

Evidence

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Environmental prioritisation of low production volume substances under REACH: PBT screening Project summary

The Environment Agency screened and prioritised a list of almost 8000 substances believed to be produced or imported into Europe by individual companies in the range 10 to 1000 tonnes/year [so-called 'low production volume' (LPV) substances]. The aim was to fill a gap left by ongoing efforts at the European level to identify 'substances of very high concern' under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation. The particular focus of this report is on chemicals that are potentially 'persistent, bioaccumulative and toxic' (PBT), using prioritisation principles developed by the UK Chemicals Stakeholder Forum (UKCSF). This working list will be used to help set priorities for future work by the UK Government (and elsewhere in Europe), including the UKCSF, and for industrial companies as they prepare for registration and test plan development under REACH.

Existing information sources on hazard classification and substance prioritisation (e.g. OSPAR and Canadian work) were searched to identify potential PBT substances using the REACH screening criteria. The shortlist was refined using quantitative structure-activity relationships to remove chemicals that did not appear to fit within the REACH PBT criteria. Subsequently, a restricted search was carried out for additional measured property data, which were used without further evaluation. A further data search to identify possible uses and the commercial significance of each substance (with particular reference to the UK, where possible) was performed. Based on this review, use as a fragrance, plant protection product or biocide appears most likely to lead to widespread dispersive releases. However, the properties of the individual substances have an influence on the possibility of release, and so this initial categorisation is rather crude.

As a result of these refinements, 184 candidate substances were identified for further investigation, of which 103 are high priority (because they appear to meet the PBT screening criteria and to have the potential for widespread dispersive exposures).

A further 66 are of medium priority and 15 of low priority (mainly because there appears to be no use). Of the high-priority group, 26 substances have structures or use patterns that suggest they should be looked at first, although all substances will need to be examined further at some point once REACH registration data are available. None are confirmed PBT or vPvB substances at this stage.

There is a risk that the approach adopted for this report might have missed some substances. Chemical companies may also have additional data in their possession that could lead to a change in the priority of any of the substances (whether through use pattern or properties), but no input was sought from them for this project. Since industry must compile and justify data sets under REACH, this report should be revisited after the appropriate registration deadline has passed.

Inorganic substances and complex substances for which no discrete structure can be identified were excluded from the analysis. In addition, the report does not consider other types of substance that may also be environmental priorities in the future (for example, those that cause toxicity by interfering with endocrine systems).

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