

IIT Delhi start-up launches 'Reusable Antimicrobial Mask'

By India Science Wire

New Delhi, May 06 (India Science Wire): The COVID-19 pandemic has triggered acute shortage of face masks in the country. Face mask is considered as an important tool to contain transmission of coronavirus from one person to another. Now that every individual has been mandated to use a face mask regularly, single-use mask is not a cost-effective solution for everyone.

An IIT Delhi start-up "Nanosafe Solutions" has launched an antimicrobial and washable face mask "NSafe", which is reusable up to 50 launderings, thus greatly cutting down the cost of use.

The team consists of Dr. Anasuya Roy, an IIT Delhi Alumnus, Founder and CEO of Nanosafe Solutions Pvt. Ltd., and Prof. Mangala Joshi, Department of Textile and Fibre Engineering, IIT Delhi, and also Founder and Director of the start-up.



NSafe mask is a highly engineered triple-layered product consisting of an inner hydrophilic layer for comfort, a middle layer having antimicrobial activity and the outermost layer that repels water and oil

NSafe mask has 99.2% bacterial filtration efficiency (at 3 microns) and complies with ASTM standards of breathability and splash resistance. The mask is extremely comfortable and

breathable. Elastic band in the chin region and wire in the nose region provide adequate fit of the mask to the wearer.

Prof. Mangala Joshi, Department of Textile and Fibre Engineering, IIT Delhi, said, “We believe this is the first fabric-based antimicrobial face mask launched in India, which is washable and reusable. This mask has very high bacterial filtration efficiency and conforms to ASTM standards. It is engineered to have very good breathability and comfort.”

Dr. Anasuya Roy, Founder and CEO of Nanosafe Solutions added, “The mask has been designed to maximize durability and dimensional stability, so that the mask can be reused 50 times. Effective reusability is an important factor as single-use masks will cause huge disposal issues”.

NSafe mask enhances protection to the wearer through three different mechanisms: mechanical filtration, antimicrobial decontamination and repulsion of aerosol droplets.

NSafe masks are dry-cleaned before packaging and packaged under hygienic conditions. After each usage (approximately 8-9 hours), the mask has to be handwashed in cold water with mild detergent and dried thoroughly in the sunlight. After 50 usages, the mask has to be disposed of in a sealed polyethylene bag and put in the recyclable waste bin.

NSafe mask is a premium product that is likely to be available at MRP of Rs. 299 (Pack of 2) and Rs. 589 (Pack of 4). The start-up has started manufacturing the masks. (India Science Wire)

Keywords : COVID-19, IIT-DELHI, Reusable, Antimicrobial, Mask