



# Why Green?

## WHY THE DEMAND FOR "GREEN"?

The hazards of continuing to choose traditional cleaning chemicals are increasing risks to the health and safety of yourself, your cleaning staff, and all building occupants. In addition, you are contributing to the widespread damage to the environment for future generations.

In a recent survey of 32 facilities in Richmond, California, for 250 janitorial products in use, the findings were:

- 7% should not be used as they could cause cancer or were very damaging to the environment
- 56% require extreme care as the ingredients can cause blindness, severe skin damage, interfere with the endocrine system, or be absorbed through the skin or inhaled and subsequently cause damage to the blood, liver, kidneys, nervous system, or a developing fetus.

## HOW ARE PEOPLE AFFECTED?

- 1) Direct Contact by Cleaning Staff -  
Janitorial workers experience relatively high injury rates, such as headaches, asthma, burns, permanent eye damage, major organ damage and even cancer.
- 2) In-direct Contact by Users of the Facilities -  
By sitting on or touching items cleaned, by way of absorption of the residue the chemicals have left behind.
- 3) Poor Indoor Air Quality -  
Affects all building occupants in a variety of ways.

### Some Examples of Concern:

- 2-butoxyethanol, a common ingredient in cleaning products, is a toxin suspected of causing learning disabilities in children as well as liver and kidney damage.
- A fetus may come into contact with an endocrine-disrupting chemical, but problems, such as birth defects, infertility and learning disabilities may not show up until much later.

## DID YOU KNOW?

- Over the past 50+ years, the number of synthetic chemicals has grown from 1.3 billion lbs in 1940 to 320 billion lbs in 1980
  - Of these, approximately 100,000 chemicals are in use today, but only approximately 500 have been tested for human health concerns
  - There are approximately 2000 chemicals introduced each year that are not regulated
    - We currently reside under that "Safe, Until Proven Otherwise" notion



# WHAT YOU CAN'T SEE CAN HURT YOU...

## POOR INDOOR AIR QUALITY

- Poor quality indoor air can produce health effects in occupants ranging from headaches and dry eyes to nausea, dizziness and fatigue; and the possible development of asthma and multiple chemical sensitivity.
- These health effects contribute to increased absenteeism/sick days, low morale and decreased worker productivity and creativity.
- Indoor air quality is ranked among the nation's top 5 environmental risks. IAQ can be 2 to 100 times worse than the outdoors.
- The World Health Organization estimates that 30% of all buildings in North America experience IAQ problems.
- A study of school districts in the greater Washington, D.C. area found that there was a direct correlation between Indoor Air Quality and both attendance and performance of their students.
- Much of the dramatic increase in asthma among school-age children is the result of poor quality indoor air related to inadequate building maintenance, cleaning, and exposure to overly toxic cleaning chemicals.
- Multiple Chemical Sensitivities (MCS) occur when a person reacts to chemicals in the environment. These chemicals are usually petroleum based. When a chemical injury occurs, many persons become "Universal Reactors." Universal Reactors have symptoms to a significant number of substances in all categories of foods, molds, inhalants and chemicals.
- Petroleum based chemicals can be found in pesticides, synthetic fragrances and cleaning products & detergents. These products are in use with little testing as to health effects on humans due to the popular view that chemicals are "Safe, Until Proven Toxic."



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# COMMONLY USED CHEMICALS IN CLEANING PRODUCTS

## HEALTH WARNING CATEGORY AND CHEMICAL:

CATEGORY	CHEMICAL	CAS NUMBER
Carcinogen	Benzene	71-43-2
	Carbon tetrachloride	56-23-5
	Cocamide diethanolamine	68603-42-9
	Isopropyl alcohol	67-63-0
	Methylene chloride	75-09-2
	Formaldehyde 37%, Formalin, Methylene oxide, Methyl aldehyde	50-00-0
	Napthalene	91-20-3
	Paradichlorobenzene, p-Dichlorobenzene, 1,4 Dichlorobenzene	106-46-7
	Perchloroethylene, Perk	127-18-4
	Silica (crystalline), Silicon dioxide	14808-60-7
	Trisodium nitrilotriacetate	18662-53-8 or 5064-31-3
	Tetrachlorethylene	127-16-4
	Trichloroethylene	79-01-6
Endocrine Disrupter	Dibutyl phthalate	84-74-2
	APE, NPE, OPE	9016-45-9
Reproductive and Fetal Damage	Acetone	67-64-1
	2 - Butoxyethanol, Butyl cellosolve, Ethylene glycol monobutyl ether AC-1650, 15548	111-76-2
	Cyclohexanol	108-93-0
	Diethylene glycol monomethyl ether, Methyl carbitol	111-77-3
	Methylene chloride, Dichloromethane, Methane dichloride	75-09-2
	Methyl ethyl ketone, 2-Butanone	78-93-3
	Monoethanolamine	141-43-5
	N-methyl 2-pyrrolidone	872-50-4
	Phenoxyethanol, Glycol monophenyl ether	122-99-6
	Propylene glycol monomethyl ether	107-98-2
	Toluene	108-88-3
	Xylene	1330-20-7
Neurotoxicant/ Nervous System	Cyclohexanol	108-93-0
	D-Limonene	5989-27-5
	4-Isopropenyl 1-Methylcyclohexene	
	Diethylene glycol monobutyl ether	112-34-5
	Methyl ethyl ketone, 2-Butanone	78-93-3
	Monoethanolamine	141-43-5
	Perchloroethylene, Perk	127-18-4
	Phosphoric acid	7664-38-2
	Sodium dichloroisocyanurate Dichloro isocyanuric acid sodium salt Stabilized chlorine bleach	2893-78-9
	Sodium hypochlorite, Hypochlorous acid, Liquid bleach	7681-51-9
	Tetrachloroethylene	127-18-4
	1,1,1 Trichloroethane, Methyl chloroform	71-55-6



## COMMONLY USED HAZARDOUS CHEMICALS

- The aforementioned are hazardous; therefore, must be limited subject to product performance, overall human safety and environmental soundness.
- The preceding lists are not intended to be complete, but rather to demonstrate.
- A good resource for the impact of cleaning products is: [www.scorecard.org/chemical-profiles/](http://www.scorecard.org/chemical-profiles/) - enter the CAS number and a report will be given.
- You should try to eliminate, or at least reduce, these chemicals. Where not possible, select products with the least amount of the ingredients by percentage at the product use dilution rate.

# YOU CAN MAKE A DIFFERENCE!

**IT'S A FACT...** Almost all traditional cleaning products are hazardous to people and the environment.

While the **degree of hazard varies**, you can very quickly, easily and profoundly make a difference with out impacting performance as well as labor and product cost.

Improved cleaning methods and safer cleaning chemicals can very positively affect indoor air quality, worker and occupant health, and the environment.

Eliminating the toxic ingredients from cleaning products would clearly bring tremendous benefits to society – in reduced occupational diseases and cancer, and cleaner air and water.



## WE OWE IT TO OURSELVES, OUR CO-WORKERS AND OUR FUTURE

The main reason for going "green" is for the health of yourself, your staff, the people who work in your buildings and the visitors to your facilities.

## BECOMING "GREEN SAVVY"

The **key is to understand** what green is; what are the variables, considerations, and criteria of green; and how to know a product is truly green given all the misinformation and "spin" being disseminated by many manufacturers, both large and small.

Once you have a firm grasp on distinguishing between authentic green products and pretenders, you can start making a difference right away. You'll be fully equipped to make decisions which will have a positive impact, both tangible and intangible, on all of those around you, and beyond.



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