

## Portsmouth Water Screening Criteria for the Use of PE Pipes

Parameter / Test (examples of products that may contain the parameter)	PE Threshold	Detection Limit <sup>Note 5</sup>
Total VOCs e.g. Solvents, white spirits, paint remover, dry cleaning fluids & naphthalene	0.5mg/kg	<0.01 mg/kg
Total BTEX / MTBE e.g. Petroleum derivatives & anti-knocking agents	0.1 mg/kg	<0.01 mg/kg
Total SVOCs (excluding PAHs & substances marked *) e.g. Pesticides, herbicides & plasticisers	2.0 mg/kg	< 0.1 mg/kg
Total PAH (Poly Aromatic Hydrocarbons) e.g. Asphalt / tar, ash, coal, crude oils and fuel use	10.0 mg/kg	< 0.1 mg/kg
Individual PAH's e.g. Benzo(a) pyrene, anthrazine & fluoranthene.	0.5 mg/kg	< 0.1 mg/kg
Aliphatic & aromatic hydrocarbons EC5 to EC10 e.g. Petrol	2.0 mg/kg	<0.01 mg/kg
Aliphatic & aromatic hydrocarbons EC10 to EC16 e.g. Creosote, kerosene & heating oil	10.0 mg/kg	< 1.0 mg/kg
Aliphatic & aromatic hydrocarbons EC16 to EC21 e.g. Diesel & heating oil	10.0 mg/kg	< 1.0 mg/kg
Aliphatic & aromatic hydrocarbons EC22 to EC40 e.g. Lubricating oils, heavy fuel oils, waxes, asphalt & pitch	500 mg/kg	< 2.0 mg/kg
Phenols* e.g. Epoxy resins, glue, plastics, disinfectants & plastics	2.0 mg/kg	< 0.5 mg/kg
Creosols & Chlorinated phenols* e.g. dye industry, wood preservatives, disinfectants & pesticides	2.0 mg/kg	< 0.5 mg/kg
Specific suite to be tested if desk study identifies a risk of such contaminants being present. For example;		
Ethers* e.g. anesthetic	0.5mg/kg	< 0.1 mg/kg
Nitrobenzene* e.g. dyes, rubber chemicals, pesticides, explosives	0.5mg/kg	< 0.1 mg/kg
Ketones* e.g. perfumes, solvents, explosives	0.5mg/kg	< 0.1 mg/kg
Aldehydes* e.g. laquers, paint & hydraulic fluids	0.5mg/kg	< 0.1 mg/kg
Amines e.g. surfactants, biocides, laundry detergents & preservatives	0.5mg/kg	< 0.1 mg/kg

### Notes:

- The developer must provide a comprehensive desk study for the site detailing the site history (including a full sequence of historic maps), the location of any fuel or chemical storage tanks / areas, and any potentially contaminative uses. The report should include details of the initial pre-development site walkover survey identifying any areas of fly tipping, fuel / oil staining, fires sites etc.
- A site investigation report should be provided including logs and chemical analysis results. Site investigation locations must be targeted to any areas of potential contamination, and / or made ground, but also provide good site coverage of the area across which the water mains will be laid. If there is insufficient targeted investigation to be assessed the risk as to whether contamination may be present additional site investigation should be requested.
- Sampling must be representative of where the pipes will be laid including samples taken of the topsoil, made ground and down to the planned pipe depth (usually 1m).
- The laboratory analysis suite must include any contaminants identified as potentially present by the desk study. As a minimum, even on a site described as 'green field' the analysis should include banded Total Petroleum Hydrocarbons and speciated Poly Aromatic Hydrocarbons.
- Samples must be tested in an accredited laboratory (e.g. UKAS & MCERTS). The detection limit for the test must be lower than the specified PE threshold, a guide is provided in the table above.
- If the screening criteria set out in the table are exceeded, seek advice from the company Environment & Biodiversity Specialist, or the Water Quality Manager on how to proceed. For example, it may be possible to remove a small area of contamination, depending on groundwater levels and the mobility of the contaminants present.
- A watching brief should be requested on all sites. This must require Portsmouth Water to be notified if any contamination is found as the site is developed.
- If PE pipe is not approved and ductile iron is specified, refer to the UKWIR 2011 Table 1.1 for conductivity / pH restrictions.