Reducing Toxic Chemicals at Your Facility

Makes your business easier to insure

Eliminates the potential cost liability of a spill clean up, or incident of exposure

Improves the indoor air quality at your business;

Reducing Toxic Chemicals at Your Facility

And…communicates to employees and customers that the business cares.

One Word to Describe Peter Cooke's Impact on State Green Certification Programs: 'Measurable'

8/9/2010 By Glenn Hasek

Name: Peter Cooke
Title: Pollution Prevention Program Manager
Organization: Maine Department of Environmental Protection
Years in current position: Nine years
My primary responsibilities: "I manage the green certification program for the Maine Department of Environmental Protection and that includes lodging businesses, restaurants, and grocery stores."
Most significant environment-related accomplishment so far: "We are really pleased with how many states have wanted to replicate our program. Also, earlier this year, the governor chose our program to highlight during his Earth Day celebration."
Organization's most significant environment-related challenge: "The biggest challenge is to come up with more ways to measure reductions [in energy, water, waste, etc]."

PORTLAND, MAINE—If imitation is the greatest form of flattery, Peter Cooke has good reason to be pleased with his work with Maine's Department of Environmental Protection. In creating their own state green lodging certification programs, at least seven states and two cities have borrowed from the Maine Green Lodging Certification Program that Cooke runs.

What makes Maine's program attractive is its simplicity—it is points based—and the fact that so much research has gone into developing the criteria for inclusion. Maine, thanks to Cooke's hard work, is also the only state green lodging certification program in the United States to actually measure yearly savings and reductions in environmental impact connected to program participation.

http://www.greenlodgingnews.com/one-word-describe-peter-cookes-impact-on-state-green

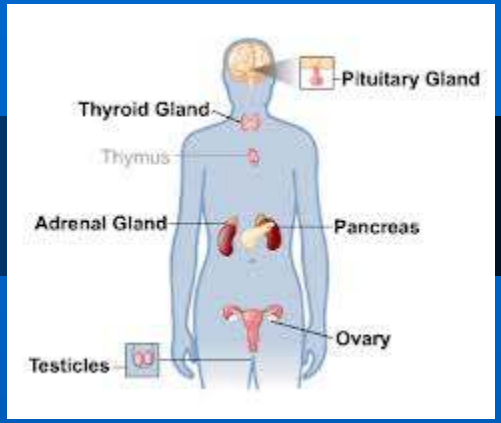
Lodging Facilities and Restaurants:

ALL CAN HAVE A CHEMICAL INTERACTION WITH THE ENVIRONMENT

- Generate air emissions (direct or indirect)
- Contribute to stormwater runoff (includes chems)
- Generate waste (solid, recyclables, food waste, hazardous, universal)
- Use resources (water, energy, chemicals)

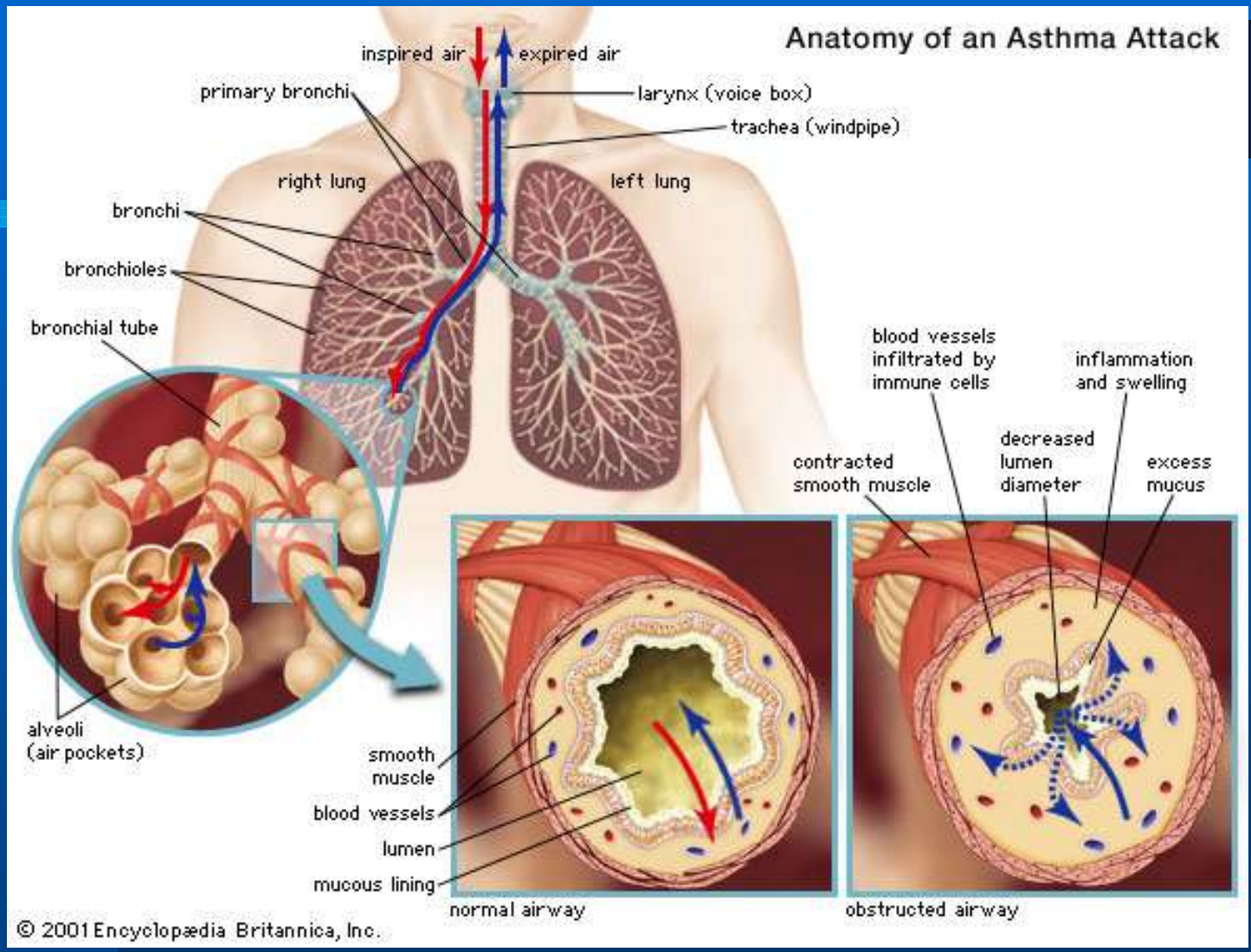

RAT
KILLER
Rat & Mouse
KILLER

What Does Toxic Mean?



Asthmagen,
Carcinogenicity,
Reproductive toxicity
Endocrine disruption
Skin, eye irritation
Neurotoxicity and organ toxicity
Persistence, bioaccumulation
Aquatic toxicity
Hazards in storage, waste, transportation
Flammability, corrosivity, reactivity

Hidden costs, long-term costs, impact of liabilities


Anatomy of an Asthma Attack
inspired air
expired air
primary bronchi
larynx (voice box)
trachea (windpipe)
right lung
left lung
bronchi
bronchioles
bronchial tube
alveoli
(air pockets)
blood vessels
infiltrated by
immune cells
inflammation
and swelling
contracted
smooth muscle
decreased
lumen
diameter
excess
mucus
smooth
muscle
blood vessels
lumen
mucous lining
normal airway
obstructed airway
© 2001 Encyclopædia Britannica, Inc.

Toxics at Lodging Facilities and Restaurants:

- Cleaning chemicals
- Disinfectants
- Laundry
- Lighting products
- Pest control

Toxics at Lodging Facilities and Restaurants:

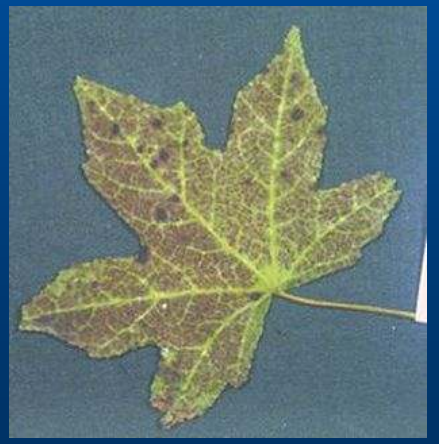
- Paint
- Carpet/ Floor products
- Swimming pool
- Electronics
- Parking lot

Why Care About Toxics in Your Business?

- Protect workers and customers – potential liability from exposure
- Affects Indoor Air Quality (IAQ)
- Can cost a lot to fix, but very little to prevent. (Report, clean up, exposure)
- Lower insurance liability
- Attract sensitive and conscientious customers

Environmental Issues:

Cost liability: Cradle to grave, up to $50,000/incident



Incidents of Exposure to Hazardous Chemicals (in a state- Maine with 1 million people)

1993-2013 = 20 years

- 9,000 workers compensation cases since 1993;
- 448 cases per year
- $23 million since 1993
- Avg cost is $2164- but many cases are unreported and cost $0

Incidents of Exposure to Hazardous Chemicals (in a state- Maine with 1 million people)

- 2,000 cases since 1993 that actually cost something.
- Avg. cost is $18,414

BENEFITS_PAID
DEATH_BENEFITS
EMPLOYEE_LEGAL_COSTS
EMPLOYER_LEGAL_COSTS
LUMP_SUM_AMT
MEDICAL_COSTS
OTHER_PAYMENTS
PERMANENT_IMPAIRMENT_AMT
REHAB_COSTS

TOTAL_COSTS is the total of those. Most costs are in Benefits Paid (Wage replacement) and Medical Costs.

Incidents of Exposure to Hazardous Chemicals (in a state with 1 million people)

- 500 cases since 1993 where the cost was greater than $5000
- Avg. cost is $50,038

BENEFITS_PAID
DEATH_BENEFITS
EMPLOYEE_LEGAL_COSTS
EMPLOYER_LEGAL_COSTS
LUMP_SUM_AMT
MEDICAL_COSTS
OTHER_PAYMENTS
PERMANENT_IMPAIRMENT_AMT
REHAB_COSTS

TOTAL_COSTS is the total of those. Most costs are in Benefits Paid (Wage replacement) and Medical Costs.

CHEMICAL TESTING

Less than 2% of the 80,000 commercially available chemicals have ever been tested for safety

http://www.nytimes.com/2013/04/14/sunday-review/think-those-chemicals-have-been-tested.html?_r=0

http://www.scientificamerican.com/article.cfm?id=the-great-chemical-unknown

http://www.chemicalindustryarchives.org/factfiction/testing.asp

CHECK THE LABEL??

Cleaning chemicals are not required to provide a full list of ingredients.

MSDS (Material Safety Data Sheets) do not include all ingredients.

Third party certifications are the best way to make a determination if a cleaning chemical is green.

A cleaner that includes a comprehensive list of ingredients is more likely to be a green chemical.

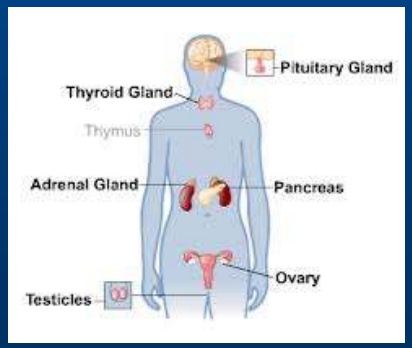
COMMON CHEMICALS TO AVOID IN CLEANERS:

- chlorine bleach
- phosphates
- nitrilotriacetic acid (NTA)
- monoethanolamine (MEA)
- Alkylphenol ethoxylates (APE)
- Dibutyl phthalate (DBP)
- Ammonium chloride
- ethylene diamine tetraacetic acid or ethylene dinitrilotraacetic acid (EDTA)
- 2-butoxyethanol or ethylene glycol monobutyl ether (EGBE) or butyl cellusolve
- 2-Methoxyethoxy ethanol or diethylene glycol monomethyl ether (DEGME)

CLEANING CHEMICALS IMPACT:

Indoor air quality

Water quality and aquatic life



Human health

CHEMICAL IMPACT FROM A LODGING BUSINESS:

Indoor air quality-

Volatile Organic Compounds (VOCs)

Cleaning chemicals

Paint

Carpet

Trihalomethanes

Pool

Perchlorethylene

Dry cleaning of clothes

Mercury

Broken bulbs

CLEANING CHEMICALS IMPACT:

Water quality and aquatic life

Cleaning chemicals have been found to travel through sewage systems to arrive in streams impacting the fish and amphibians.

Can load fresh water bodies with builders of algae (nitrogen and phosphates). Algae can absorb all the oxygen in a water body leaving little for the aquatic life.

Chemicals are also found in aquatic life disrupting their hormonal systems.

CLEANING CHEMICALS IMPACT:

Human health

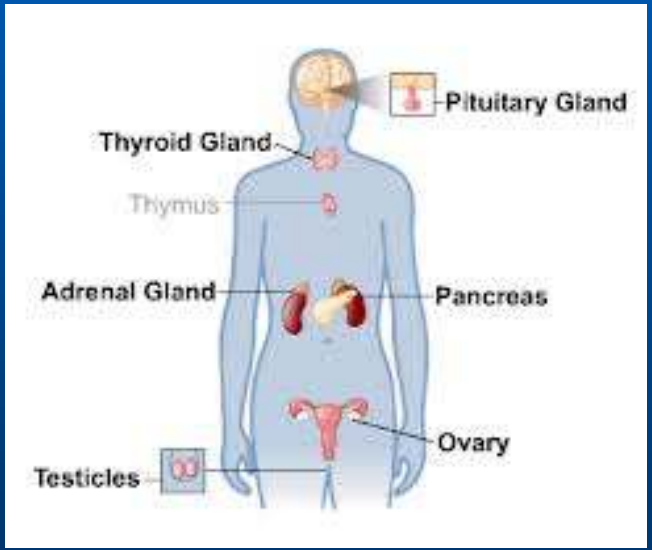
Short term exposure

Ear, eyes, nose, throat and lung irritation

Long term effects

Asthma, endocrine disruption, reproductive and developmental effects, suspected carcinogens

Suspected neurotoxins, carcinogens, corrosive



GREEN DISINFECTANT? …UMM,…NO.

Disinfectants should be used conservatively. Identify what needs to be disinfected and create a policy or standard procedure to minimize the use of disinfectants.

Areas that should be disinfected: touch points, areas where a spill of bodily fluids has happened.

Areas that do not commonly need to be disinfected:

Floors

Walls

HOW DO YOU DISINFECT?

Many products vary on the “kill time” but each surface that needs to be disinfected always needs to be cleaned first. Disinfectants are then applied with the “kill time” being necessary for maximum efficacy.

Typically cleaning is required, first…then disinfecting.

What about cleaner/disinfectants?

WHAT ABOUT CLEANER/ DISINFECTANTS?

This type of combo product is commonly used for institutional / business cleaning. It essentially cleans and disinfects at the same time. This unfortunately spreads more of a harmful chemical around more of an area.

Best practice is to clean what needs to be cleaned with a "green cleaner" then disinfect what needs to be disinfected ONLY.

LEGAL LIABILITY

Make sure personal protective equipment is used as per the requirement on the label.

All disinfectants need to be registered with EPA as a pesticide. Those chemicals come with personal protective equipment (PPE) requirement listed on the label of the product. Goggles and gloves are ALMOST ALWAYS required when using disinfectants and some sanitizers.

If an incident occurs and that staff person never was made aware of the requirement, a legal liability could result.

SANITIZING OF FOOD PROCESSING EQUIPMENT AND OTHER HARD SURFACES IN FOOD CONTACT LOCATIONS, DAIRIES, RESTAURANTS AND BARS. For sanitizing food processing equipment, dairy equipment, food utensils, dishes, silverware, glasses, sink tops, counter tops, refrigerated storage and display equipment and other hard surfaces. No potable water rinse is required.
Wash and rinse all articles thoroughly then apply a solution of 1 oz. of QUAT AMO in 4 gallons of water (150 ppm active). Surfaces should remain wet for at least 1 minute followed by adequate draining and air drying. Fresh solution should be prepared daily or when use solution becomes visibly dirty. For mechanical application use solution may not be reused for sanitizing applications.
Apply to sink tops, countertops, refrigerated storage and display equipment and other stationary hard surfaces by cloth or brush. No potable water rinse is required.
Dishes, silverware, glasses, cooking utensils and other similar sized food processing equipment can be sanitized by immersion in a 1 oz. per 4 gallons solution of QUAT AMO. No potable water rinse is required.
At 1 oz./4 gallons, QUAT AMO fulfills the criteria of Appendix F of the Grade "A" Pasteurized Milk Ordinances 1978 Recommendations of the U.S. Public Health Services in waters up to 400 ppm of hardness calculated as CaCO3 when evaluated by the AOAC Germicidal and Detergent Sanitizer Method against Escherichia coli and Staphylococcus aureus. The udders, flanks, and teats of dairy cows can be sanitized by washing with a solution of 1 oz. QUAT AMO in 4 gallons of warm water. No potable water rinse is required. Use a fresh towel for each cow. Avoid contamination of sanitizing solution by dirt and soil. Do not dip used towel back into sanitizing solution. When solution becomes visibly dirty discard and provide fresh solution.

Precautionary Statements

Hazardous to Humans and Domestic Animals

DANGER

Keep out of reach of children. Corrosive. Causes eye damage and skin irritation. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if swallowed. Do not breathe spray mist. Avoid contamination of foods. Do not breathe spray mist.

ENVIRONMENTAL HAZARDS

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Elimination System (NPDES) permit and the permitting authority has been notified in writing priorto discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or regional office of the EPA.

STORAGE AND DISPOSAL

- Do not contaminate water, food or feed by storage or disposal.
- Do not store on side.
- Avoid creasing or impacting of side walls.

PESTICIDE DISPOSAL

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL

If container is one gallon or less: Do not reuse empty bottle. Wrap container and put in trash. If plastic bottle is over one gallon: Triple rinse (or equivalent) then offer for recycling, reconditioning, or puncture and dispose of in a sanitary landfill or by incineration if burning is allowed by state and local authorities. If burned stay out of smoke.

1023

QUAT AMO

DISINFECTANT - SANITIZER - FUNGICIDE
VIRUCIDE* - DEODORIZER

WITH ORGANIC SOIL TOLERANCE
FOR HOSPITAL, INSTITUTIONAL, INDUSTRIAL, RESTAURANTS, BARS, SCHOOL, DAIRY, INSTITUTIONAL KITCHENS, & OTHER FARM USE

Active Ingredients:	
Octyl decyl dimethyl ammonium chloride	2.250%
Didecyl dimethyl ammonium chloride	1.350%
Dioctyl dimethyl ammonium chloride	0.900%
Alkyl (C14 50%, C12 40%, C16 10%) dimethyl benzyl ammonium chloride	3.000%
Inert ingredients	92.500%
Total	100.000%

KEEP OUT OF REACH OF CHILDREN

DANGER

STATEMENT OF PRACTICAL TREATMENT

In case of contact: Immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse. If swallowed promptly drink a large quantity of milk, egg whites or gelatin solution If these are not available drink large quantities of water. Avoid alcohol. Call a physician immediately.

NOTE TO PHYSICIAN: Probably mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.

SEE LEFT PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA REG. NO. 6836-70-56149 EPA Est. Number 56149-CO-1

HMIS	
Health	2
Flammability	1
Reactivity	0
Personal Protection	B

FERGUSON CLEANING SUPPLIES

FergusonCleaningSupplies.com
BuyFcs.com
303-288-7070

NET CONTENT:

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Apply QUAT AMO by direct application with a spray device, surface must remain wet for 10 minutes. Fr... visibly dirty.

DISINFECTION IN HOSI...
For disinfecting floors, ... garbage pails and othe... of water. Apply to previ... against Pseudomonas... Pseudomonas cepacia... Dilution Test.

*VIRUCIDAL PERFOR...
the presence of 5% se... Simplex Types 1 and 2, ... environmental surfaces.

DISINFECTION IN INS...
4.5 gallons of water.

FUNGICIDAL PERFOR...
an effective fungicide a... on surfaces in areas suc... facilities, utilizing the A...

DISINFECTION OF BA...
razors & scissors) can b...

DISINFECTION OF F...
Poultry brooders, wate... stalls and kennel areas... 2 oz. QUAT AMO to 4... Prior to disinfection, all ... This includes emptying ... all litter and droppings f... or other animals. After ... house poultry or other ... or dried. All treated equ... water before reuse.
This product is not to b... or instrument that is in... the bloodstream or non... or decontaminate critic... disinfection.

DIRECTIONS FOR RE...
and cooking utensils w... containing 1 oz./4 gall...

DIRECTIONS FOR FO...
equipment thoroughly ... rinse is required.

DEALING WITH DISINFECTANTS

Minimize their use

Develop a standard operating procedure for use

Specify the hot spots and detail when they should be disinfected.

Document these practices and document that your employees know the PPE requirement

It Happens…..

WAL-MART SETTLES OSHA CASE OVER CLEANING PROCEDURES

Wal-Mart agreed to the settlement, which includes paying a $190,000 fine. Wal-Mart also pledged to improve training for workers using cleaning chemicals and to upgrade procedures so that workers did not handle undiluted chemicals.


DON'T TRASH FLUORESCENT LIGHT BULBS!
Take them to a Universal Waste Collection Center or Recycle Compact Fluorescent Lamps at a participating retail store.
contain mercury and cannot be disposed of in the trash.
Hg
This symbol on a bulb or package means that bulb contains mercury. For safe disposal options, call 1-800-453-1843.


NOTICE
UNIVERSAL
WASTE STORAGE
AREA


KILZ

Product Substitution

- **Cleaning chemicals (Green cert)**
- **Disinfectants (SOP to minimize usage)**
- **Laundry (NPE, phosphates)**
- **Lighting products (mercury)**
- **Pest control (organic treatment, IPM)**

Product Substitution

- **Paint (Low VOC or Zero VOC)**
- **Carpet/ Floor products (Non-PVC)**
- **Swimming pool (storage hazards and alternative chems)**
- **Electronics (metals, EPEAT, Energy Star)**
- **Parking lot (non-coal tar based asphalt sealant)**

75 cents
Monday, December 20, 2010

The Portland Press Herald

thepressherald.com

TENSIONS RISE

S. Korea to press military exercises

The U.N. Security Council comes up with a blank, and fog delays the drills as residents seek shelter.

By ATIN WOUNG-JOON and BYUNG-JIN LEE
The Associated Press

YEONPYEONG ISLAND, South Korea — South Korea ordered residents of front-line islands into bomb shelters as it insisted on pressing forward with live-fire drills over disputed waters today despite North Korea's threat to retaliate, sharply spiking tensions.

A dense fog hung over the island, however, and a military official said the weather might delay the artillery exercises until Tuesday.

U.N. diplomats meeting in New York failed to find any solution to ease fears of a new war on the Korean peninsula, nearly a month after the North shelled South Korea's Yeonpyeong Island in retaliation for earlier artillery exercises there. The North has said it would

Graham Cavanagh, a lifeguard at the busy YMCA pool on Forest Avenue in Portland, tests the water's pH and chlorine levels. In the past year, the pool reduced the amount of chlorine it uses by 50 percent.

Chlorine use takes a dive in public-pool experiment

Top grade for school librarian

Kelley McDaniel, at King school in Portland, will use a $5,000 national prize to take kids to Charleston, S.C.

By KELLEY BOURDEAU
Staff Writer

PORTLAND — Kelley McDaniel never saw herself overseeing a hushed repository of books.

As the librarian at King Middle School, she's usually at the center of activity, whether students are enjoying snacks at a Thanks a Latte reader appreciation event, playing vampire themed games during a library sleepover for fans of the "Twilight" series or engaging in a scholarly discussion about books set in the Civil War era.

It's a part-time job that McDaniel does with full-time vigor largely because it allows her to learn right along with students.

"I'm interested in everything,"

"There are thousands of librarians across the nation that are like flowers


GREEN SEAL
CERTIFIED


ENVIRONMENTAL CHOICE
SELECCIÓN AMBIENTAL
EcoLogo℠


GREEN
SHIELD
CERTIFIED
Pest control. Peace of mind.


GREEN
PRO
CERTIFIED
Eco-Effective Pest Control


CRI
GREEN LABEL


GREENGUARD®
Indoor Air Quality Certified

GREEN SEAL CERTIFIED

ENVIRONMENTAL CHOICE · SELECCIÓN AMBIENTAL · EcoLogo℠

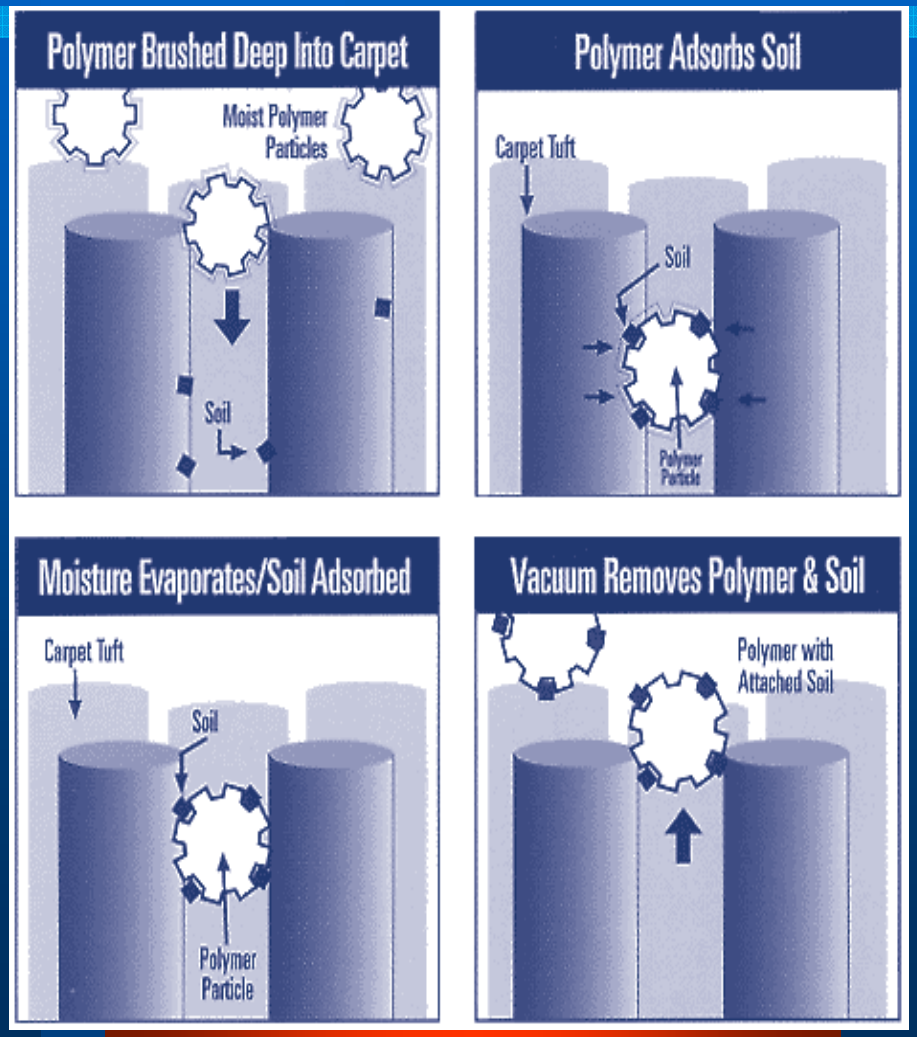
T/N/A BOWL AND BATHROOM CLEANER

CAUTION

Zero VOCs= zero VOCs

Low VOC= less than 50 grams per liter

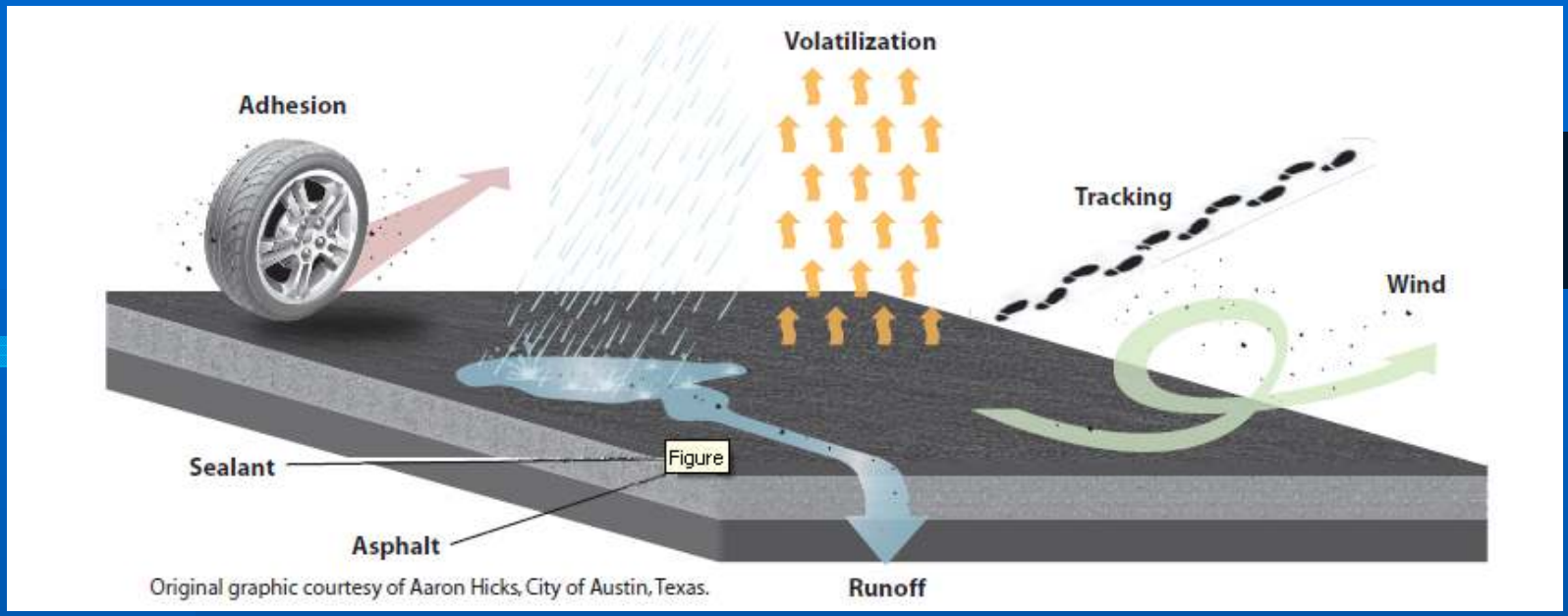
NSF 140-2007 Standard, Platinum level for carpet and non pvc backing



GREENGUARD® Indoor Air Quality Certified

CRI GREEN LABEL

- Cleans thoroughly
- Leaves no solvent residue
- Eliminates drying downtime
- Biodegradable
- Improves indoor air quality
- Does not stimulate microbe growth

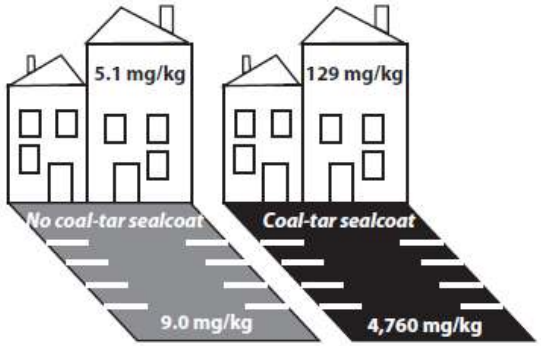


Original graphic courtesy of Aaron Hicks, City of Austin, Texas.

From Outside to Inside

Coal-Tar Pavement Sealant Linked to PAHs in House Dust

House dust is an important source for human exposure to many contaminants, including PAHs. This is particularly true for small children, who spend time on the floor and put their hands and objects into their mouths. In 2008, the USGS measured PAHs in house dust from 23 ground-floor apartments and in dust from the apartment parking lots. Apartments with parking lots with coal-tar-based sealcoat had PAH concentrations in house dust that were 25 times higher, on average, than concentrations in house dust from apartments with parking lots with other surface types (concrete, unsealed asphalt, and asphalt-based sealcoat). PAH concentrations in the dust from the parking lots with coal-tar-based sealcoat were 530 times higher, on average, than concentrations on the parking lots with other surface types.



Apartments with coal-tar-based sealcoat on the parking lot had much higher concentrations of PAHs, both in indoor dust and in parking lot dust, than apartments with an unsealed asphalt or concrete parking lot or with a parking lot with asphalt-based sealcoat. Concentrations shown are for the sum of the 16 U.S. Environmental Protection Agency priority pollutant PAHs (Mahler and others, 2010), in milligrams per kilogram (mg/kg).

Our Environment and Us
What are the Concerns?

Some PAHs are toxic to mammals (including humans), birds, fish, amphibians (such as frogs and salamanders), and plants. The aquatic invertebrates—insects and other small creatures that live in streams and lakes—are particularly susceptible to PAH contamination, especially those that live in the mud where PAHs tend to accumulate. These invertebrates are an important part of the food chain and are often monitored as indicators of stream quality (analogous to the "canary in the coal mine" concept). Possible adverse effects of PAHs on aquatic invertebrates include inhibited reproduction, delayed emergence, sediment avoidance, and mortality. Possible adverse effects on fish include fin erosion, liver abnormalities, cataracts, and immune system impair-

Tumors in brown bullhead catfish from the Anacostia River, Washington, D.C., are believed to be related to elevated PAH concentrations (Pinkney and others, 2009). Photograph by A.E. Pinkney.

http://pubs.usgs.gov/fs/2011/3010/pdf/fs2011-3010.pdf

Peter Cooke

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