

ANNEX 1

Chemicals Suspected of Having Endocrine Disrupting Effects in SPEED '98

Substances	Environmental Investigation	Use	Restrictions
1. Dioxins and furans		(Unintended product)	Air Pollution Law, Waste Disposal and Public Cleaning Law, Environmental standards for air, soil and water quality, Special Countermeasures to Dioxin Law, POPs, PRTR Law Class 1
2. Polychlorinated biphenyl (PCB)		Heat medium, non-carbon paper, electrical products	Water Pollution Control Law, Environmental Quality Standards for Groundwater, Soil Pollution, and Water Pollutants, Law on the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1974, Production stopped in 1972, Marine Pollution Prevention Law, Waste Disposal and Public Cleaning Law, POPs, PRTR Law Class 1
3. Polybromobiphenyl (PBB)	-	Fire retardant	
4. Hexachlorobenzene (HCB)		Bactericide, organic synthetic raw material	Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances Class 1 1979, Unregistered in Japan, POPs
5. Pentachlorophenol (PCP)		Antiseptic, herbicide, bactericide	Lapsed in 1990, Water-pollutant Agricultural Chemicals, Poisonous and Deleterious Substances Control Law, PRTR Law Class 1
6. 2,4,5-Trichlorophenoxyacetic acid	-	Herbicide	Lapsed in 1975, Poisonous and Deleterious Substances Control Law, Food Sanitation Law
7. 2,4-Dichlorophenoxyacetic acid		Herbicide	Registered, PRTR Law Class 1
8. Amitrole		Herbicide, dispersion dye, hardener for resins	Lapsed in 1975, Food Sanitation Law, PRTR Law Class 1
9. Atrazine		Herbicide	Registered, PRTR Law Class 1
10. Alachlor		Herbicide	Registered, Marine Pollution Prevention Law, PRTR Law Class 1
11. CAT		Herbicide	Registered, Water Pollution Control Law, Environmental Quality Standards for Groundwater, Soil Pollution, and Water Pollutants, Waste Disposal and Public Cleaning Law, Waterworks Law, PRTR Law Class 1
12. Hexachlorocyclohexane, Ethyl parathion		Insecticide	Hexachlorocyclohexane lapsed and sales banned in 1971, ethyl parathion lapsed in 1972
13. NAC		Insecticide	Registered, Poisonous and Deleterious Substances Control Law, Food Sanitation Law, PRTR Law Class 1
14. Chlordane		Insecticide	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1981, lapsed in 1968, Poisonous and Deleterious Substances Control Law, POPs
15. Oxychlordane		Chlordane metabolite	
16. trans-Nonachlor		Insecticide	Nonachlor unregistered in Japan, heptachlor lapsed in 1972
17. 1,2-dibromo-3-chloropropane	-	Insecticide	Lapsed in 1980
18. DDT		Insecticide	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1981, lapsed and sales banned in 1971, Food Sanitation Law, POPs
19. DDE and DDD		Insecticide (DDT metabolite)	Unregistered in Japan
20. Kelthane (Dicofol)		Acaricide	Registered, Food Sanitation Law, PRTR Law Class 1
21. Aldrin	-	Insecticide	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1981,

			lapsed in 1975, Soil-persistent Agricultural Chemicals, Poisonous and Deleterious Substances Control Law, POPs
22. Endrin	-	Insecticide	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1981, lapsed in 1975, Crop-persistent Agricultural Chemicals, Poisonous and Deleterious Substances Control Law, Food Sanitation Law, POPs
23. Dieldrin		Insecticide	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1981, lapsed in 1975, Soil-persistent Agricultural Chemicals, Poisonous and Deleterious Substances Control Law, Food Sanitation Law, Harmful Substance Containing Household Products Control Law, POPs
24. Endosulfan (Benzoepin)		Insecticide	Registered, Poisonous and Deleterious Substances Control Law, Water-pollutant Agricultural Chemicals, PRTR Law Class 1
25. Heptachlor	-	Insecticide	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class 1 1986, lapsed in 1975, Poisonous and Deleterious Substances Control Law, , POPs
26. Heptachlor epoxide		Heptachlor metabolite	
27. Malathion		Insecticide	Registered, Food Sanitation Law, PRTR Law Class 1
28. Methomyl*1		Insecticide	Registered, Poisonous and Deleterious Substances Control Law
29. Methoxychlor	-	Insecticide	Lapsed in 1960
30. Mirex		Insecticide	Unregistered in Japan, POPs
31. Nitrofen	-	Herbicide	Lapsed in 1982
32. Toxaphene		Insecticide	Unregistered in Japan, POPs
33. Tributyltin		Antifouling paints on ships, rot prevention for fishnets	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances (TBTO: Class I, the remaining 13 substances: Class II) 1990, Harmful Substance Containing Household Products Control Law , PRTR Law Class 1
34. Triphenyltin		Antifouling paints on ships, rot prevention for fishnets	Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Class II 1990, lapsed in 1990, Harmful Substance Containing Household Products Control Law, PRTR Law Class 1
35. Trifluralin		Herbicide	Registered, PRTR Law Class 1
36. Alkyl phenol (from C5 to C9) Nonylphenol Octylphenol		Raw material for surfactants, Raw material for oil-solvent phenol resins, Raw material for surfactants	Marine Pollution Prevention Law, PRTR Law Class 1 (only nonylphenol and octylphenol)
37. Bisphenol A		Raw material for resins	Food Sanitation Law, PRTR Law Class 1
38. Di-(2-ethylhexyl)phthalate		Plasticizer for plastics	Monitored substance in water environment, PRTR Law Class 1
39. Butyl benzyl phthalate		Plasticizer for plastics	Marine Pollution Prevention Law, PRTR Law Class 1
40. Di-n-butyl phthalate		Plasticizer for plastics	Marine Pollution Prevention Law, PRTR Law Class 1
41. Dicyclohexyl phthalate		Plasticizer for plastics	
42. Diethyl phthalate		Plasticizer for plastics	Marine Pollution Prevention Law
43. Benzo(a)pyrene		(Unintended product)	
44. 2,4-dichlorophenol		Dye intermediate	Marine Pollution Prevention Law
45. Di-2-ethylhexyl adipate		Plasticizer for plastics	Marine Pollution Prevention Law , PRTR Law Class 1
46. Benzophenone		Synthetic raw materials for medical products, perfume, etc	
47. 4-Nitrotoluene		2,4-dinitrotoluene intermediate	Marine Pollution Prevention Law
48. Octachlorostyrene		(By-product of organic	

		chlorine compound)	
49. Aldicarb		Insecticide	Unregistered in Japan
50. Benomyl*2		Bactericide	Registered, PRTR Law Class 1
51. Kepone (Chlordecone)		Insecticide	Unregistered in Japan
52. Manzeb (Mancozeb) *3		Bactericide	Registered, PRTR Law Class 1
53. Maneb *3		Bactericide	Registered, PRTR Law Class 1
54. Metiram		Bactericide	Lapsed in 1975
55. Metribuzin	-	Herbicide	Registered, Food Sanitation Law
56. Cypermethrin	-	Insecticide	Registered, Poisonous and Deleterious Substances Control Law, Food Sanitation Law, PRTR Law Class 1
57. Esfenvalerate	-	Insecticide	Registered, Poisonous and Deleterious Substances Control Law
58. Fenvalerate	-	Insecticide	Registered, Poisonous and Deleterious Substances Control Law, Food Sanitation Law, PRTR Law Class 1
59. Permethrin		Insecticide	Registered, Food Sanitation Law, PRTR Law Class 1
60. Vinclozolin	-	Bactericide	Lapsed in 1998
61. Zineb *3		Bactericide	Registered, PRTR Law Class 1
62. Ziram *4		Bactericide	Registered, PRTR Law Class 1
63. Dipentyl phthalate			Not produced in Japan
64. Dihexyl phthalate			Not produced in Japan
65. Dipropyl phthalate			Not produced in Japan

* NOTE: The existence of endocrine-disrupting effects, strength and mechanisms have not been proven or clarified for these substances. These are groups of substances for which continued study and research is a priority. It is expected that the number will be reduced as study and research proceeds.

NOTES

(1) In addition to the above substances, cadmium, lead, and mercury are also suspected of having endocrine disrupting effects.

(2) In the environmental investigation column, – indicates that the substance has not been detected indicates that it has been detected, and indicates that the value measured by the Environment Agency exceeds the maximum value in the past (including 1998 survey). Substances with no mark have not been investigated.

*1: Methomyl is measured from the total of substances derived from other substances that produce methomyl as a metabolite

*2: Benomyl measures the metabolite carbendazim (MBC) (including the substances derived from other substances that produce carbendazim)

*3: These 3 substances are measured with the total amount of derivatives after making a sodium salt (may include substances derived from other substances).

*4: Ziram measures the total amount of derivatives after making a sodium salt (may include substances derived from other substances)

(3) The laws described in the restrictions column indicate that the substance is subject to restrictions under such laws.

(4) The indications of "Registered," "lapsed," "unregistered in Japan," "Soil-persistent Agricultural Chemicals," "Crop-persistent Agricultural Chemicals," "Water-pollutant Agricultural Chemicals" are based on the Agricultural Chemicals Regulation Law.

(5) POPs are persistently residual organic pollutants specified in the "World Action Plan Concerning the Protection of the

Marine Environment by Conducting Environmental Protection Activities on Land".

(6) The names of substance 11. CAT and 13. NAC have been updated to match standard usage.

(7) The priority list in the May 1998 SPEED '98 report included an item 66. Styren dimers and trimers. At the July 2000 meeting of the Exogenous Endocrine Disrupting Chemical Task Force (chair: Tsuguyoshi Suzuki) it was determined that with regard to the various chemical substances that make up styren dimers and trimers, since overall, there is no scientific basis for estimating risk at the present time, such estimation is considered unnecessary. For the group of 4 substances evaluated positively with the yeast hybrid method, it is not possible to claim definitive consistency between the results from the experiment system this time and those from other tests. For these 4 substances it is recommended that other test systems be used in the future, such as for biological activity, to further elucidate the details. Therefore this item was deleted from the list.

For item 67. n-Butylbenzene in the same priority list, at the October meeting of the same task force, it was determined that at the present time, it must be judged that an actual estimation of risk would be very difficult. It is not considered necessary to make an evaluation of the endocrine disrupting effects at this time for this particular substance from among the tens of thousands of other chemical substances. Therefore this item was deleted from the list.