

Press ReleasePR084/06
29 September 2006**MTR Uses Nano Technology to Enhance Hygiene Levels**

With the flu season approaching, the MTR Corporation will invest \$1.5 million on Nano Technology to further enhance hygiene levels in MTR stations and trains.

A powerful, new, non-toxic disinfectant – Nano Silver-Titanium Dioxide Coating (NSTDC)— will be applied to surfaces that passengers commonly touch. In MTR stations, these include escalator handrails, the buttons on Ticket Issuing Machines, Add Value Machines, as well as buttons and handrails in lifts. Inside train compartments, the extra protection will be applied to the red portion of grab poles and strap hangers. The coating is manufactured using Nano Technology maximizes coverage and effectiveness.

Developed in Japan, NSTDC is certified to be effective in killing a wide range of bacteria, viruses and mold including the H1N1 Influenza Virus A. It is used in hospitals, offices and homes in Japan. NSTDC's main component, Titanium Dioxide (TiO₂), has been approved for use in foods by the United States Food and Drug Administration and under the Public Health and Municipal Services Ordinance in Hong Kong.

Other than stations and trains, NSTDC will also be used in MTR-managed shopping malls, staff offices and recreational facilities as part of a continuing commitment to maintain the highest cleanliness standards for passengers, customers and staff. This is in addition to other hygiene measures already in place such as the use of 1:99 diluted bleach for cleaning trains and stations.

“Germs and diseases are most commonly transmitted through the hands. They pick up bacteria from public surfaces which may then be passed into our bodies if we rub our eyes, nose or mouth before washing our hands,” explained Mr George Lee, Safety & Quality Manager of the MTR Corporation. “We are always looking for new methods to improve the general hygiene level of the MTR system. When we learned about NSTDC's effectiveness in killing germs in public places, we conducted an in-depth study and determined it to be safe for people and appropriate for use in the MTR system.”

In addition to tests by the Japanese manufacturer, professional laboratories and universities in Japan and Hong Kong have verified NSTDC to be 99.9% effective in killing a wide range of viruses and bacteria under a laboratory-controlled environment. The Corporation has carried out its own trial on one passenger-carrying train and the results show that the bacteria levels in that train are 60% lower than those in trains not sprayed with NSTDC. The coating lasts for about three years after application and MTR will conduct checks every eight months to ensure the bacteria-fighting powers remain intact.

Hong Kong infectious disease specialist, Dr. Lo Wing-lok, has conducted his own independent study into NSTDC. His conclusion: "It is a proven technology for killing bacteria and viruses. It is a safe and innovative approach to enhance hygiene levels in public transport."

Nevertheless, Dr. Lo pointed out the importance of ensuring workers are properly protected when spraying the coating as a US occupational safety agency, NIOSH, has classified TiO₂ as a "Potential Occupational Carcinogen". The component is nevertheless harmless once dried, and poses no safety risk to members of the public. Dr Lo also noted, that recent indications from NIOSH are that it may soon take TiO₂ off the list of "potential occupational carcinogens".

Always putting safety first, the Corporation has ensured all workers are equipped with the proper protection, including air purifiers and masks when working with NSTDC.

In the meantime, for the second successive year, the Corporation is offering all 6,500 staff members free flu vaccinations. As well, it will engage an expert consultant to review its Influenza Pandemic Preparedness Planning and offer recommendations for enhancement.

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Photo Captions:

- 1) George Lee, Safety and Quality Manager of the MTR Corporation (left) and Dr. Lo Wing-lok, Hong Kong infectious disease specialist state that the application of Nano Silver-Titanium Dioxide Coating can further enhance hygiene levels in MTR stations and trains.



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2) A Nano Silver-Titanium Dioxide Coating will be applied to the following surfaces in MTR system:

a. Strap hangers on trains



b. Grab poles (the red colour part) on trains



c. Buttons of ticket issuing machines and add value machines in stations



d. Escalator handrails in stations



e. Lift buttons and handrails in stations

