

## Environmentally Hazardous Substances in Products

Murata is actively incorporating the technologies and innovations that enable environmentally hazardous substances contained in products to be reduced or substituted.

### Adoption of Voluntary Standards Regarding the Environmentally Hazardous Substances in Products

The Murata Group led the industry by establishing a “product regulation program” intended to reduce the use of environmentally hazardous substances in all its products. Moreover, Murata has instituted its own regulations based on this program.

We have established a four-part ranking within our voluntary regulations for severely restricted substances: substances whose use is prohibited in manufacturing are ranked as “prohibited,” while those not subject to this restriction are ranked as “prohibited in products,” “reduce” or “prepare to reduce.” We are making an effort to reduce and eventually eliminate the use of these substances. Through this product regulation program, we control chemical substances as follows: substances of a particular chemical group are classified by the degree of environmental hazard they present; they are also classified by product application and according to the specific part containing the substance. The product regulation program also covers substances contained in packaging materials.

We strengthened the voluntary aspects of the product regulation program in February 2004 in order to keep up with improvements to laws and regulations governing environmentally hazardous chemical substances contained in products. As a result of the revision of our product regulation program, we now regulate a total of 34 groups of substances, having included azo compounds, polychlorinated naphthalene, and chlorinated paraffin as prohibited substances, and having added stringent content regulations for lead, polyvinyl chloride, and bromine-based flame retardants. In addition, aside from groups of

regulated substances, we are managing the content of substances that are likely to be regulated in future or that can be recycled and reused. We have taken this approach by instituting a policy for chemical substances whose content is to be determined at time of procurement.

#### The 34 Substance Groups of the Voluntary Regulation Program for Environmentally Hazardous Substances in Products

Asbestos	Lead and its compounds
Azo compounds	Nickel and its compounds
Antimony and its compounds	Halogen compounds
Ethylene glycolethers and its acetates	Arsenic and its compounds
Chlorinated paraffin	Beryllium and its compounds
Cadmium and its compounds	Benzene
Xylene	Pentachlorophenol (PCP)
Metal carbonyl	Polychlorinated terphenyls (PCTs)
Chromium and its compounds	Polychlorinated naphthalene
Cobalt and its compounds	Polyvinyl chloride (PVC) and its blends
Cyanides and Nitriles	Polychlorinated biphenyls (PCBs)
Mercury and its compounds	Formaldehyde
Selenium and its compounds	Organotin compounds
Dioxins and Dibenzofuranes	Organophosphorus compounds
Thallium and its compounds	Cobalt chloride in packaging materials
Tellurium and its compounds	Foam polystyrene for packaging materials
Toluene	Heavy metals in packaging materials (Cd, Cr <sup>6+</sup> , Hg, Pb)

### Reduction and Elimination of the Use of Environmentally Hazardous Substance in Products

We are making progress in reducing the use of environmentally hazardous substances according to the product regulation program for existing products. In addition, we have established a system that can confirm compliance with the product regulation program during the design stage of products under development. As well, we are working to provide customers with products consisting of less environmentally hazardous substances.

Specifically, we are aggressively addressing the need for this reduction and elimination by organizing a project targeting the reduction of lead, hexavalent chromium, mercury, cadmium, and specified brominated flame retardants subject to strengthened EU regulations. Below are examples of substances listed in the Murata Group product regulation program whose use has been either reduced or eliminated. We have never used mercury or polybrominated biphenyl (PBB).

#### Cadmium and Its Compounds

The volume of cadmium in use company-wide as of fiscal 2001 was 99.8% less than the 1996 level. The amount still in use is limited to applications with exceptional specifications.

We are continuing to search for substitutes for cadmium and its compounds.

#### Hexavalent Chromium

As of March 2003, five models of our products contained hexavalent chromium used as rustproofing surface treatment on screws and nuts. We are continuing to seek out materials and specifications that do not require the use of hexavalent chromium.

#### Polybrominated Diphenyl Ethers (PBDEs)

These chemicals are used as flame retardant in resins. In 1989, we led the industry by taking initial steps to reduce our use of these substances. Currently, we do not use any PBDEs.

#### Heavy Metals in Packaging Materials

In 1992, the State of New York in the U.S.A. enacted a law covering the total content of heavy metals (lead, cadmium, mercury and hexavalent chromium) in packaging materials. This approach was eventually adopted by other states in the U.S.A., as well. Murata has been complying with these individual laws. Since January 1997 all our packaging materials have incorporated materials that satisfy the regulated values, with less than 100 ppm of heavy metals in total content. This standard is now satisfied even in regions where no such law applies.