

# Reducing Release of Harmful Chemicals at JFE Steel

JFE Holdings				
JFE Steel	JFE Engineering	Kawasaki Microelectronics	JFE Urban Development	JFE R&D

## Control of Chemical Substances

In FY2003, which was the 3rd year of mandatory reporting under the PRTR system, the cutoff level for Class 1 designated chemical substances <sup>\*1</sup> which are subject to mandatory data collection/reporting was reduced from 5 tons to 1 ton (limit for Specific Class 1 designated chemical substances <sup>\*2</sup> remained unchanged at 0.5 tons). As a result, the number of reported substances at JFE Steel increased by 12 in comparison with FY2002, reaching 40 in FY2003.

Reported amounts of releases into the air and public waters rose approximately 200 tons from FY2002, reaching 838 tons in FY2003, due to the larger number of substances and increased crude steel production.

JFE Steel gives priority to reducing releases beginning with substances having high toxicity and large release amounts. In FY2003, releases of dioxins were reduced by approximately 3 g-TEQ from FY2002, to 12 g-TEQ, and benzene was reduced similarly by approximately 12 tons, to 57 tons.

Efforts to recycle byproducts reduced the total of releases/transfers as waste, including on-site landfill disposal and transfers outside the company, by approximately 360 tons from FY2002, to 1,055 tons.

JFE Steel will continue its voluntary efforts to reduce releases and transfers of chemical substances.

### \*1) Class 1 designated chemical substance

Substances which exist pervasively and persistently in the environment and fall under any of the following three conditions for harmfulness. To date, 354 such substances have been designated.

- (1) Substance with harmful effect on human health or the ecosystem.
- (2) Substance which itself does not have a harmful effect on human health or the ecosystem, but which undergoes chemical change after release into the environment and easily forms harmful chemical substance(s).
- (3) Substance which may destroy the ozone layer.

### \*2) Specific Class 1 designated chemical substance

Among Class 1 designated chemical substances, substances assessed as having carcinogenic effects on humans, requiring special care. To date, 12 such substances have been designated, including the dioxins, benzene, and hexavalent chromium.

### \*3) Steel business

The scope of the data totaled at the right includes East Japan Works (Chiba and Keihin), West Japan Works (Fukuyama and Kurashiki), and Chita Works, but excludes the Steel Laboratories.

Substances reported under PRTR (FY2003, JFE steel business) <sup>\*3</sup>

(Unit: tons; dioxins: g-TEQ)

No.	Substance	Releases				Transfers	
		Air	Public waters	Soil on-site	Landfill on-site	Sewerage	Off-site
1	Zinc compounds (water-soluble)	0	5.0	0	0	0	0
16	2-aminoethanol	1.6	3.2	0	0	0	1.8
25	Antimony and its compounds	0	0.05	0	0	0	0
30	Bisphenol A type epoxy resin	0	0	0	0	0	0
40	Ethylbenzene	47	0	0	0	0	0
43	Ethylene glycol	0.3	0	0	0	0	9.2
63	Xylene	453	0	0	0	0	1.4
68	Chromium and chromium (III) compounds	0	0.4	0	258	0	154
69	Chromium (VI) compounds	0	0.0005	0	0	0	0.0001
85	HCFC-22	0	0	0	0	0	1.9
100	Cobalt and its compounds	0	0	0	0	0	0
102	Vinyl acetate	0	0	0	0	0	0
108	Inorganic cyanogen compounds	0	0.1	0	0	0	0
132	HCFC-141b	64	0	0	0	0	1.4
144	HCFC-225	5.5	0	0	0	0	0
145	Methylene dichloride ; dichloromethane	18	0	0	0	0	0
177	Styrene	0.9	0	0	0	0	0
178	Selenium and its compounds	0	0.03	0	0	0	0
179	Dioxins	12	0.00001	0	0	0	0
198	Hexamethylenetetramine	0	0	0	0	0	0
200	Tetrachloroethylene	25	0	0	0	0	0
224	1,3,5-Trimethylbenzene	3.9	0	0	0	0	0
227	Toluene	65	0	0	0	0	3.5
230	Lead and its compounds	0	0	0	0	0	0.001
231	Nickel	0	0.03	0	0	0	0
232	Nickel compounds	0	1.3	0	87	0	122
253	Hydrazine	0	0	0	0	0	0
270	Di-n-butyl phthalate	0.2	0	0	0	0	0
272	Bis(2-ethylhexyl) phthalate	1.1	0	0	0	0	0
283	Hydrogen fluoride and its water-soluble salts	0	49	0	0	0	1.1
299	Benzene	57	0	0	0	0	0
304	Boron and its compounds	0	12	0	0.0002	0	0.8
307	Poly(oxyethylene) alkyl ether	0	2.0	0	0	0	0
308	Poly(oxyethylene) octylphenyl ether	0	2.8	0	0	0	0
309	Poly(oxyethylene) nonylphenyl ether	0	8.7	0	0	0	0
310	Formaldehyde	0	0	0	0	0	0
311	Manganese and its compounds	0	6.4	0	262	0	149
345	Mercaptoacetic acid	0	0	0	0	0	0
346	Molybdenum and its compounds	0	3.9	0	2.3	0	0.008
353	Tris(dimethylphenyl) phosphate	0	0	0	0	0	0
Total		743	95	0	609	0	446
		Total releases 1,447				Total transfers 446	