

# JAL Group

250 passenger airplanes

Application to 1000 aircraft bathrooms

ecotio<sub>2</sub><sup>®</sup> Ultra technology used in aircraft construction



**PEACE OF  
MIND**

**SAFETY**

**COMFORT**

# The Advantages of Using Ultra C Onboard Aircrafts

## ■ Peace of Mind, Safety and Comfort

### 1. When this product is used it adds comfort

Improves the atmosphere of the aircraft. When lingering odours and fungal varieties (fungi, virus and bacteria) come into contact with the product they are degraded/destroyed due to oxidation reduction.

### 2. The effects of the product are long lasting and do not affect the environment.

The product has long lasting effects for anti-viral, deodorising, anti-bacterial, anti-fungal, anti-oxidisation (radical scavenging) capacities with no ill effect to the environment. This is due to the special formula for surface activity in the Nano Diamond technology.

### 3. The products used in the formula are all safe.

The products comply with the safety and antibacterial guidelines set out by SIAA (the council that regulates anti bacterial products) under the former Ministry of International Trade and Industry (now the Ministry of Economy, Trade and Industry). The safety, antiviral, antibacterial, deodorant, and antifungal functions have all been verified by a variety of testing organizations.

### 4. So many applications.

The nano diamond product range is used in a variety of industries as a multi functioning value-added product to resolve issues such as bad smells.



# The Advantages of Using Ultra C Onboard Aircrafts

## Improvement in Customer Service and Customer Satisfaction

### 1. Gives customers peace on mind due to anti-viral and anti-bacterial features.

Viruses and bacteria brought into the treated area from elsewhere will be deactivated and reduced when they come into contact with the product.

### 2. Reduction of malodorous complaints.

Customer complaints about bad smells will decrease especially in bad smelling restrooms

### 3. The use of the products can make the company more appealing.

The company can advertise or announce the use of the product as a selling point and this will increase customer satisfaction. See below examples.



# JAL Press Release and News Clippings

## JAL GROUP NEWS



### JAL, Antibacterial and deodorising protection carried out in the lavatories of the aircrafts!

- We provide comfortable aircraft interiors with sanitary lavatories -

November 27, 2008

No. 08110

JAL is the first airline to provide antibacterial and deodorising protection to onboard lavatories. We have made further improvements to the lavatories, something customers come into direct contact with, providing much more comfort to the aircraft interiors.

This antibacterial and deodorising protection provided by JAL is long lasting. It stops the growth of bacteria and mould as well as decomposes and deodorises the smells of hydrogen sulphide and ammonia which are produced by daily life, toilets, sweat and so on.

The antibacterial and deodorising protection conforms to the antibacterial performance evaluation criteria set by the Japanese Industrial Standard (JIS Z 2801) and International Standard (ISO22196). The safety of the treatment has been verified to conform to the Society of International sustaining growth for Antimicrobial Articles (SIAA) standards which were created from the antibacterial treated product guidelines provided by the Ministry of Economy, Trade and Industry.

The lavatories have been awarded an SIAA label by the Society of International sustaining growth for Antimicrobial Articles to show that they have been treated. The antibacterial treatment will be applied to all aircraft in the JAL group (approximately 250 aircraft), by the end of 2009. JAL will continue to consider our customers' comfort and provide comfortable air travel.

#### The Society of International sustaining growth for Antimicrobial Articles (SIAA)

SIAA is an organisation of manufacturers of antibacterial agents, antibacterial treated products and antibacterial testing institutions whose goal is to popularise appropriately treated and safe products. SIAA maintains rules governing the quality and safety of antibacterial products.

#### SIAA Mark

The SIAA mark is a symbol of antibacterial treatment that was established by the Society of International sustaining growth for Antimicrobial Articles (SIAA). The SIAA mark is displayed on products that meet the following three criteria:

- **Antibacterial** The growth rate of bacteria must be less than 1 part per million compared with the surface of an untreated product. This antibacterial effect has also been confirmed after a durability test.
- **Safety** It meets the safety standard independently decided by the Society of International sustaining growth for Antimicrobial Articles (SIAA).
- **Appropriate Labels** The label specifies the name of the antibacterial agent used and the area/s or material/s treated.



## Nikkan Kogyo Shimbun Newspaper

2 Dec 2008

### Business & Technology

#### JAL Aircraft toilets to be Antibacterial and Deodorizing In-flight Toilets to be Refreshed.

Japan Airlines (JAL) has started antibacterial and deodorant processing on toilets in aircraft. By coating the toilets with a material that decomposes hydrogen sulfide and ammonia, the growth of germs and mould is suppressed, and a deodorizing effect is also produced. An SIAA mark showing the product is certified by the "Society of International sustaining growth for Antimicrobial Articles" is put on the doors of processed toilets.

JAL plans to continue with its antibacterial treatment in order to cover all of the approximately 250 aircraft owned by the JAL Group by the end of 2009.

# JAL Press Release (In-Flight Magazine)



## From the JAL Group to our Customers

### We have Performed Antibacterial and Deodorizing Treatments in the Restrooms so that You can use Them with Peace of Mind

The JAL Group has implemented antibacterial and deodorizing treatments on in-flight restrooms in order to provide a cleaner cabin environment and to ensure peace of mind to passengers.

The treatment has the effect of suppressing the growth of germs and mould, as well as decomposing and deodorizing hydrogen sulphide and ammonia, which are common odours in restrooms.

In addition, even if the restrooms are washed with detergent, the effect will not be impaired, so a continuous effect is obtained with a single treatment. Some of the restrooms have already been treated and eventually all aircraft restrooms will undergo treatment.

The restrooms that have already had the antibacterial and deodorizing treatment will have an "SIAA Mark \*" sticker.



The JAL Group will continue its efforts to provide a comfortable cabin space.

\* The SIAA mark is displayed on products showing quality control and disclosure of information conforming to the "Society of International sustaining growth for Antimicrobial Articles" guidelines, using the ISO22196 standard.



# Applied to over 1000 Toilets in all 250 JAL Planes



Japan Transocean Air



Japan Airlines



J-Air



Ryukyu Air Commuter



JAL Express



Japan Air Commuter

# Antibacterial and Deodorising Application



Spray application of the coating with a formula created especially for aircrafts



After the application was completed we applied a SIAA sticker of certification