



# 環境有害物質之檢測方法

## Test Methods of Environmental Hazardous Substances

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Test Item	Equipment	Method Used
Antimony (Sb) / Antimony Compounds (銻及化合物)	ICP-AES	US EPA 3050 B
Arsenic (As) / Arsenic Compounds (砷及化合物)	ICP-AES	US EPA 3052
Beryllium (Be) / Beryllium Compounds (鈹及化合物)	ICP-AES	US EPA 3050 B
Cadmium (Cd) / Cadmium Compounds (鎘及化合物)	ICP-AES, ICP-MS,AAS	IEC62321
Cobalt (Co) / Cobalt Compounds (鈷及化合物)	ICP-AES	US EPA 3050 B
Lead (Pb) / Lead Compounds (鉛及化合物)	ICP-AES, ICP-MS,AAS	IEC62321
Manganese (Mn) /Manganese Compounds (錳及化合物)	ICP-AES	US EPA 3050 B
Mercury (Hg) / Mercury Compounds (汞及化合物)	ICP-AES, ICP-MS,AAS	IEC62321
Nickel (Ni) / Nickel Compounds (鎳及化合物)	ICP-MS	EN 1811, EPA3052, EPA3050B,
Selenium (Se) / Selenium compounds (硒及化合物)	ICP-AES	US EPA 3052
Tellurium (Te) / Tellurium compounds (銻及化合物)	ICP-AES	—
Thallium (Tl) / Thallium compounds (銻及化合物)	ICP-AES	US EPA 3050B
Alumium (Al) / Alumium compounds (鋁及化合物)	ICP-AES	US EPA 3050B
Copper (Cu) / Copper compounds (銅及化合物)	ICP-AES	US EPA 3050B
Zinc (Zn) / Zinc compounds (鋅及化合物)	ICP-AES	US EPA 3050B
Barium (Ba) / Barium compounds (鋇及化合物)	ICP-AES	US EPA 3050B
Silicon (Si) / Silicon compounds (矽及化合物)	ICP-AES	—
Chromium (Cr) / Chromium compounds (鉻及化合物)	ICP-AES	US EPA 3050B
Hexavalent-Chromium(Cr6+)Compounds (六價鉻化合物)	UV-VIS	IEC62321
Pb +Cd+Hg+Cr6+ (包裝材料)	ICP & UV	94/62/EEC, CONEG
PBB (Polybrominated biphenyls) (多溴聯苯)	GC/MS&LC/MS	IEC62321
PBDE (Polybrominated diphenylethers) (多溴聯苯醚)	GC/MS&LC/MS	IEC62321
Polychlorinated Biphenyls (PCBs) (多氯聯苯)	GC/MS/ECD	US EPA 8082
Polychlorinated naphthalene (PCNs) (多氯萘)	GC/MS/ECD	US EPA 8082
Polychlorinated Terphenyls (PCTs) (多氯三聯苯)	GC/MS/ECD	US EPA 8082
Chlorinated paraffins (CP) (氯化石蠟) (C10~C13)	GC/MS	EPA8082
Mirex (滅蟻靈) (CAS# 2385-85-5)	GC/MS	—
TBBP-A-bis (四溴雙酚-A-雙)-(2,3-二溴丙醚)	LC/MS	—
TBBPA (四溴雙酚-A)(四溴丙二酚)	GC/MS	DIN 53313
PCP (五氯酚)	GC/MS	USEPA8270D



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TeCP (四氯酚)	GC/MS	USEPA8270D
Chlorobenzenes (氯苯)	GC/MS	USEPA8270D
Methyl chloride (氯甲烷)	GC/MS/headspace	USEPA5021
Halogen Content Test ( <i>F, Cl, Br, I</i> ) (鹵素含量測試, 氟、氯、溴、碘)	IC	prEN 14582 Method B
Polychlorinated Biphenyl ethers (PCDB) (多氯聯苯醚)	GC/MS/ECD	89/677/EEC, US EPA 8082
Dioxines (戴奧辛)	GC/MS, HR	US EPA 1613
Benzene (苯)	GC/MS/headspace	EPA 5021A-2003
Toluene (甲苯)		
Xylenes (二甲苯)		
Ethyl benzene (乙苯)		
Propyl benzene (丙苯)		
Isopropyl benzene (異丙苯)		
Diethyladipate (己二酸二(2-乙基己基)酯)	GC/MS	—
Phthalates (DBP, DEHP, DNOP, DINP, DIDP, BBP) (鄰苯二甲酸酯)	GC/MS	ASTM-D3421-75
Nitrosamines (亞硝胺)	GC/MS	BS EN12868
	GC/MS	BS 7115
	GC/MS	ASTM F1313-90(99)
	GC/MS	FDA CPG 7117.11
Organophosphates (TMP, TBP, TPP) (有機磷化合物)	GC/MS	—
Epichlorohydrin (環氧氯丙烷)	GC/MS/headspace	USEPA5021
Ethylene thiourea (環亞乙基硫尿)	GC/MS/headspace	—
tri-tertiary-butylphenol	GC/MS	—
抗氧化劑 (BHT)	GC/MS	ASTM 4275-91
Chlorofluorocarbon (CFCs) (氟氯烷碳化物) Class I / Group I & III	GC/MS/headspace	3093/94/EEC USEPA 8260B
Hydrochlorofluorocarbon (HCFCs) (氟氯氫烷碳化物) Class II		
Halon (海龍) Class I / Group II		
Carbon Tetrachloride (CCl <sub>4</sub> ) (四氯化碳) Class I / Group IV		
Methyl chloroform = 1,1,1-Trichloroethane (CH <sub>3</sub> CCl <sub>3</sub> ) (1,1,1- 三氯乙烷) Class I / Group V		
Bromomethane (CH <sub>3</sub> Br) (溴代甲烷) Class I / Group VI		
Hydrobromofluorocarbon (HBFC)		



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Hydrofluorocarbon (HFC)	GC/MS/headspace	3093/94/EEC USEPA 8260B
Perfluorocarbon (PFC)		
Chlorinated hydrocarbons (CHCs) (氯碳氫化物)		
1,1,2-trichloroethane (1,1,2-三氯乙烷)	GC/MS/headspace	USEPA5021
1,2-dichloroethane (1,2-二氯乙烷)		
1,1-dichloroethane (1,1-二氯乙烷)		
1,2-dichloroethylene (1,2-二氯乙烯)		
Dichloromethane (二氯甲烷)		
Chloroform (氯仿/三氯甲烷)		
Trichloroethylene (三氯乙烯)		
Tetrachloroethylene (四氯乙烯)		
Diethylamine (二乙胺)	GC/MS	—
Dimethylamine (二甲胺)	GC/MS	—
Ethylene Glycol ethers (乙二醇乙醚)	GC/MS	—
Dienthylene glycol (DEG) (二乙二醇)	GC/MS	—
Dimethylamide acetate (DMAC) (乙酸二甲基胺脂)	GC/MS	—
Ethyl acetate (EA) (乙酸乙酯)	GC/MS	—
Ethylene glycol (EG) (乙二醇)	GC/MS	—
Methanol (甲醇)	GC/MS	—
Methyl tert-butyl ether (MTBE) (甲基丁基醚)	GC/MS	—
n-Hexane (正己烷)	GC/MS	<a href="#">EPA 5021A-2003</a>
Triethylene glycol (三乙二醇)	GC/MS	—
Phenol (酚)	GC/MS	—
2-ethoxyrthanol	GC/MS	—
2-ethoxyethyl acetate	GC/MS	—
2-methoxyethanol	GC/MS	—
2-methoxyethyl acetate	GC/MS	—
Diethylene glycol dimethyl ether	GC/MS	—
Acrylamide monomer (丙烯醯胺單體)	GC/MS	Headspace & GC/MS
Acrylonitrile monomer (丙烯晴單體)	GC/MS	Headspace & GC/MS
Ethylene oxide monomer (環氧乙烷單體)	GC/MS	Headspace & GC/MS
Phenol monomer (酚單體)	GC/MS	USEPA3540/USEPA8270D
	GC/MS/headspace	USEPA5021



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Styrene monomer (苯乙烯單體)	GC/MS	FDA 177.1640
	GC/MS	Headspace & GC/MS
Vinyl chloride monomer (氯乙烯單體)	GC/MS	ASTM D3749-93
(N,N) - dimethylacetamide (二甲基乙醯胺)	GC/MS	—
(N) - Methylacetamide (甲基乙醯胺)	GC/MS	—
(N,N) - demethylformamide (二甲基甲醯胺)	GC/MS	—
(N) - Methylformamide (甲基甲醯胺)	GC/MS	—
Formaldehyde (福馬林)(甲醛)	UV, HPLC	EN120,EN717-1 JIS A 5905,JIS A 5908
Asbestos (石綿)	FT-IR	83/478/EEC, 85/610/EEC
Specific Azo Compounds (特定偶氮化合物) (22項)	GC/MS	EN14362-1,EN14362-2 ISO TS17234
Polyvinylchloride (PVC) (聚氯乙烯)	FT-IR	FT-IR
Organo-tin compounds (有機錫化合物)	GC/FPD/MS	DIN 38407-13
Polycyclic Aromatic Hydrocarbons (多環芳香族烴)	GC/MS	USEPA8270D
Cresol (甲酚)	GC/MS	—
Polychlorinated phenols (多氯酚)	GC/MS	—
PFOS (全氟辛烷磺酸)	LC/MS	EPA 3540C
Specific Benzotriazole (特定苯並三氮唑)	HPLC	EPA 3540
HBCD (六溴環十二烷)	HPLC	EPA 3540
Br(Bromine)	IC	SE-486,EN50267
Cl(Chlorine)	IC	SE-486,EN50267
PAHs	LC/MS/MS	ZEK 01-08
Cobalt dichloride(二氯化鈷)	ICP-AES	EPA 3052
DMF (dimethyl fumarate) 富馬酸二甲酯	GC/MS	EPA3550,EPA8270D
紅磷(Red Phosphorus)、黃磷(Yellow Phosphorus)	GC-MS	EPA 3050B, 3051A, 3054
聯苯胺和聯苯胺二鹽酸鹽(Benzidine and benzidine dihydrochloride)	—	—
六氯丁二烯Hexachlorobutadiene	—	—
甲苯(Toluene)	GC-MS/ HPLC-MS	EPA 3550C-2007 EPA 8260C-2006
N-甲基吡咯烷酮N-methylpyrrolidone (NMP)	GC-MS/ HPLC-MS	EPA 3550C-2007 EPA 8260C-2006