

Environmentally Hazardous Substances in Products

Murata is actively incorporating the technology and developments for substituting or reducing environmentally hazardous substances in products to the greatest extent possible.

Adoption of voluntary standards regarding the environmentally hazardous substances in products

In April 1996, Murata created a product regulation program for environmentally hazardous substances in products ("product regulation program"). This program is intended to reduce the use of environmentally hazardous substances in products. In February 2001, we revised the program after a consideration of changing circumstances. Currently we regulate 32 substance groups according to the product regulation program. We are limited to using only these specified substances, categorized by application, and parts containing these substances, and are applying our regulations according to four rankings: A (prohibited), B (voluntarily prohibited), C (reduce) and D (prepare to reduce).

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 ⁶⁺ , Hg, Pb)

Chemical substance name/Rank

Example of product regulation program

	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.

See page 15.

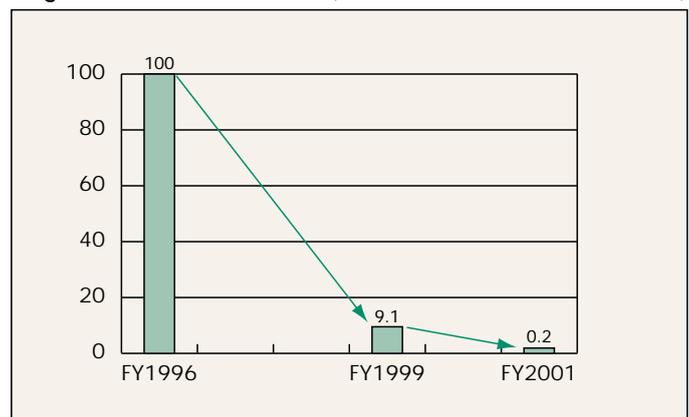
Reduction and abolition of the use of environmentally hazardous substances in products

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

Cadmium and its compounds

As of the end of fiscal 2001, consumption of cadmium had been reduced to 0.2% of the amount consumed in fiscal 1996. The amount still in use at present is limited to essential applications (special application specification). The amount consumed is a mere 28 grams per month.

Progress in Cadmium Reduction (Amount consumed in FY1996 is indexed as 100.)



Polybrominated biphenyl oxide (PBBO)

This substance is used as a flame retardant for resins. We began reducing consumption of PBBO in 1989 before adopting the product regulation program. We do not currently use this substance.

Polyvinyl chloride (PVC) packaging material

We eliminated use of this substance in September 1994. Regulations in the U.S.A. and Europe specify that the total content of heavy metals (lead, cadmium, mercury and hexavalent chromium) in packaging materials must not exceed 100 ppm. Since January 1997, all our packaging materials have used materials that satisfy this regulation, even in regions where no such law exists.