Dangers of exposure to everday chlorine

ASSIGN BUSTER

Have you ever been cleaning your bathroom and made a run for the window because the fumes were just too overwhelming? Have you ever tasted tap water with a funny after taste? How about red eyes and a rash on the body after a few laps in the pool to cool off? Many of us just brush aside these moments and do not think about the fact that we have been exposed to something which created a negative reaction in our bodies. Chlorine bleach has been used for years in the household for various applications and is generally regarded as safe, but if we take a closer look at this multipurpose chemical we may realize that we need to rethink our choices and take extra care in our selection and use.

Chlorine bleach is a chemical that is diluted for use in the household. It is a mixture of water and the chemical sodium hypochlorite (3 to 9 percent). [1] Chlorine is also found in many other types of household cleaners including dishwashing detergents, mould and mildew removers, toilet bowl cleaners, disinfectants and chlorinated scouring powder. [2] While no one can doubt the efficacy of these products it is undoubtable that frequent use exposes the user to toxic gas emissions which have been linked to significant health dangers.

Chlorine is harmful to the lungs. Breathing in chlorine emissions can cause difficulty breathing, coughing and inflame the airways. It can cause nausea, vomiting, chest tightening and pain. Chlorine compounds are also highly corrosive and can cause damage and irritation to the eyes and skin and if severe exposure occurs long term illnesses and death have been reported. [3] But can this really affect you? The simple answer is yes. In many instances misuse and the mixing of different household cleaners create chemical

reactions which cause the emission of toxic chlorine and other gases. Within close proximity, you at are at risk of the inhalation of these toxins and the unfortunate effects with as many uses. This means multiple times per month!

Swimming is a relaxing pastime enjoyed by almost everyone. It is an excellent form of physical activity with many health related benefits. Chlorinating agents are the most common type of chemical added to swimming pools as disinfecting agents to prevent the growth of unwanted organisms in the pool water. Chlorinating agents are also used in hot tubs, spas, wading pools and whirlpools. [4] Research suggests that children who swim in chlorinated pools have a notably increased risk of developing allergies or asthma. The risk is directly related to the number of hours spent swimming in chlorinated pools. [5] According to the U. S Environmental Protection Agency those who swim or use a hot tub frequently could have greater dermal and possibly inhalation exposures to chlorine. [6] Additionally, Belgian researchers also found that the risks of hay fever and other allergies more than doubled with significant exposure to chlorinated pools. [7]

Chlorine is present in drinking water in minimal amounts which is considered safe, but ingesting chlorine in its other forms such as bleach or household chemicals or pool water and inhaling chlorine gas emissions can cause chlorine poisoning which is considered a medical emergency. [8] If this occurs, one must contact emergency services and go to the hospital immediately.

So what can we do to reduce our chlorine exposure and these negative effects? Firstly, we can limit the purchase of chlorine based household products, choosing instead natural or organic products. If we must choose chlorine based products then we must ensure responsible use and take actions to protect ourselves such as wearing gloves, keeping the area well ventilated, refrain from mixing household cleaners particularly those with ammonia and chlorine, reading and following the instructions for use and storing chemicals in a safe place away from the reach of children to prevent accidental poisoning.

Similarly, we can opt for swimming in pools which are disinfected by alternative agents such as silver copper ion generators or salt water. If this is not possible be sure to try not to ingest pool water, wear goggles and skin barrier creams and to rinse off immediately after swimming to minimize the risk of excessive chlorine exposure. There have not been any epidemiological studies that have specifically examined free chlorine concentrations in water and long-term health effects in the human population [9] so if you are concerned about ingesting chlorinated tap water then distilled, spring or other types as water are available as well as water purification systems which can be set up in the home.

Chlorine compounds are all around us in various applications. Being aware of this and the potential dangers which these substances pose can help us to ensure responsible use and therefore protect ourselves and families from the harmful effects.

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