

Guidelines/Criteria																					
	Reference: Wade MG, Parent S, Finnson KW, Foster W, Younglai E, McMahon A, Cyr DG, Hughes C. 2002a. Thyroid																				
<b><i>In vivo</i> Study Type</b> Route of Administration Species & age of animals	Thyroid investigations in male rats Oral gavage Rat, male, 56 days old																				
<b>Study Duration</b>	70 Days																				
<b>Type of Mixture</b> Binary >2 components Similar acting or dissimilar What Mode of Action was investigated?	16 environmentally relevant compounds ? Thyroid toxicity																				
<b>Parameters/End points Measured</b> Target organs/Critical effects Pharmacological changes or adverse effects	Thyroid histopathology thyroid hormones, UDGPT induction																				
<b>Individual Components</b> Characterisation of individual compounds Name, exact chemical name, CAS no.	<table><tr><td>1,2,3,4-Tetrachlorobenzene</td><td>p,p'-DDT</td><td>p-p'-DDE</td><td>Dieldrin</td><td>Cadmium chloride</td></tr><tr><td>1,2,3-Trichlorobenzene</td><td>Mirex</td><td>Methoxychlor</td><td>TCDD</td><td>Lead Chloride</td></tr><tr><td>Pentachlorobenzene</td><td>Aldrin</td><td>Hexachlorocyclohexane</td><td>Endosulfan</td><td></td></tr><tr><td>1,2,4-Trichlorobenzene</td><td>Hepatochlor</td><td>Hexachlorobenzene</td><td>PCB (as Arochlor 1254)</td><td></td></tr></table>	1,2,3,4-Tetrachlorobenzene	p,p'-DDT	p-p'-DDE	Dieldrin	Cadmium chloride	1,2,3-Trichlorobenzene	Mirex	Methoxychlor	TCDD	Lead Chloride	Pentachlorobenzene	Aldrin	Hexachlorocyclohexane	Endosulfan		1,2,4-Trichlorobenzene	Hepatochlor	Hexachlorobenzene	PCB (as Arochlor 1254)	
1,2,3,4-Tetrachlorobenzene	p,p'-DDT	p-p'-DDE	Dieldrin	Cadmium chloride																	
1,2,3-Trichlorobenzene	Mirex	Methoxychlor	TCDD	Lead Chloride																	
Pentachlorobenzene	Aldrin	Hexachlorocyclohexane	Endosulfan																		
1,2,4-Trichlorobenzene	Hepatochlor	Hexachlorobenzene	PCB (as Arochlor 1254)																		
Were dose responses established for individual components?	No, levels in mixtures based on MRL, TDI, RfD and lowest NOEL for TCDD																				
Were no effect levels established?	No as levels in mixtures based on MRLs etc.																				
Were doses below the NO(A)ELs investigated?																					
<b>Mixtures Investigated</b> Number of dose levels How does the mixture make-up compare to individual components? (e.g. low dose equivalents used?) No. of technical replicates per exposure condition ( <i>in vitro</i> ) No. of animals per dose group ( <i>in vivo</i> )	4 1x; 10x, 100x, 1000x the MRL/TDI/RfD/NOEL figures   10																				
<b>Observations/Findings</b>	Changes in thyroid histopathology (reduced colloid) recorded only at highest mixture																				
<b>Overall opinion</b> (e.g. sufficient numbers of groups investigated, group sizes adequate, observations reproducible, low dose levels used investigated)	Sufficient dose levels investigated Adequate group sizes Pharmacological changes observed at lower mixture levels than the adverse thyroid histopathology Would question the TSH data at 1x due to lack of dose response																				