the time as 12:52 PM.

Functionality and Versatility

- Database allows users to enter very specific in depth search criteria enabling tailored functionality dependent upon the specific users needs. As an example, a ED user might find benefit in learning more about specific market sector Mfg's. in a geographic region while Mfg's. might find great value in gaining a better understanding of those they are competing against and those they might be selling complimentary product to.
- With a no cost self registration account, users can save complex searches and the associated results for later reference.

Search Capabilities

- Sector →
- CSI*code →
- Tier** →
- State →
- Company Ownership →
- Facility Type →
- Exporters into US →
- US Made Products Only →
- Health Certifications →

Home About - Housing Product Database - Harmful Chemicals Supply Chain Map My Account

Displaying 1 - 25 of 2463

SECTOR		STATE	SUBSECTOR
Water filtration	3M	Minnesota	<ul style="list-style-type: none"> Commercial water filtration (44 43 00) Residential water filtration (22 12 00) Water filtration
Roofing	3M	North Carolina	<ul style="list-style-type: none"> Roofing
Roofing	3M	California	<ul style="list-style-type: none"> Roofing
Water filtration	3M	Connecticut	<ul style="list-style-type: none"> Residential water filtration (22 12 00) Water filtration
Roofing	3M	Wisconsin	<ul style="list-style-type: none"> Roofing
Roofing	3M	Arkansas	<ul style="list-style-type: none"> Roofing
Sealants	3M	Minnesota	<ul style="list-style-type: none"> Elastomeric joint sealants (07 92 12) Sealants
Water filtration	3M	Connecticut	<ul style="list-style-type: none"> Residential water filtration (22 12 00) Water filtration
Roofing	3M	Wisconsin	<ul style="list-style-type: none"> Roofing
Roofing	3M	Arkansas	<ul style="list-style-type: none"> Roofing
Roofing	3M	Minnesota	<ul style="list-style-type: none"> Roofing
Water filtration	3M	Minnesota	<ul style="list-style-type: none"> Residential water filtration (22 12 00) Water filtration
Lighting	3M Company	Minnesota	<ul style="list-style-type: none"> Interior lighting (26 51 00) Lighting
Sealants	3M Industrial Adhesives & Tapes	Missouri	<ul style="list-style-type: none"> Elastomeric joint sealants (07 92 12) Sealants
Lighting	A&L Products Limited (China)	Kwun Tong Kowloon	<ul style="list-style-type: none"> Exterior lighting (26 56 00) Interior lighting (26 51 00) Lighting
Water filtration	A. J. Antunes & Company	Illinois	<ul style="list-style-type: none"> Commercial water filtration (44 43 00) Residential water filtration (22 12 00) Water filtration
Plumbing	A.H. Furnico, Inc.	Indiana	<ul style="list-style-type: none"> Plumbing Residential water closets (22 41 1212)
Lighting	A.L.P. Lighting Components Inc.	Illinois	<ul style="list-style-type: none"> Lighting
Appliances	A.O. Smith Corporation - Water Systems Division	North Carolina	<ul style="list-style-type: none"> Appliances
Appliances	A.O. Smith Corporation Water Products Company	South Carolina	<ul style="list-style-type: none"> Appliances Domestic water heat exchangers (22 25 00) Residential electric domestic water heaters (22 13 20) Residential gas domestic water heaters (22 24 20)
Appliances	A.O. Smith Corporation Water Products Company	Washington	<ul style="list-style-type: none"> Appliances Residential electric domestic water heaters (22 13 20) Residential gas domestic water heaters (22 24 20) Residential storage electric domestic water heaters

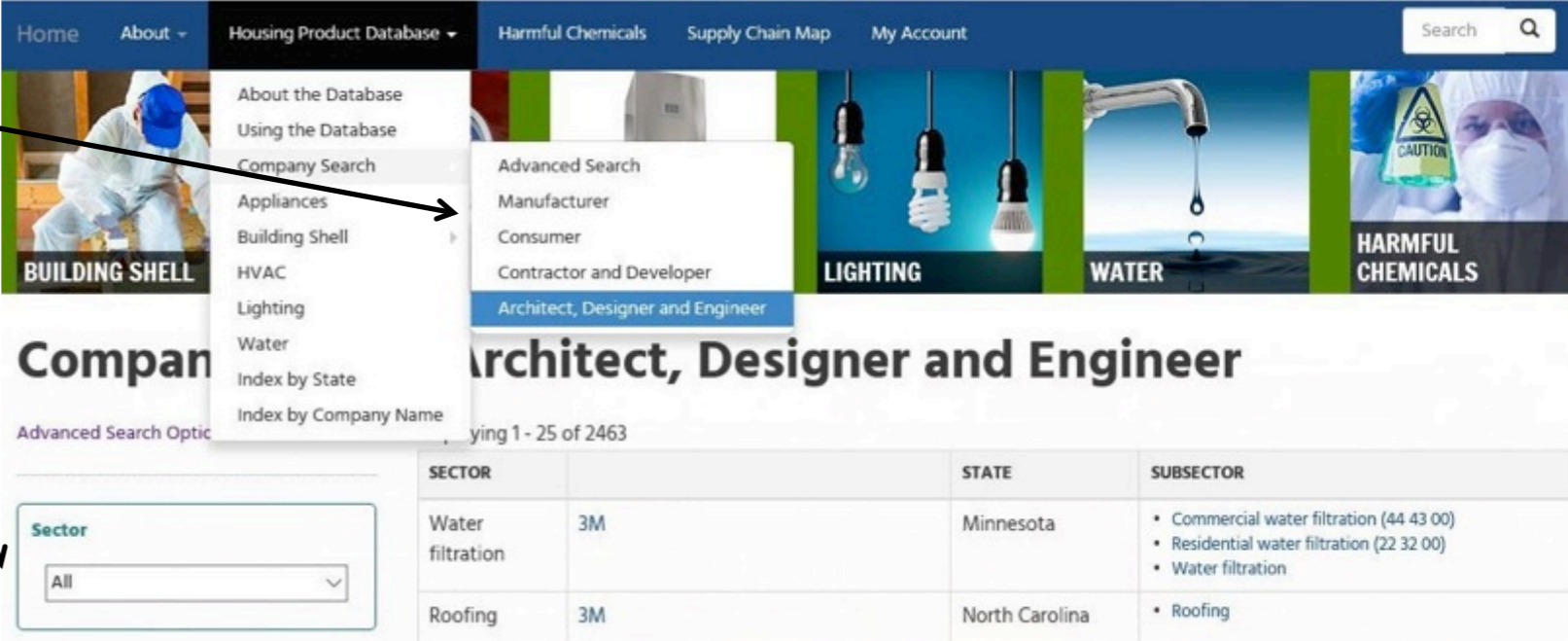
*Construction Specifications Institute

** Tier represents level of supply chain involvement

Functionality and Versatility

Increasing the databases user experience, we have added self assignment grouped company search options. With this, the user experience is further streamlined while still affording all of the data important to the user.

With each self assignment option selected such as Manufacturer or Consumer, the drop down selection options change accordingly simplifying and effectively Streamlining search functionality.



The screenshot displays a web application interface with a navigation bar at the top containing links for Home, About, Housing Product Database, Harmful Chemicals, Supply Chain Map, and My Account. A search bar is located in the top right corner. Below the navigation bar, there are four main categories: BUILDING SHELL, LIGHTING, WATER, and HARMFUL CHEMICALS. The 'Company Search' dropdown menu is open, showing options: About the Database, Using the Database, Company Search, Appliances, Building Shell, HVAC, Lighting, Water, Index by State, and Index by Company Name. The 'Advanced Search' sub-menu is also open, showing options: Advanced Search, Manufacturer, Consumer, Contractor and Developer, and Architect, Designer and Engineer. The 'Architect, Designer and Engineer' option is selected. Below the search options, there is a 'Sector' dropdown menu with 'All' selected. The results table shows the following data:

SECTOR		STATE	SUBSECTOR
Water filtration	3M	Minnesota	<ul style="list-style-type: none">Commercial water filtration (44 43 00)Residential water filtration (22 32 00)Water filtration
Roofing	3M	North Carolina	<ul style="list-style-type: none">Roofing

Tools to Help Mfg's. Find What They Need

Supply Chain Map

A simple tool to find local and regional manufacturers of energy efficient products

The screenshot shows the website's navigation bar with the following links: Home, About, Housing Product Database, Harmful Chemicals, **Supply Chain Map** (highlighted with an arrow), and My Account. A search bar is located on the right side of the navigation bar. The main content area features the title 'Multifamily Housing Retrofits' and the subtitle 'A Database of Energy Efficient Products and Harmful Chemicals'. Below this, there are six category tiles: BUILDING SHELL (with an image of a worker in a white protective suit), HVAC (with an image of a pressure gauge), APPLIANCES (with an image of a refrigerator, microwave, and washing machine), LIGHTING (with an image of three light bulbs), WATER (with an image of a water tap), and HARMFUL CHEMICALS (with an image of a person in a white protective suit holding a yellow biohazard warning sign). The footer contains the text 'AN INITIATIVE OF THE BLUEGREEN ALLIANCE FOUNDATION', copyright information for BlueGreen Alliance Foundation, links for Terms of use and Privacy policy, and the Clean Economy Manufacturing Center logo.

- Easily find manufacturers of energy efficient products in Minnesota and regionally
- Searchable by State, Sector, and Tier
- Sector tabs, 8 in total, are color coded and link to company information page

Supply Chain Map

The screenshot displays the 'Supply Chain Map' interface. On the left, there are three filter panels:

- State:** A dropdown menu with 'Minnesota' selected.
- Sector:** A list of eight sectors with checkboxes and color-coded dots: Appliances (purple), HVAC (green), Insulation (red), Lighting (yellow), Plumbing (blue), Roofing (orange), Sealants (grey), and Water filtration (dark blue).
- Tier:** A dropdown menu with 'All' selected.

At the bottom left are 'Apply' and 'Reset' buttons. The main map shows Minnesota and surrounding areas with various colored pins representing manufacturers. A prominent black arrow points to a cluster of pins near St. Paul, with the text 'Electro Industries Monitcello, MN' overlaid in large black font.

Electo Industries

Bookmark this company

PRODUCT INFORMATION

PRODUCT DESCRIPTIONS: Residential & Commercial: (make up air heaters, radiant heaters, electric boilers, air to water heat pump systems); Residential only: (plenum heaters - only one mfg in USA, heat pump control, buffer tank controller, air handlers/controllers, heat pump comfort systems, duct heaters, HRV/ERV Heat Exchanger (aftermarket parts only), thermostats, load control products, generator transfer switches); Commercial only: forced air heating equipment, demand monitor and control equipment

SECTOR

HVAC

- Instrumentation and control for HVAC (23 09 00)
- Heating boilers (23 52 00)
- Heat exchanger for HVAC (23 57 00)
- Air-source unitary heat pumps (23 81 43)
- Radiators (23 82 29)

TIER INFORMATION

OEM

Tier 1



USA owned company
headquarters with onsite
manufacturing

CONTACT INFORMATION

📍 2150 West River Street
Monitcello MN
55362
United States

📞 800.922.4138

✉️ snyquist@electromn.com

🌐 electromn.com

Tools to Help Mfg's. Find What They Need

Manufacturing/Supply Chain Guide



BLUEGREEN
ALLIANCE
FOUNDATION



Close the Door on Hazardous Chemicals in Building Products

Spend 90% of Time Indoors ...

... and building materials are
number one usage for the top 20
chemicals by volume reported to
EPA

Healthy Buildings



Full Disclosure Required:
A Strategy to Prevent Asthma
Through Building Product Selection



A Healthy Building Network Report
by Sarah Lott and Jim Vallette
December 2013

Studies repeatedly link
indoor residential
chemical emissions with
respiratory health or
allergy problems in infants
or children.

Apartments Built under “Breathe Easy”

- Asthmatic children had 63 percent more symptom-free days
- Dramatic improvements in lung function
- 66% reduction in need for urgent medical care

Harmful Chemicals Section

The image is a screenshot of a website's header and main content area. The header is dark blue with white text for navigation: Home, About, Housing Product Database, Harmful Chemicals (circled in red), Supply Chain Map, and My Account. A search bar is on the right. The main content area has a white brick background with the title "Multifamily Housing Retrofits" and subtitle "A Database of Energy Efficient Products and Harmful Chemicals". Below this is a row of six category tiles: Building Shell (worker in white suit), HVAC (pressure gauge), Appliances (refrigerator, microwave, washing machine), Lighting (three light bulbs), Water (water tap with a drop), and Harmful Chemicals (person in white suit holding a biohazard sign, circled in red). The footer is dark blue with white text: "AN INITIATIVE OF THE BLUEGREEN ALLIANCE FOUNDATION", copyright notice, and "Clean Economy Manufacturing Center".

Home About Housing Product Database **Harmful Chemicals** Supply Chain Map My Account Search

Multifamily Housing Retrofits

A Database of Energy Efficient Products and Harmful Chemicals

BUILDING SHELL **HVAC** **APPLIANCES** **LIGHTING** **WATER** **HARMFUL CHEMICALS**

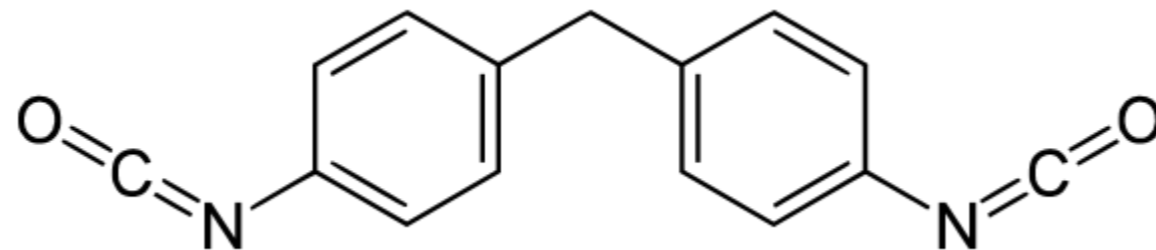
AN INITIATIVE OF THE **BLUEGREEN** FOUNDATION
ALLIANCE

© BlueGreen Alliance Foundation
[Terms of use](#) | [Privacy policy](#)

[Clean Economy Manufacturing Center](#)

Review Potential Hazards in Energy Efficient Products

- Insulation
- Sealants
- CFL light bulbs




Tools on Website

Phthalates


Phthalates are used as a plasticizer in sealants and caulks to promote better low-temperature and improve adhesion and flexibility.

How can this chemical affect my health?

Chronic (Long Term) Effects



Reproductive Harm - Can disrupt the male or female reproductive systems, changing sexual development, behavior or functions, decreasing fertility, or resulting in loss of the fetus during pregnancy.



Asthma Trigger - Can result in high sensitivity so that small quantities trigger asthma, nose or sinus inflammation or other allergic reactions in the respiratory system.

- **Charts** showing hazards by product and chemical
- **Chemical Fact Sheets** outlining acute and chronic health impacts
- **Product Searches** for those with health certifications
- **Content Sources** to determine what is in products

Sealant Certified Products

Certifications

<Any>

Declare RLF

GREENGUARD Gold

SCS Global Gold

Material

COMPANY ▲	BRAND NAME/MODEL	MATERIAL	CERTIFICATION	TRANSPARENCY
DuPont	DuPont Sealants for Tyvek Applied Fluid Systems	Acrylic Latex		PDF
DuPont	DuPont Residential Sealer	Acrylic Latex		PDF
Henkel Corporation	OSI QUAD FOAM Window & Door Installation Foam	Spray Polyurethane Foam	GREENGUARD Gold	

Add Chemical Concerns to Cost and Comfort When Selecting Products

- Need to raise awareness
- Have all involved asking questions
- Demand content transparency
- Insist on safer products



Insulation Guidebook

Harmful Chemicals/Insulation/Resources



CONTACT US

www.bgafoundation.org

Twitter: [@BGAFoundation](https://twitter.com/BGAFoundation)

[Facebook.com/BGAFoundation](https://facebook.com/BGAFoundation)



**BLUEGREEN
ALLIANCE
FOUNDATION**