NICHEM Solutions Unveils New Anti-ripening Technology Go Fresh 002

The Food Safety and Standards Authority of India (FSSAI) states that one-third of all food in India is wasted or spoiled before it is eaten. Moreover, according to the United Nations Environment Programme (UNEP) Food Waste Index Report 2021, about 50kg of food is wasted per person annually across the nation. The reason is that the fruits and vegetables ripen before they are put to use because of the ethylene present in them, causing them to change their colour as they ripen and over-ripen.

To overcome such issues, NICHEM Solutions has discovered and patented an anti-ripening innovation, Go Fresh 002 and Freshness Plus bags. Go Fresh 002 is in Additive form, which goes during the production of plastic containers, crates, bags, and Freshness plus bags are Polyethene bags that have Go Fresh 002 Additive in them, which can be used by consumers directly. This anti-ripening technology intends to revolutionise the current practices of transporting and storing perishable fruits and vegetables to meet the global efforts of being more eco-friendly and sustainable. Go Fresh 002 consists of metal catalysts loaded on a high surface area base, which oxidise the ethylene to ethylene oxide, which has anti-fungal qualities. Go Fresh 002 is used as a supporting substrate in the packaging materials, further allowing storing of fresh produce without exposing them to certain harmful chemicals.

The formation of ethylene oxide slows the ripening and ageing processes, keeping the produce fresh for longer. Using this novel technique may not only double the storage time and transportation life of fruits and vegetables but would also do so in a way that does not

pollute the environment but conserves it. The best application of Go Fresh 002 includes its usage in the packaging industry for films, shrink bags, trays, crates, and containers.

Go Fresh 002 is an innovative approach to food refreshment preservation. During the development of the patented technology, consumer safety has been considered the utmost priority. It is also suitable for many polymers and allows for a wider application that positively influences the efficiency on the platforms of different packages. For instance, the NICHEM offers the product in durable, refillable bags, which are good value for money, and they can actually save the environment from unnecessary waste thanks to their reusability until they are physically damaged.

In addition to NICHEM 's priority for the quality of its products, the chemical manufacturing company has tested and passed several global certifications for Go Fresh 002. Moreover, the additive is absolutely free of heavy metals, further making it extremely safe to use in food applications. These certifications further prove the technology's reliability in food safety and potential approvals in the global market.

NICHEM not only ensures that Go Fresh 002 passes these certifications, but the chemical engineering expert Professor V.C. Malshe, the technology designer and assessor for Go Fresh 002, exemplifies modern scientific principles and cutting-edge technology in anti-ripening invention with his continuous presence.

Furthermore, the Go Fresh 002 additive is also used in making Freshness Plus bags in which fruits and vegetables can be stored for a longer lifespan. However, there are certain things to note before using these bags. The products that would be stored in them must be stored only when they are completely dry for maximum effectiveness. Once the food items are kept in the bag and the bag is properly closed, the bag can be stored in or outside refrigerators.

About NICHEM Solutions

NICHEM Solutions is a research-based technology solution providing company which is based out of Maharashtra's Thane. The company aims to make everyday lives better by combining science, understanding, and creativity and further manufacturing speciality products like drinking water purification chemicals, biodegradable additives for polymers, value-enhancing products for cosmetics, rat repellent sprays for cars, among others that are vital for everyday use.

To extend the company's commitment and mission better, Professor V.C. Malshe, along with his co-Gurus Padma Vibhushan Professor M.M. Sharma and Padmashree Professor G.D. Yadav inaugurated the Nichem Innovation Centre on September 2, 2023, at Thane. It is a well-equipped R&D lab started with the aim of helping needy industries to develop and innovate products or technologies along with supporting development for its own product lines. The idea mainly comes from the view that the country's MSME sector cannot afford an in-house R&D or Innovation Centre. Furthermore, the purpose of starting the Nichem Innovation Centre is not just to support internal research and development but also to offer R&D services to the industry.