

PEWS SCREEN –Name of Chemical

SUBSTANCE AND REVIEW STATUS

Chemical	CAS Number	Author/team	Status	Version:	Date:

PRIORITISATION RESULTS

Prioritisation surface water	Prioritisation ground water	Soil concern?	Biota concern?	Sediment concern?

1.0 Substance and Review Status

Chemical	CAS Number	Product or short name	Author/team	Status	Version:	Date:

2.0 Summary

2.1 Summary of Substance Use and Issues

2.2 Prioritisation Results

Prioritisation surface water	Prioritisation ground water	Flagged for soil concern?	Flagged for biota concern?	Flagged for sediment concern?

2.3 Recommendation

3.0 Detailed log

3.1 The Substance - Signal of Concern, Uses, Controls and Monitoring (PEWS Steps 1 and 2)

Signal of Concern, Uses, Controls and Monitoring			
PEWS Step	Detail	Source	Overall confidence
1a Signal of concern identified			
1b Existing consideration or control?			
2a Use in UK?			
2b Detected in UK environment?			

3.2 Hazard Designation – POPs, REACH, CLP Classifications (P, B, T, ED, SVHC and CMR) (PEWS Step 3)

Hazard Characteristic	Yes, No, or Value	Information sources or Reference	Any comment on confidence H/L
POP (Persistent Organic Pollutant) – has the substance been designated as a POP?			
Persistent (P) or very Persistent (vP) – has the substance been determined as P or vP under REACH?			
Bioaccumulative (B) or very Bioaccumulative (vB) – has the substance been determined as B or vB under REACH?			
Toxic (T) – has the substance been determined as T under REACH?			
Endocrine disruptor – has the substance been determined as an Endocrine Disruptor under REACH, Plant Protection Products Directive, Biocides Regulation?			
Substance of Very High Concern (SVHC) – has the substance been determined as an SVHC under REACH?			
Classification – has the substance got a harmonised or self-classification for the environment			
Classification CMR – has the substance got a harmonised or self-classification for Carc Cat 1A or 1B, Muta Cat 1A or 1B, Repro Cat 1A, 1B and 2, STOT RE1 or RE2. If yes = T.			

3.3 Hazard Thresholds – PNECs, EQS, Drinking Water Threshold, DNEL, DMEL, Acceptable Daily Intake (ADI), Tolerable Daily Intake (TDI)

Hazard Characteristic	Yes, No, or Value	Information sources or Reference	Any comment on confidence H/L
PNEC surface water – has a PNEC been published e.g. REACH risk assessments, biocide risk assessments, international reviews e.g. SIDS. Consider the NORMAN database for PNECs.			
PNEC soil – has a PNEC been published e.g. REACH risk assessments, biocide risk assessments, international reviews e.g. SIDS.			
PNEC secondary poisoning – has a PNEC been published e.g. REACH risk assessments, biocide risk assessments, international reviews e.g. SIDS. Consider the NORMAN database for PNECs.			
EQS – has an EQS been set for this substance under the WFD?			
Drinking water threshold - is a standard set for the substance under the Drinking Water Directive (e.g. 0.1 µg/L for all pesticides) or is a WHO drinking water threshold available?			
RAC (Regulatory Acceptable Concentration) (pesticides only) – has a RAC been derived for the substance under the Plant Protection Products Regulation?			
DNEL (Derived No Effect Level) – has a value been derived for this human health impact (general population) threshold? If so what is the value?			
DMEL (Derived Minimal Effect Level) - has a value been derived for this human health impact (general population) threshold? If so what is the value?			
Human health intake guidelines – Acceptable Daily Intake (ADI), Tolerable Daily Intake (TDI)			
Indicative drinking water threshold – derived from available data (see guidance document) (only required if no drinking water threshold is available)			

3.4 Hazard Designation from Raw Data – Persistence, Bioaccumulation, Toxicity, Bioconcentration, Log Kow, Log Koa

3.4.1 Persistence calculation is only required if substance has not already been assessed in relation to P or vP (see above). Information on degradation via both biotic (biodegradation) and abiotic (eg hydrolysis and photolysis should be considered).

Parameter	Result	Information sources or Reference	Any comment on confidence H/L
Persistence DT₅₀ Freshwater If > 40 days = P. If > 60 days = vP.			
Persistence DT₅₀ Saline If > 60 days in marine or > 40 days in estuarine = P. If > 60 days in marine or estuarine = vP.			
Persistence DT₅₀ Sediment If > 120 days in fresh and estuarine sediment or > 180 days in marine = P. If > 180 days in fresh, estuarine and marine sediment = vP.			
Persistence DT₅₀ Soil If > 120 days = P. If > 180 days = vP			
Persistence - Readily biodegradable? Only required if DT50 not available. If not readily biodegradable = potential P.			

3.4.2 Bioaccumulation potential. Only required in substance has not already been assessed in relation to B or vB (see above).

Parameter	Result	Information sources or Reference	Any comment on confidence H/L
Bioconcentration factor (BCF) aquatic species If > 2000 = B. If > 5000 = vB.	BCF = 17 so not B		
Bioconcentration factor (BCF) air breathing species.			
Log Kow. Only required if BCF not available. If > 4.5 = potential B.	Log Kow 2.53 = not B		

Parameter	Result	Information sources or Reference	Any comment on confidence H/L
Log Koa. If Log Kow > 2 and Log Koa > 5 = potential B for air breathing animals.			
Bioaccumulation Factor			

3.4.3 Toxicity. Only required if substance has not already been assessed in relation to T (see above).

Parameter	Result	Information sources or Reference	Any comment on confidence H/L
Toxicity	T for HH as Carc 1B	https://echa.europa.eu/registration-dossier/-/registered-dossier/14485/6/1	H
Environmental Toxicity Lowest NOEC (aquatic). If < 0.01 mg/L = T.	Lowest LC50, EC50 and NOEC all above 1 mg/L, so not T for env.		
Environmental Toxicity Lowest L/EC50 (aquatic). Only required if NOEC not available. If < 0.1 mg/L = potential T.			
Environmental Toxicity Lowest L/EC50 (terrestrial)			
Environmental Toxicity Lowest NOEC (terrestrial)			
Log Koc	2.15	https://echa.europa.eu/registration-dossier/-/registered-dossier/14485/5/5/2	H
Water solubility	1.1 g/L	https://echa.europa.eu/registration-dossier/-/registered-dossier/14485/4/9	H
GUS (Groundwater Ubiquity Score) GUS = log half-life (days) x [4 – log Koc]		Can't calculate as no DT50. But GUS not required as GW monitoring data available.	

4.0 Prioritisation (PEWS Step 4)

4.1 Prioritisation Results, Surface Water, Ground Water, Soil, Biota, Sediment

Prioritisation Results				
Surface Water	Ground Water	Soil	Biota	Sediment

4.4 Guidance Prioritisation Matrix - Surface Water

Insufficient Hazard or Exposure Data			Sufficient hazard and Exposure Data		
(There is no or limited exposure data or toxify data resulting in a hazard based approach with lower certainty)			(Monitoring data available – risk based approach with higher certainty)		
Higher Risk	Priority 2 (Higher risk, lower certainty)	Yes/No	Higher Risk	Priority 1 (Higher risk, higher certainty)	Yes/No
	Officially agreed ¹ PBT, vPvB, T for HH, ED, SVHC or POP that we have no monitoring data for but that we think is used in the UK OR	No		Officially agreed ¹ PBT, vPvB, T for HH, ED, SVHC or POP that is detected by monitoring in fresh or saline water OR	Yes
	Self-classification under CLP as T for HH and substance is detected by monitoring in fresh or saline water or we have no monitoring data but that we think is used in the UK OR	No		Median value of positive monitoring detections shows EQS or PNEC is exceeded in fresh or saline OR	No
	Data collated during the screen indicates the substance is potentially PBT, vPvB or T and evidence of use in the UK but no monitoring data available OR	No		Water companies have highlighted detections in drinking water to the Environment Agency OR	No
	Monitoring data shows detections in >50% of fresh or saline samples but no ecotox data to compare to OR	No		Based on data collated for the screen we consider the substance to be a potential PBT or vPvB that is detected by monitoring in fresh or saline water.	No
	The median value of positive monitoring detections shows the drinking water threshold is exceeded in freshwater OR	No			
	Maximum concentration detected exceeds the PNEC/EQS	No			
Lower Risk	Lower Certainty		Lower Risk	Higher Certainty	
	Priority 3 (Lower risk, lower certainty)	Yes/No			Yes/No
	Officially agreed ¹ PBT, vPvB, T for HH, ED, SVHC or POP that we have no monitoring data for and that we do not know if used in the UK OR	No		Officially agreed ¹ PBT, vPvB, T for HH, ED, SVHC or POP that is not detected by monitoring in fresh or saline water OR	No
	Data collated during the screen indicates the substance is potentially PBT, vPvB or T and we do not know if used in the UK but no monitoring data available OR	No		Median value of positive monitoring detections shows EQS or PNEC is not exceeded in fresh or saline water OR	No
	Monitoring data shows this substance is detected in <50% of fresh or saline samples but no ecotox data to compare to OR	No		Any substance that we have no monitoring data for but that we do not think is used in the UK OR	No
	Known use in the UK but no monitoring data available and no hazard data to compare to P, B or T criteria.	No		Any substance that is not a potential PBT, vPvB or T based on data collated for the screen.	No
	Lower Certainty			Higher Certainty	

¹ Officially agreed means any international treaty such as Stockholm Convention or any EU or UK Regulatory Assessment such as REACH, CLP etc.

4.5 Guidance Prioritisation Matrix - Ground Water

Insufficient Hazard or Exposure Data			Sufficient hazard and Exposure Data		
(There is no or limited exposure data or toxicity data resulting in a hazard based approach with lower certainty)			(Monitoring data available – risk based approach with higher certainty)		
Higher Risk	Priority 2 (Higher risk, lower certainty)	Yes/No	Higher Risk	Priority 1 (Higher risk, higher certainty)	Yes/No
	GUS score >1.4 and evidence of use in the UK but no monitoring data available OR	No		Officially agreed PBT ² , vPvB, T for HH, ED, SVHC or POP that is detected in groundwater OR	Yes
	Self-classification under CLP as T for HH and substance is detected by monitoring in fresh or saline water or we have no monitoring data but that we think is used in the UK OR	No		Median value of positive monitoring detections shows drinking water threshold or PNEC is exceeded in groundwater.	No
	Data collated as part of screen indicates substance is potentially P and T with log Kow <3 and evidence of use in the UK but no monitoring data available OR .	No			
	Monitoring data shows detections in >50% of groundwater samples but no drinking water threshold or PNEC to compare to OR	No			
	Maximum concentration detected exceeds the PNEC/EQS	No			
Lower Risk	Lower Certainty		Lower Risk	Higher Certainty	
	GUS score >1.4 and we do not know if used in the UK and no monitoring data available. OR	No		Officially agreed PBT, vPvB, T for HH, ED, SVHC or POP that is not detected in groundwater OR	No
	Data collated as part of screen indicates substance is potentially P and T with log Kow <3 and we do not know if used in the UK and no monitoring data available OR	No		Median value of positive monitoring detections shows drinking water threshold or PNEC is not exceeded in groundwater OR	No
	Monitoring data shows detections in <50% of groundwater samples but no drinking water threshold or PNEC to compare to OR	No		Any substance with GUS score <1.4 OR	No
	Known use in the UK but no monitoring data available and no hazard data to compare to P, T or log Kow criteria.	No		Any substance that is not potentially P and T with log Kow <3 based on data collated for the screen OR	No
				Any substance that we have no monitoring data for but that we do not think is used in the UK.	No
	Lower Certainty			Higher Certainty	

² Officially agreed means any international treaty such as Stockholm Convention or any EU or UK Regulatory Assessment such as REACH, CLP etc.

4.6 Guidance - Soil Assessment for further consideration

Mark as of concern if any one parameter is met.

Parameter	Yes/No
Impacts have been identified by monitoring terrestrial UK systems including birds / small mammals and the human food chain	
OR	
It has been detected in soils and/or bio solids.	
OR	
It is used in the UK and there is evidence of a pathway to land AND	
Soil P is met or P is met from data on aerobic degradation by natural microbial systems in other media AND	
B is met or log Kow >2 and log Koa >5 AND	
T is met either by consideration of the hazard classification alone and/or from additional information AND	
Log Koc >3 suggests a low mobility and a potential for accumulation in soil.	

4.7 Guidance - Biota Assessment for further consideration

Mark as of concern if any one parameter is met.

Parameter	Yes/No
It has been detected in biota	
OR	
It is used in the UK and there is evidence of a pathway to biota AND	
Bioaccumulation (B) is met or log Kow ≥3	

4.8 Guidance - Sediment Assessment

Mark as of concern if any one parameter is met.

Parameter	Yes/No
It has been detected in sediment	
OR	
It is used in the UK and there is evidence of a pathway to sediment AND	
Sediment P is met or P is met from data on aerobic degradation by natural microbial systems in other media AND	
Log Koc >3 suggests potential to adsorb to sediment.	

6.0 Monitoring Results (if Available)

Note – minimum data is surface water, ground water and drinking water, additional data is optional.

6.1 Fresh Water (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Freshwater									
Freshwater									
Freshwater									
Freshwater									

6.2 Fresh Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Freshwater									
Freshwater									
Freshwater									
Freshwater									

6.3 Ground Water (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Groundwater									
Groundwater									
Groundwater									
Groundwater									

6.4 Ground Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Groundwater									
Groundwater									
Groundwater									
Groundwater									

6.5 Drinking Water Supply – Surface Water (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Drinking Water Supply - SW									
Drinking Water Supply - SW									
Drinking Water Supply - SW									
Drinking Water Supply - SW									

6.6 Drinking Water Supply – Surface Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Drinking Water Supply - SW									
Drinking Water Supply - SW									
Drinking Water Supply - SW									
Drinking Water Supply - SW									

6.7 Drinking Water Supply – Ground Water (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Drinking Water Supply - GW									
Drinking Water Supply - GW									
Drinking Water Supply - GW									
Drinking Water Supply - GW									

6.8 Drinking Water Supply – Ground Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Drinking Water Supply - GW									
Drinking Water Supply - GW									
Drinking Water Supply - GW									
Drinking Water Supply - GW									

6.9 Drinking Water Supply – Pollution and Investigation (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Pollution and Investigation	2016								
Pollution and Investigation	2017								
Pollution and Investigation	2018								
Pollution and Investigation	2019								

6.10 Drinking Water Supply – Pollution and Investigation (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Pollution and Investigation									
Pollution and Investigation									
Pollution and Investigation									
Pollution and Investigation									

6.11 Mine Water (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Mine water									
Mine water									
Mine water									
Mine water									

6.12 Mine Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Mine water									
Mine water									
Mine water									
Mine water									

6.13 Saline Water (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Saline Water									
Saline Water									
Saline Water									
Saline Water									

6.14 Saline Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Saline Water									
Saline Water									
Saline Water									
Saline Water									

6.15 Waste Sites (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Waste Sites									
Waste Sites									
Waste Sites									
Waste Sites									

6.16 Waste Sites (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Waste Sites									
Waste Sites									
Waste Sites									
Waste Sites									

6.17 Saline Water (GCMS)

Prioritisation and Early Warning System Screen – Name of Chemical

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Saline Water									
Saline Water									
Saline Water									
Saline Water									

6.18 Saline Water (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Saline Water									
Saline Water									
Saline Water									
Saline Water									

6.19 Other (GCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Agriculture									
Sewage Discharges									

6.20 Other (LCMS)

Sample Point Type	Year	Total Analyses	Total Detections	% Detection	Min. (µg/l)	Max. (µg/l)	Mean (µg/l)	Median (µg/l)	St. Dev
Agriculture									
Sewage Discharges									