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Programme/Station : **"The Living Room" on 938LIVE**

Producer-Presenter : **Stanley Leong**

Subject : **Good Indoor Air Quality**

Host: In a typical day, most of us spend most of our time indoors rather than outdoors. Now, given that to be true, how concerned are you about the indoor air quality in your home or your office?

When we think about air pollution, we often think of the situation outdoors. But do not be too sure that you are breathing good, clean indoor air without harmful viruses and allergens.

Now, learn about how indoor air quality is measured. What can be present in the air that can be detrimental to your health when you are indoors and also what you can do about it. In The Living Room today is the head of Research and Development and Technical Services at IEQ Global Pte Ltd to talk about Indoor Environmental Quality solutions and services.

The speaker is an active campaigner creating healthy working and living environments, and believes that a balance should be struck between maintaining our well being as well as preserving the wellness of the natural environment. We take into account the indoor environment as well. How is the air that you are breathing indoors? How can we improve that quality of air?

Host: Thanks for joining us today and warm welcome to The Living Room.

IEQ: Thank you.

Host: The fact that we spend more time indoors rather than outdoors on a typical day would mean that it is definitely important to understand and know about the quality of the indoor air that we breathe. So how much truth is there to this and it is really crucial that we know how clean our air is?

IEQ: First of all, I would like to share some facts from the WHO (The World Health Organization). The first is that one third of the world's population suffers from Sick Buildings Syndrome or SBS. This actually relates to poor health and decreased productivity. The second is that in both developing and developed nations, up to 3 million people worldwide die each year from air pollution outdoors and indoors. We need to understand the risks involved. We need to know much more about our indoor air quality and the varieties of risk to our health as we undergo daily activities. Be it indoors at home, in a car, bus, train, or outdoors at work or during recreational activities, we are constantly exposed to environmental pollution.

Host: When we talk about air quality, we often do not think about indoor air quality. When outdoors and caught in places where there is fumigation or just a lot of smoke and haze, we complain. But indoors, we hardly think about the air that we breathe. Do you see that as a problem that people are not aware of the importance of indoor air quality?

IEQ: It has a lot to do with awareness. We spend actually up to 90% of our time indoors. Indoors, spaces are confined and ventilation is reduced. This leads to more health problems.

Host: Can you elaborate more about Sick Building Syndrome that you mentioned? It is not the building falling sick but the people in the building. What exactly is Sick Building Syndrome? This is a problem that anyone could be facing as occupants and residents of an affected building.

IEQ: There are two types of building issues - Sick Building Syndrome and Building Related Illnesses (also known as BRI). Sick Building Syndrome is used to describe situations where the building occupants experience acute negative health and comfort effects that appear to be linked to the amount of time spent in a building but without any specific associated illnesses. They recover when they leave the affected building. Building Related Illnesses (BRI) is when the symptoms can be diagnosed and the cause traced to the indoor environment with a building. These are the two most common illnesses linked to indoor air quality issues.

Host: How do we measure indoor air quality?

IEQ: The National Environment Agency of Singapore has prescribed 11 parameters to determine indoor air quality. These include parameters like levels of carbon dioxide, temperature, humidity, and air movement. All these actually help you measure levels of pollutants as well as determine the comfort and ventilation conditions in an indoor environment.

Host: Are there regular pollutants that are found in closed spaces, confined spaces?

IEQ: The most prevalent is formaldehyde, which comes from the glue and construction or renovation materials, furniture and finishings. Also commonly found is carbon dioxide, airborne bacteria, viruses and mould or fungi. The majority of the air that we breathe actually comprises particles that may include smoke particles which is visible as haze, or cigarette smoke. But it is the invisible items that you should be more afraid of because they are chemicals that are molecular in size and as well as viruses, bacteria which cannot be seen with the naked eye.

Caller: How often should we shampoo our office carpet?

Host: Any advice, Dr IEQ?

IEQ: Yes, I think your office maintenance officers should have a daily dry vacuuming regimen that should pick up a lot of the particles that have collected over a day or week. Carpet shampooing should be carried out depending on traffic flow in your office. If it is just normal office working activities then it may be every three to six months until the next shampooing. But if you are located in heavy industrial areas or if your office is linked to a work site then cleaning would have to be carried out more frequently. Normally your nose is the best indicator whether to clean it or not.

Host: Carpets seem to trap a lot more particles rather than uncarpeted floors.

Caller: How good is the quality of air in spas, gyms, yoga centers as these are all closed air conditioned spaces and with sweaty bodies occupying them? Will the air quality also get affected?

IEQ: Indoor environmental spaces with high humidity, a lot of people working out and perspiring are a challenge. If the area for such activity is well designed and ventilated, then it should not be a problem. Designers and architects need to conduct due diligence before retrofitting if spaces are re-designated to accommodate new businesses. Mould, high humidity and possible high bacterial growth may become issues.

Host: How do we improve indoor air quality?

IEQ: There are 3 major approaches. The first is the source control. The second is improving ventilation. The third is using air purification systems to get clean indoor air. Let me start with source control. It is usually the most effective way to removing a problem because if you know where the problem starts, you resolve it directly. But if you cannot solve the problem immediately, then ventilation improvement is critical because it increases the amount of outdoor air coming in and dilutes the problem area with fresh air, which in turn makes the indoor air quality more acceptable. The third is if the problem persists or if the outdoor air is polluted, you should install air proven air purifiers to remove particulates which contain airborne organisms, bacteria and viruses. I would suggest to listeners to look for the air purifiers that not only trap particles but also kill the micro-organisms trapped within.

Host: How do air purifiers work? Do they suck in the particles and trap it?

IEQ: They take in ambient air, then go through filtration processes where a lot of particles are trapped for later disposal and what should come out should be good clean air. The speeds at which the air cleaner cleans your indoor environment and the effectiveness as in what size of particles trapped are the major factors to consider when purchasing an air purifier.

Host: How does an air purifier look like?

IEQ: They come in different shapes and sizes. Actually their effectiveness depends on the filtration technology that should trap and kill airborne micro-organisms and particulates. Their efficiency depends on the blower capacity. A larger blower size normally treats a larger volume of the air. Although aesthetics is a factor, we should always consider the usefulness of the air purifier rather than its looks.

Host: Any closing thoughts on indoor air quality?

IEQ: Solving indoor air quality problems is actually a holistic approach rather than just a one off solution. It must be treated not as a single problem but as a multiple faceted issue where effective solutions have to be implemented for specific issues.

Host: Thanks for sharing with us.