SC8 1B Unit - Safety Household Discovery name: _____ date: _____ blk: _____

Health Hazards in Household Cleaners Exposed

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Canadian Press: Serena Gordon, Healthday Reporter

(HealthDay News) - A clean, fresh-smelling home may actually be bad for your health, depending on what type of cleaning and air freshening products you use.

Recent research suggests that exposure to cleaning products or air fresheners that contain a certain volatile organic compound (VOC) called 1,4 dicholorobenzene (1,4 DCB), can reduce lung function by 4 per cent. Another study found that the use of spray household cleaners could increase the risk of developing asthma by nearly 50 per cent.

Yet a third study, reported by University of Washington researchers this week in the journal Environmental Impact Assessment Review, found that the fumes from air fresheners and fragrances contain hazardous toxins, none of which were listed on product labels since companies are not required by the federal government to disclose the ingredients in these products.

"I don't think everybody's getting asthma from air fresheners and house cleaners, but this suggests that more research needs to be done," said Dr. Jennifer Appleyard, chief of allergy and immunology at St. John Hospital in Detroit.

Most people with asthma instinctively avoid these types of products, said Dr. David Rosenstreich, director of the division of allergy and immunology at Montefiore Medical Center in New York City. But, he added, the study on VOCs "suggests that other people should probably avoid them, especially considering the way we live in our homes today, tightly wrapped inside, so that if there are any chemicals present, we're constantly breathing them in."

VOCs are found in cleaning products, paints, tobacco smoke and other household chemicals, according to the study, which appeared in a recent issue of Environmental Health Perspectives. Benzene and acetone are two commonly used VOCs. The volatile organic compound known as 1,4 DCB is the chemical that gives mothballs their distinctive odor. It's also found in room deodorizers, insecticides and in urinal blocks.

While it's known that perfumes and chemical products can trigger asthma, researchers at the U.S. National Institute of Environmental Health Sciences reviewed data from nearly 1,000 adults who provided information on VOC exposure for the National Health and Nutrition Examination Survey.

They found an average decrease in lung function of 4 per cent was associated with exposure to 1,4 DCB.

The second study was conducted in Europe and included 3,500 people from 10 countries. The study, published recently in the American Journal of Respiratory and Critical Care Medicine,

found that regular use of cleaning sprays - such as air fresheners, furniture cleaners and glass cleaners - was linked to a 30 per cent to 50 per cent increased risk of asthma.

"Everybody knows that cigarette smoke and car emissions are the kinds of chemicals that can trigger asthma, but maybe we better look at things that are in our everyday life, like air fresheners," said Appleyard. She also pointed out that, ironically, a chemical marketed to reduce allergens if you sprinkle it on your carpets is a significant irritant to people with asthma.

For both people with asthma and even those without, Appleyard said it's a good idea to avoid harsh chemicals. "Try to go green with your cleaning products. Always reach for unscented laundry detergents and cleaning products," she advised.

If you're using chemicals to clean, she recommended always doing so with proper ventilation. She also recommended keeping the windows open and wearing a mask while cleaning.

Rosenstreich echoed Appleyard's sentiments. "I assume people with asthma and nasal symptoms are probably already avoiding these products, but even for people without these conditions, it would be wise to avoid them. You can't control pollution or pollen, but you can control your exposure to cleaning products, and it's a good idea to control anything you can, because these changes occur slowly over time."

More information

Learn more about controlling your asthma triggers from the http://www.lungusa.org/site/c.dvLUK9O0E/b.35622/k.8311/Controlling-Asthma-Triggers.htm American Lung Association.

SOURCES: David Rosenstreich, M.D., director, division of allergy and immunology, Montefiore Medical Center, New York City; Jennifer Appleyard, M.D., chief, allergy and immunology, St. John Hospital, Detroit; August 2006 Environmental Health Perspectives; October 2007 American Journal of Respiratory and Crtical Care Medicine; July 2008 Environmental Impact Assessment Review

Name: _____ **Date:** _____ **Block**_____

Reflection Assignment

IB Assessment

Criterion C Knowledge and Understanding

Now that you have investigated your household, in what ways do your actions and choices affect the environment (both local and global)? Can you think of less harmful alternatives to the products that you found? (250 words or less)

Reflection Assignment Rubric

Criterion C Knowledge and Understanding

Name:_____
Date:_____
Blk:_____

Achievement Level	Descriptor
0	The student does not reach a standard described by any of the descriptors given.
1-2	The student **recalls** some scientific ideas about hazardous chemicals and applies these to solve **simple problems involving hazardous chemicals.**
3-4	The student **explains** some scientific ideas about hazardous chemicals and applies these to solve **problems in familiar situations involving hazardous chemicals.** The student provides and **explanation** that shows understanding.
5-6	The student **explains** some scientific ideas about hazardous chemicals and applies these to solve **problems in familiar and unfamiliar situations involving hazardous chemicals.** The student provides a **scientifically supported explanation** that shows understanding.