

Overview of substance assessments

The table summarises the assessments made for 50 substances using the revised methodology. Lead and propylene glycol added on 18/4/16. It enables comparison between the 1980 groundwater directive and proposed new determination

Substance	CAS #	1980 GWD (List1 or List 2)	JAGDAG Methodology Determination	Based on	Comments
1,1,1-trichloroethane	71-55-6	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
1,1,2-trichloroethane	79-00-5	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
1,1-dichloroethane	75-34-3	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
1,1-dichloroethene	75-35-4	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	1,1-dichloroethene can degrade to form vinyl chloride which has been determined as Hazardous
1,2-dichloroethane	107-06-2	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
1,2-dichloroethene	540-59-0	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	1,2-dichloroethene can degrade to form vinyl chloride which has been determined as Hazardous
Acrylamide	79-06-1	Not assessed	Hazardous substance	Very Toxic (as Muta 1B and a threshold can not be determined)	Does not meet criteria for P, B and T however meets criteria for Very Toxic based on mutagenicity and the fact it has been reported it is not possible to determine a threshold for this substance
Anionic polyacrylamide	9003-05-8	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	Anionic polyacrylamide is not hazardous however may contain acrylamide as an impurity and this is Hazardous.
Anthracene	120-12-7	List I	Hazardous substance	Meets criteria for PBT	Has been identified as a PBT substance at an EU level and as a result has been identified as a Substance of Very High Concern (SVHC) under REACH
Antimony (V) and (III)	7440-36-0 1309-64-4	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	WHO have noted that Antimony (III) may show genotoxic effects in vivo and in vitro but limited details are given. This may need consideration in the future.
Arsenic (inorganic Arsenic (III) and Arsenic (V))		Not assessed	Hazardous substance	Noted to have not determinable threshold	Does not meet criteria for mutagenic however it has been noted to be genotoxic and that a threshold can not be identified for cancer. COT have proposed that exposure should be as low as reasonably practicable. As a result it meets the criterion relating to a non-threshold chemical
Benzene	71-43-2	List I	Hazardous substance	Very Toxic - Muta 1B	
Benzo(a)pyrene	50-32-8	List I	Hazardous substance	Very Toxic as Muta 1B. Also meets criteria for P, B and T and vPvB	The EU SVHC report for coal tar pitch (high temperature) included an assessment of benzo(a)pyrene and the assessment noted it met the criteria for PBT and vPvB
Benzo(b)fluoranthene	205-99-2	List I	Hazardous substance	Meets criteria for P, B and T	The EU SVHC report for coal tar pitch (high temperature) included an assessment of benzo(k)fluoranthene and the assessment noted it met the criteria for P and T but insufficient experimental data was available for B. However using the weight of evidence have noted it as meeting criteria for P, B and T in this assessment
Benzo(ghi)perylene	191-24-2	List I	Hazardous substance	Meets criteria for P, B and T and vPvB (Assumed Mutagenicity due to lack of data - would therefore also meet Very Toxic criteria)	The EU SVHC report for coal tar pitch (high temperature) included an assessment of benzo(ghi)perylene and the assessment noted it met the criteria for PBT and vPvB
Benzo(k)fluoranthene	207-08-9	List I	Hazardous substance	Meets criteria for P, B and T and also vPvB	The EU SVHC report for coal tar pitch (high temperature) included an assessment of benzo(k)fluoranthene and the assessment noted it met the criteria for PBT and vPvB
Boron (as Boron (III))		Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Cadmium (as cadmium II)		List I	Non-hazardous pollutant	Does not meet the criteria for PBT or vPvB. Is noted to be mutagenic but the WHO have noted that there is limited evidence of genotoxic effects via the oral route and it is not considered to be a no determinable threshold substance for genotoxic effects.	
Chloroalkanes (C10-13)	85535-84-8	List I	Hazardous substance	Meets criteria for PBT and vPvB	The REACH SVHC report indicates it meets the criteria for PBT and vPvB. This group of substances is still being evaluated under REACH however. SCCPs are being considered for inclusion as a POP
Chromium VI	18540-29-9	Not assessed	Hazardous substance	Very Toxic - Muta 2	UK Committee for Mutagenicity has stated that chromium (VI) is mutagenic with no determinable threshold. Based on this have noted Chromium VI is Hazardous. It is acknowledged that other studies/reports indicate may have a threshold but for the purposes of the assessment have taken the current UK position.
Cobalt (based on cobalt (II) which covers cobalt, cobalt carbonate and cobalt sulphate)		Not assessed	Hazardous substance	Very Toxic as Muta 2	
Cyanide	74-90-8	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	

DEHP	117-81-7	Not assessed	Non-hazardous pollutant		DEHP meets the criteria for T based on reproductive effects. The data for persistence indicate ready biodegradability but half lives that meet the criteria. Have noted it as not meeting criteria for persistence to be consistent with outcome of current EU assessments. In terms of bioaccumulation the BCF data for fish don't indicate it meets the criteria. It has not been designated as PBT under REACH as not considered to meet the criteria. However it is noted as a Substance of Very High Concern due to reproductive effects (Repr 1B)
Dibutyl phthalate	84-74-2	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Dichloromethane	75-09-2	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Dioxins		List I	Hazardous substance	Meets criteria for PBT and vPvB	Dioxins have been identified as a Persistent Organic Pollutant (POP)
Ethylene glycol	107-21-1	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Flufenacet	142459-58-3	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Gluteraldehyde	111-30-8	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Hexabromocyclododecane (HBCDD)	25637-99-4	Not assessed	Hazardous substance	Meets criteria for P,B and T and vPvB	HBCDD has been designated as a POP. It has been identified as PBT under REACH by the EU
Hexachlorobenzene	118-74-1	List I	Hazardous substance	Meets criteria for PBT and vPvB	Has not been formally noted as a PBT substance by the EU is already designated as a POP
Hexachlorobutadiene (HCBD)	87-68-3	List I	Hazardous substance	Meets criteria for P,B and T and vPvB. Also noted to be mutagenic with no determinable threshold and therefore meets the criteria for Very Toxic	HCBD has been designated as a POP.
Hexachlorocyclohexane	58-89-9	List I	Hazardous substance	Meets criteria for PBT	Assessment based on gamma- hexachlorocyclohexane CAS: 58-89-9 however also relevant to other isomers eg beta and alpha which are also designated as POPs. It meets the criteria for PBT but has not formally been designated a PBT by the EU Working Group as already a POP
Indeno(123cd)pyrene	193-39-5	List I	Hazardous substance	Meets criteria for P, B and T and vPvB	Limited data available for this substance and have used weight of evidence and information on other PAHs to help make the assessment.
Lead		Not assessed	Hazardous substance	WHO and EFSA have noted that there is no known level of lead exposure that is considered safe	
Mecoprop	7085-19-0	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Mercury (as Mercury II)		List I	Hazardous substance	Meets criteria for P, B and T and also Very Toxic as Muta 2	
Molybdenum (as the molybdate ion)		Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Naphthalene	91-20-3	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Nickel (as nickel II)		Not assessed	Non-hazardous pollutant		Does not meet criteria for PBT or vPvB. Is determined as Muta 2 under CLP however it is considered to have a threshold for genotoxic effects (WHO) and therefore not considered to meet the criteria for determination as Hazardous
Propylene glycol	57-55-6	Not assessed	Non-hazardous pollutant		Does not meet the criteria for P, B or T, vP or vB. Data provided did not indicate any evidence of genotoxic effects.
Pentachlorobenzene	608-93-5	List I	Hazardous substance	Meets criteria for P, B and T and vPvB	Pentachlorobenzene has been designated as a POP
PFOS	1763-23-1	Not assessed	Hazardous substance	Meets criteria for PBT	PFOS has been identified as a POP (Persistent Organic Pollutant)
Selenium	7782-49-2	Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Tetrachloroethylene	127-18-4	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	Known breakdown products following anaerobic degradation include trichloroethylene (determined as Hazardous) and vinyl chloride (determined as Hazardous).
Thallium (as Thallium (I))		Not assessed	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Tributyltin (as TBT ion)	56-35-9 36643-28-4	List I	Hazardous substance	Meets the criteria for PBT	Has been identified as a PBT substance at an EU level under REACH
Trichlorobenzenes	12002-48-1	List I	Non-hazardous pollutant	Does not meet criteria for P, B and T nor the criteria for Equivalent concern, ie vPvB or mutagenic/no determinable threshold	
Trichloroethylene	79-01-6	List I	Hazardous substance	Very Toxic as Muta 2	Available information indicates it can degrade in groundwater to form vinyl chloride (determined as Hazardous).
Vinyl chloride	75-01-4	List I	Hazardous substance	Very Toxic as 'no determinable threshold'	WHO drinking water guideline report noted that although a drinking water guideline has been proposed due to its carcinogenic effects exposure levels should be kept as low as practically possible.