



Management of Chemical Substances and Reduction of Hazardous Substances

Concept of Management of Chemical Substances and Reduction of Hazardous Substances

The Idemitsu Group, which manufactures and supplies petrochemical raw materials and products, has established the “General Principles of Quality Assurance” and strives to ensure the safety of production line workers and consumers by conducting prior risk assessments of chemical substances, reducing and eliminating hazardous substances from production processes and products, and providing information on the chemical substances its products contain. In order to minimize not only the impact on human health but also the negative impact on the ecosystem and the environment, we comply with domestic and overseas chemical substance-related regulations, which have grown ever stricter.

Initiatives for the Proper Management of Chemical Substances and Reduction of Hazardous Substances

Management of PRTR-Designated Substances

Crude oil, petroleum products and petrochemical raw materials contain benzene, toluene, xylene, normal hexane and some other highly volatile substances regulated by the PRTR Law.*1 These substances partially evaporate into the atmosphere as VOCs*2 whenever oil is transferred into or out of storage tanks, as well as when it is loaded onto tanker trucks and ships. To minimize such VOC emissions, the Idemitsu Group stores these chemicals in floating roof tanks that reduce evaporation, and carries out measures aimed at ensuring VOC recovery during transport. Chemical substances transferred to locations outside industrial complexes are disposed of in compliance with the Waste Disposal and Public Cleansing Law.

*1 PRTR: Pollutant Release and Transfer Register

*2 VOC: Volatile Organic Compounds

Controlling PCBs

In accordance with the Law concerning Special Measures for Promotion of Proper Treatment of PCB Wastes, at our refineries and complexes, we appropriately store and manage oil containing polychlorinated biphenyls (PCBs) as well as transformers and other equipment that contain these substances. Under the same law and the national Basic Plan for PCB Waste Treatment, final deadlines have been set for the completion of the treatment of all PCB waste and, accordingly, we are steadily carrying out the processing of such waste.

Managing Fluorocarbons

In accordance with the Act for Rational Use and Proper Management of Fluorocarbons, which came into effect on April 1, 2020, we have been implementing steps to prevent the leakage of fluorocarbons. We are also considering timing the replacement of large process equipment that uses HCFCs, which have strong ozone depleting effects, to coincide with periodic shutdown maintenance at our refineries and plants.

Discharge and Transfer of PRTR-Designated Substances

CAS No.	Substance name	Unit	Total/Discharged amount – Emissions to atmosphere	Total/Discharged amount – Emissions to public water bodies	Total/Discharged amount – Emissions to soil	Total/Transferred amount – Disposed amount	Total
			(standard emission intensity)	(standard emission intensity)	(standard emission intensity)	(standard emission intensity)	
0	Methanol	t	0.0	0.0	0.0	0.1	0.1
1	Water-soluble compounds of zinc	t	0.0	0.4	0.0	0.0	0.4
13	Acetonitrile	t	0.0	0.0	0.0	0.9	0.9
20	2-aminoethanol	t	0.0	0.0	0.0	45.6	45.6
33	Asbestos	t	0.0	0.0	0.0	31.7	31.7
53	Ethylbenzene	t	8.3	0.0	0.0	3.6	12.0
80	Xylene (also known as dimethyl benzene)	t	24.8	0.0	0.0	2.5	27.3
104	Chlorodifluoromethane (also known as HCFC-22)	t	0.5	0.0	0.0	0.0	0.5
186	Dichloromethane (also known as methylene chloride)	t	1.0	0.0	0.0	10.3	11.3
190	Dicyclopentadiene	t	0.3	0.0	0.0	0.0	0.3
232	N, N-dimethylformamide	t	0.0	0.0	0.0	4.5	4.5
240	Styrene	t	19.1	0.0	0.0	0.8	19.9
242	Selenium and its compounds	t	0.0	0.0	0.0	12.5	12.5
243	Dioxins	mg-TEQ	0.0	4.2	0.0	0.0	4.2
245	Thiourea	t	0.0	1.3	0.0	0.0	1.3
262	Tetrachloroethylene	t	0.0	0.0	0.0	0.8	0.8
296	1,2,4-trimethylbenzene	t	3.3	0.0	0.0	1.0	4.3
297	1,3,5-trimethylbenzene	t	0.4	0.0	0.0	0.0	0.4
300	Toluene (also known as methyl benzene)	t	103.1	0.0	0.0	22.7	125.8
302	Naphthalene	t	0.1	0.0	0.0	4.1	4.2
349	Phenol	t	0.1	0.0	0.0	2.7	2.8
389	Hexadecyltrimethylammonium chloride	t	0.0	10.8	0.0	0.0	10.8
392	N-hexane	t	187.3	0.0	0.0	7.7	195.0
400	Benzene	t	23.2	0.0	0.0	0.3	23.5
412	Manganese and its compounds	t	0.0	0.0	0.0	14.0	14.0
438	Methylnaphthalene	t	0.2	0.0	0.0	1.7	1.9
453	Molybdenum and its compounds	t	0.0	0.0	0.0	0.6	0.6

Notes:

1. Scope of calculation: Idemitsu Kosan Co., Ltd. and its consolidated subsidiaries

Chemicals are not listed if the total volume of discharge and transfer is less than 0.1 ton per year. Figures presented above may not be consistent with the totals since they are rounded off to one decimal place.