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## **EFFICACY OF BACTAKLEEN AS A SAFEGUARD AGAINST HEALTH RISKS RELATED TO AIR CONDITIONING SYSTEMS**

While the advent of modern air-conditioning has been received with much applause, challenges associated with its use were largely unforeseen. The inherent mechanism of air conditioner allows conditioning of surrounding environment to the requirement of the user. Effectiveness of air conditioners to manage excessive humidity, heat or, dryness can not be doubted but re-circulating the same air in a closed space has been shown to have serious health implications.

Almost all viruses are obligate parasites which means their survival in an external environment is extremely difficult. But this is not the case with other microbes like bacteria and fungi. As a matter of fact, fungal spores are resistant to a wide range of temperature and moisture conditions. This is the exact challenge faced with the use of air-conditioners. The optimum temperature and humidity achieved by air-conditioners is not suitable just for humans but bacteria, fungi and some viruses multiply and reproduce in that very environment.

Methicillin resistant *Staphylococcus Aureus* (MRSA) is one such mischievous microbe. It is the agent held responsible for nosocomial infections (hospital acquired infection) after years of research and extensive clinical trials. No wonder this agent has been isolated from AC vents over several occasions. When the safest environment of hospitals is prone to such infectious agents, exposure to the risk when commuting daily through a car, bus or, train is not unfathomable.

There are two kinds of air contaminants which expose to health risks, inorganic contaminants (pollutants) and organic (Infectious agents) ones. Infectious agents are largely held responsible for upper respiratory tract infections like flu, asthma, influenza and SARS. Pollutants like asbestos, particulate matters and carbon particles cause lower respiratory tract infection which manifests in the form of pneumoconiosis, emphysema, bronchoectasis, pleural effusion etc. All of these are serious illnesses and demand urgent medical attention.

There are many products in the modern market that remove unwanted odours from the environment next to us. While this may be sensually pleasant, it is not a healthy surrounding to breath in. Bactakleen combats this challenge single-handedly. Bactakleen not only de-odorizes the surrounding, it manages to eradicate the bacteria, fungi and viruses which keep recirculating with the conditioned air in closed compartments. This disinfecting property of bactakleen is particularly relevant to people with existing respiratory diseases like flu, influenza and even asthma. Fungal spores often trigger an acute exacerbation of asthma attack in elderly and there is no other option available than reducing the exposure to such triggers.

While a home environment ensures healthier surroundings, risk of acquiring infections from workspace, educational institutions, personal cars, public transports and, closed public spaces like museums & art galleries demands intervention. Bactakleen's efficacy to sanitize surroundings has been established by esteemed agencies like Chemlab, TUV and SGS. Extensive microbial cultures were prepared and incubated to monitor reproduction of disease causing agents like *Staphylococcus Aureus* and *Pseudomonas Aeruginosa* and negligible microbial colonies were seen after a brief contact period of only 5 minutes with bactakleen.

Progressive biotechnology in the form of products like Bactakleen is no more an add-on, it is a necessity in modern times plagued with mass epidemics like Swine flu and SARS.

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