

MANAGEMENT AND REDUCTION OF SUBSTANCES WITH ENVIRONMENTAL IMPACT

Mazda is engaged in a range of initiatives to eliminate or reduce chemical substances that damage the environment, based on the voluntary action plan adopted by the Japan Automobile Manufacturers Association (JAMA).

Initiatives in Development

Complete Elimination of Lead, Mercury, Hexavalent Chromium, and Cadmium

Based on the voluntary action plans introduced by JAMA, Mazda has actively sought to eliminate the use of lead, mercury, hexavalent chromium, and cadmium. By February 2007, we had achieved JAMA's targets for all four of these substances in advance of the deadlines set by the association.

Reducing VOCs in Vehicle Cabins

To maintain a comfortable cabin environment, Mazda is committed to reducing volatile organic compounds (VOCs) such as formaldehyde, toluene, and xylene, which have been implicated as possible causes of sick building syndrome.

In 1999 we developed a deodorizing filter with the capacity to remove aldehydes, which has been adopted as either standard or optional in our leading models. Subsequently, we reviewed the materials used for interior fittings and adhesives with a view to cutting out VOCs at the source, and succeeded in reducing the amount of VOCs generated in the cabins of new vehicles.

In new models, starting with the Mazda Demio (known overseas as the new Mazda2) launched in 2007, we reduced VOCs in the main materials used in the cabin, such as plastics, paints, and adhesives, thereby conforming with the indoor aerial concentration guidelines offered by Japan's Ministry of Health, Labour and Welfare.

 Reducing Use of "CFC Alternative" Greenhouse Gases

Initiatives in Production

Advance Evaluation System for Chemical Substances

Prior to purchasing new raw materials such as oils, chemicals, paints, and other types of secondary materials for use in production processes, we evaluate their potential impact on worker safety and the environment, based on material safety data sheets (MSDS).

If this screening uncovers any nonconformity with standards in the material, we eliminate or minimize use and search for an alternative.

Initiatives Related to the PRTR Law

In FY2008, Mazda used 20 substances, such as toluene and xylene, that must be reported according to the Pollutant Release and Transfer Register (PRTR) Law. This law promotes improved disclosure and management of designated chemical substances released into the environment. Thanks to efforts to improve the paint thinner recovery ratio and coating efficiency, the amounts of PRTR-designated substances released into the atmosphere and water system decreased by 52% from FY1998, to 1,312 tons.

We will continue working to reduce emissions of PRTR-designated substances.

 Storage of PCBs

TOPICS

Novel Water-Based Coating Technology Successful Development of Aqua-Tech Paint System

Mazda has succeeded in developing the Aqua-Tech Paint System, a novel water-based coating technology that achieves the world's highest standards* for limiting emissions of VOCs contained in paint as well as carbon dioxide (CO₂) gas generated from the energy consumed during the vehicle painting process. Mazda successfully introduced this system at its Ujina Plant No. 1 in June 2009.

The Aqua-tech Paint System maintains the same world-class low CO₂ emissions volume as the Three Layer Wet Paint System currently installed at all of our production facilities while significantly reducing VOC emissions, making it the least-polluting water-based paint system in the world. The new system also delivers improved paint quality.

Water-based paints tend to consume large amounts of energy in the process of evaporating off the water used as a thinner, and the resulting increased CO₂ emissions were formerly a matter of concern. Mazda has improved the air conditioning system in the paint shop and introduced a highly efficient evaporation system for removing the water from the paint. In addition, we have managed to consolidate the coating processes by developing highly functional top-coat paints that exhibit additional properties usually provided by the primer paint, including color brightness and resistance to chipping. As a result of these technical breakthroughs, our new paint system achieves extremely low VOC emissions without causing an increase in the CO₂ volume.

* As of June 2009



Newly Developed Aqua-Tech Paint System

