

## Addressing Environmental Preservation through Our Products

### Environmentally Hazardous Substances in Products

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

#### Adoption of voluntary standards regarding the environmentally hazardous substances in products

Since the late 1980s, Murata has been addressing this issue on a case-by-case basis by setting reduction targets for specific chemical substances. In April 1996, Murata led the industry by creating a "product regulation program" intended to reduce the use of environmentally hazardous substances in all its products. According to the product regulation program, Murata currently regulates 32 groups of substances. 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 such restriction are ranked as "voluntarily prohibited," "reduce" or "prepare to reduce." We are making an effort to reduce and eventually abolish the use of these substances. Through the product regulation program, we control chemical substances as follows: substances of a particular chemical group are classified by their degree of environmental hazard. 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.

#### The 32 substance groups of the voluntary regulation program for environmentally hazardous substances in products

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

#### Example of product regulation program

Chemical substance name/Rank	A	B	C	D
Cadmium and its compounds	Resin material	All except resin material		
Mercury and its compounds		Mercury and its compounds		
Polyvinyl chloride (PVC) and its blends		Packaging materials used for shipping products. PVC and its blends containing Cd as a stabilizer	PVC and its blends containing Pb as a stabilizer	PVC and its blends containing stabilizers other than Cd and Pb

Details of regulation by ranking

- A: Prohibited...Prohibit containing the substances
- B: Voluntarily prohibited...Prohibit containing them in principle (prohibit after a given period of time for lead)
- C: Reduce...Reduce or eliminate content by specified time limit.
- D: Prepare to reduce...Research and prepare to reduce.

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 have implemented lead reduction activities by organizing a project that targets the reduction and elimination of lead use.

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#### Reduction and abolition of the use of environmentally hazardous substances in products

Below are examples of substances listed in the Murata product regulation program whose consumption has been either reduced or eliminated.

##### 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.

##### Hexavalent Chromium

As of June 2002, eight models of our products contained hexavalent chromium used as rustproofing surface treatment on screws and nuts. By March 2003, we had reduced this to five models. We are continuing to seek substitutes for the remaining models with the goal of eliminating the use of hexavalent chromium.

##### Polybrominated biphenyl oxide (PBBO)

This substance is commonly used in resins as a flame retardant. We began reducing our consumption of PBBO in 1989, well in advance of the global trend. At present, we do not use any of this substance.

##### 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.