Reduction of Environmentally Hazardous Substances

To promote the reduction of environmentally hazardous substances, Isuzu complies with emissions laws and other relevant regulations while developing and popularizing products with lower amounts of these substances.

Overview of Reduction of Environmentally Hazardous Substances

Each year, stricter regulations and restrictions are enacted regarding environmentally hazardous substances. For this reason, reducing these substances in production processes is just the start at Isuzu. We also take the initiative in reducing potentially hazardous substances in products. In addition to complying with laws such as the EU-ELV directive and REACH regulations in Europe and JAMA voluntary restraints in Japan, Isuzu applies a global perspective in encouraging reduction of substances posing environmental risks, regardless of whether they are currently regulated.

The PRTR will be amended in fiscal 2008, and a longer list of controlled substances is expected. Isuzu will improve management by modifying our existing systems and making other changes.

Reduction of Environmentally Hazardous Substances in Products

Regulatory Compliance

To comply with the European Union’s End-of-Life Vehicles (EU-ELV) directive and the Japan Automobile Manufacturers Association’s voluntary restraints, as well as new Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) regulations, Isuzu studies products that will be subject to these restrictions. Isuzu has established chemical substance management processes to control environmentally hazardous substances in products on a company-wide basis. We have expanded this program beyond ELF models, and we are in full regulatory compliance.

Other Ways Isuzu Reduces Environmental Impact

• Reduction of vehicle noise
  Isuzu works not only to comply with the world’s strictest noise regulations, but also to reduce noise during idling and city driving. We are also improving the nature of vehicle noise itself. Efforts are focused on reducing engine and drive-train noise, studying optimal sound-damping structures through noise transmission analysis, and R&D on high-performance sound-absorbing and damping materials. This research led to a 2 dB reduction compared with previous models in the idling noise of ELF light-duty trucks released in December 2006.

• Reduction of refrigerants in air conditioners
  HFC134a is a non-CFC refrigerant, but because it is a greenhouse gas, we targeted a 20% reduction from 1995 levels. Currently, we have succeeded in reducing refrigerants by an average of 44% per vehicle. We are also phasing in low-GWP refrigerants.

• Reduction of VOCs in vehicle cabins
  Isuzu takes measures to cut VOCs\(^1\) in vehicle cabins, in line with JAMA voluntary reduction policies and targeting 13 substances designated as hazardous by the Ministry of Health, Labor and Welfare. Light-duty ELF trucks, medium-duty FORWARD trucks, and heavy-duty ERGA\(^2\) route buses now meet these guidelines.

\(^1\) VOC: Volatile organic compound, such as formaldehyde or toluene
\(^2\) ERGA: Measurement assumes use of ventilation fans

Reduction of Environmentally Hazardous Substances at Plants

Regulatory Compliance

• Reducing volatile organic compounds
  Emission of VOCs, which are a factor of photochemical oxidants and smog, was restricted in the amended Air Pollution Control Law of 2006. Anticipating regulatory restrictions, Isuzu took the initiative at an early stage to reduce organic solvents used in painting. The Isuzu reduction target of 48% (19.2 g/m\(^2\))
supersedes the 30% target established by JAMA. We have made gains by cutting back on paint solvents, recovering thinner, and introducing a drying furnace with exhaust combustion equipment. Despite our somewhat higher emissions in fiscal 2007 from a model change, we have met this target. We will continue to work toward lower VOC emissions.

VOC: Volatile organic compounds (mainly organic solvents)

Chemical substance management and response to the PRTR Law

Supplementing official regulations, Isuzu has established an internal management rule for potentially harmful chemicals that classifies substances as prohibited, conditionally permitted, and permitted (but requiring caution) for appropriate management and reduction. In response to the PRTR Law,* we have designed a chemical substance management system that links purchase management information with a PRTR system. These efforts to understand, manage, and reduce targeted substances have enabled us to reduce emissions in fiscal 2007 by 1.4% over the previous year. We will continue promoting improved management at plants as we pursue further reductions.

*PRTR (Pollutant Release and Transfer Register) Law: Law to promote an understanding of the amount of particular chemical substances released to the environment, as well as improved management of these substances

Prevention of Air and Water Pollution, Regulatory Compliance

Isuzu regards the prevention of air and water pollution as a cornerstone of environmental conservation. Our own standards are stricter than official pollution regulations, and we apply these standards to monitor discharge and emissions constantly. Our Plant Environmental Committee is kept informed of the status of management and regulatory compliance, enabling appropriate action and administration within the framework of our environmental management system.

Preventing dioxine emissions

For safety, the Tochigi Plant has suspended incinerator operations since 2002, and waste disposal has been contracted to an outside firm. At the Fujisawa Plant, the incinerator generates 0.31 ng-TEQ/m³(*1, *2) of dioxin, well under the regulated value of 10 ng-TEQ/m³. We will continue curbing incinerator emissions through strict combustion control and reduction of waste for incineration.

*1 ng: nanogram, one billionth of a gram
*2 TEQ: Toxic Equivalents Quantity or Toxic Equivalency

Prevention of soil and groundwater contamination

Isuzu has terminated the use of three chlorinated organic solvents* that were formerly used. We have conducted independent studies on the effect of these solvents on soil and groundwater at plants and offices since 1996 to confirm that no contamination spreads outside from affected areas. We have also taken steps to detoxify affected areas, and we report the results to the government.

*Three substances: trichloroethylene, 1,1,1-trichloroethane, and dichloromethane

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