

## Management of chemicals

Along with batch managing use and discharge of chemical substances, we are working to reduce and develop alternatives to toxic chemicals.

### Environmental action targets

- We will continue to reduce use of toxic chemicals at our major production bases the world over.

#### ○ Achievements of the 2002 fiscal year

In the 2002 fiscal year we strengthened our chemical substance management system. As one example, after preparing a database, in January we began the use of MSDS (Material Safety Data Sheets) for raw materials and secondary materials. In addition to making possible the sharing of information about chemical substances throughout the company, this also promotes the reduction of the use of harmful substances.

The use and disposal of substances covered by the Pollution Release and Transfer Register Law (PRTR) are shown in the chart below. We have been promoting the use of water-based paints and switching to CFC substitutes at all of our factories, but, due to production increases and the improved accuracy of our MSDS information, our use of these substances increased compared to fiscal 2001.

The screenshot shows a software window titled 'MSDS一覧 - 商品別 - Lotus Notes'. It displays a table with columns for '商品名' (Product Name), '取引業者名' (Supplier Name), and 'PRTR法' (PRTR Law). The table lists various chemical substances such as '401', '424', '44-211', etc., along with their respective manufacturers like 'サカイ産業 株' and 'サカイ化学 株'.

#### ◆ Breakdown for substances applicable to PRTR (limited to YKK Group main domestic plants)

Unit: t (Dioxins:mg-TEQ)

No.	CAS No.	Substance	Volume handled	Air	Water	Soil	Sewerage system	Consumption	Disposal	Transport volume	Recycle volume
1	—	Water soluble compounds of heavy lead	3.5	1.4	0.0	0.0	0.0	0.4	1.6	0.0	0.1
9	103-23-1	Adipic acid bis (2-ethylhexyl)	19.8	0.0	0.0	0.0	0.0	16.7	0.0	3.1	0.0
40	100-41-4	Ethylbenzene	1.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4
43	107-21-1	Ethylene glycol	8.2	5.4	1.1	0.0	0.0	1.6	0.0	0.0	0.1
63	1330-20-7	Xylene	242.8	64.5	0.0	0.0	0.0	0.0	149.6	16.5	12.2
68	—	Chromium and trichromium compounds	2.2	0.0	0.0	0.0	0.0	1.5	0.0	0.7	0.0
100	—	Cobalt and cobalt compounds	11.2	0.0	0.6	0.0	0.0	6.2	0.0	4.3	0.1
108	—	Inorganic cyanide compounds	20.2	0.1	0.0	0.0	0.0	0.0	18.1	2.0	0.0
132	1717-00-6	1,1-Dichloro-1-fluoroethane	28.2	0.0	0.0	0.0	0.0	22.8	0.4	5.0	0.0
144	—	Dichloropenta-fluoropropane	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	75-09-2	Dichloromethane	68.5	58.9	0.0	0.0	0.0	0.0	0.0	9.6	0.0
172	68-12-2	N, N-Dimethyl Formamide	6.1	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179	—	Dioxins	—	17.5	0.0	0.0	0.0	0.0	0.0	3.8	0.0
227	108-88-3	Toluene	113.0	82.1	0.0	0.0	0.0	0.0	1.1	0.1	29.7
230	—	Lead and lead compounds	39.4	0.0	0.0	0.0	0.0	32.1	0.0	7.3	0.0
231	7440-02-0	Nickel	125.0	0.4	0.1	0.0	0.0	122.0	0.0	0.0	2.5
232	—	Nickel compounds	35.0	0.0	2.3	0.0	0.0	20.0	0.0	12.7	0.0
270	84-74-2	Di-n-butyl phthalate	5.2	0.0	0.0	0.0	0.0	5.1	0.0	0.1	0.0
272	117-81-7	Bis-2-ethylhexyl phthalate	1,031.3	0.0	0.0	0.0	0.0	981.2	0.3	10.4	39.4
304	—	Boron and boron compounds	15.2	0.0	11.1	0.0	0.0	0.0	0.1	3.9	0.1
309	9016-45-9	Poly (oxyethelene) = nonylphenol ether	4.8	0.0	3.4	0.0	0.0	0.0	1.3	0.0	0.1
311	—	Manganese and manganese compounds	28.9	0.0	0.0	0.0	0.0	26.8	0.0	0.2	1.9
2-78	101-68-8	Methylene bis (4, 1-phenylene) = Diisocyanate	313.2	0.0	0.0	0.0	0.0	117.0	0.0	196.2	0.0

\* Data is given for substances handled in volume of 1 ton or more per year.

#### ○ Continuing efforts

We are striving to improve and utilize our MSDS database to further reduce the risks caused by chemical substances.

In accordance with the PRTR Law, from March 2003 we began disclosing the amounts of chemical substances that we disposed of or transferred. The YKK Group is continuing to study and implement ways of evaluating the risks of chemical substances that we use, and provide communication about these results.

### ● Management of small quantities of PCBs

PCBs (Polychlorinated biphenyl) are chemically and temperately very stable and provide excellent electrical insulation, so they were widely used for a variety of purposes, including as transformer and condenser insulation oil, as plasticizers, and as a heat transfer medium. Recognizing that they are carcinogenic, tend to accumulate and do not break down easily, their production was stopped in Japan in 1972.

In July 2002, the Ministry of Economy, Trade and Industry and the Ministry of the Environment announced that, small amounts of PCBs have been detected coming from transformers and condensers that use PCB-free insulation oil. Currently a policy is being developed that will provide for a system to determine the cause of this mixing and how to handle its treatment.

At YKK, in order to use and maintain transformers and condensers appropriately, we began inspecting the machines that we currently have in use for the presence of small amounts of PCBs in fiscal 2002. We are also putting the sticker shown at the right on machines that are PCB free as a part of our efforts to implement more vigorous oversight.

At present we are planning the best way to dispose of pieces of

machinery in our possession that are tainted with PCBs in accordance with the Ministry of the Environment's basic plan for PCB Waste Disposal.



### Protection of the Ozone Layer

To ensure that fluorocarbons are recovered at the time of the disposal of freezers, air-conditioners, and other devices, we are conducting registration and putting stickers on registered items.

#### Environmental action targets

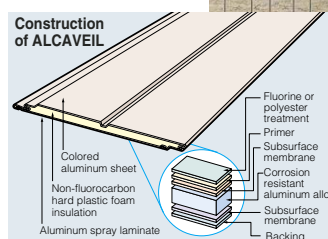
- CFC-11 for refrigeration: Use to be stopped by the end of fiscal 2003 (in the manufacturing process)
- HCFC-141b for foaming: Use to be stopped by the end of fiscal 2002 (in the manufacturing process and in products)
- HCFC-225 for washing: Use to be stopped by the end of fiscal 2010 (in the manufacturing process)

Our architectural products business contributes to the prevention of global warming by providing our customers with insulation products that improve the efficiency of interior heating and cooling. For these insulation products we had used the fluorocarbon substitute HCFC-141b for insulation foam, but we are steadily switching to the use of aqueous foam.

We sought to eliminate the use of HCFC-141b in fiscal 2002. We managed to change to aqueous foam for most products such as exterior materials and rain shutters, but some products still remain to be converted, so we were unable to meet our goal of converting all products within the fiscal year.

We will continue to promote efforts to convert the remaining products by the end of fiscal 2003.

**Exterior architectural material ALCAVEIL**  
This exterior architectural product is a composite construction of colored aluminum sheet and non-fluorocarbon hard plastic foam that has excellent insulation, soundproofing properties and a long lifespan.



Products without fluorocarbons