

UK Technical Advisory Group
on the Water Framework Directive

UKTAG Report on UK Environmental Standards
and Conditions under the WFD
External Stakeholder Review (2012)

Name *

Organisation *

E-mail *

Individuals *

Are you happy with your response being published on the UKTAG website?

Yes.

1. Is the report clear in explaining how we have developed the proposed environmental standards and conditions?

The report "Updated Recommendations on Environmental Standards , Draft, April 2012" is written in a clear and concise manner. However, the peer review procedure and data used are not described in detail and therefore no specific comments can be made on the arguments underlying the decision on selection of final candidate substances.

For pendimethalin, all available monitoring data showed no concern (page 26 to 32). Based on these facts and the substance properties, rather than identifying pendimethalin as a UK Specific Pollutant (SP) at this stage, it might instead be justified to increase monitoring and investigation to produce more reliable data 'to improve confidence in the ranking' (3rd bullet on page 13). Identification of pendimethalin as a UK SP without further investigation does not seem justified scientifically, nor from the viewpoint of cost-effectiveness (starting nationwide monitoring programs without any indication or evidence that pendimethalin endangers the goals of the WFD).

2. The report defines the environmental standards and conditions required for the Water Framework Directive. The purpose of the stakeholder review is to seek views on how the environmental standards have been developed by the UK. With this in mind, do you think that the approach we have taken, as identified in the report and supporting technical documents:

a) Identifies the environmental standards and conditions required to achieve the environmental objectives of the Water Framework Directive

e.g. Good Ecological Status? (recognising that the standards under other EC Directives will also apply.)

Proposed EQS for Water Framework Directive Annex VIII substances: Pendimethalin (for consultation, May 2012)

General comments

Guidance: PNECs were obtained using the methodology described in the Technical Guidance Document (TGD) issued by the European Chemicals Bureau (ECB) on risk assessment of chemical substances (ECB 2003). It was added that the cited guidance uses the same principles as the EQS-TGD (2011). However, even if the principles are the same there are differences in details. Please use the EQS-TGD (2011) for the derivation of the PNECs relevant for Water Framework Directive Annex VIII substances.

Formulation data: Data on the formulation were used to compare the toxicity of the active ingredient itself and of a formulation. Since persistence of the formulants in the aquatic environment is not expected an assessment of formulation toxicity is not required under the WFD. Consequently, the comparison of toxicity data from the active ingredient and the formulation should be deleted.

Specific comments

Item	Page number	Section	Comment
1	8	2.6.1 Table 2.7	Please delete the paragraph and the table about the formulation toxicity of pendimethalin. These data are not relevant for the derivation of EQS values.
2	23	3.1.1 PNEC freshwater AA	The AA-EQS was derived based on the lowest available NOEC divided by an AF of 10. For pendimethalin higher tier data (e.g. mesocosm studies) are available. The findings from higher tier studies support the results of the laboratory single species tests indicating that algal species are the most sensitive group of organisms and should be taken into account for the assessment. In a former EQS derivation for UK Ayscough et al. (1997) used 2 as the AF. Taking the available data from higher tier studies into account the following is proposed: $PNEC_{\text{freshwater_lt}} = 3.0 \mu\text{g l}^{-1}/\text{AF (2)} = 1.5 \mu\text{g l}^{-1}$ pendimethalin

3	23	3.1.1 PNEC freshwater MAC	Based on higher tier data and in agreement with Ayscough et al. (1997) it is considered that no additional assessment factor is necessary. The following is proposed: $PNEC_{\text{freshwater_st}} = 5.8 \mu\text{g l}^{-1}/AF (1) = 5.8 \mu\text{g l}^{-1}$ pendimethalin
4	23+24	3.1.2 PNECs for saltwater	'Proposals for a salt water standard are not made where the use of a substance is likely to result only in discharges to freshwater, and the impact disappears before rivers reach the sea. This is the case, for example, for many agricultural pesticides.' (Updated Recommendations on Environmental Standards, Draft, April 2012). As pendimethalin has been shown to partition rapidly to sediments it is unlikely that marine environments would be exposed. Please delete section 3.1.2
5	27+28	3.5.2 PNECs for secondary poisoning of predators	For pendimethalin the most relevant chronic study is the multigeneration study with rats (Irvine 1990, cited in the ESR review, May 1998) because it covers all stages of the entire life cycle. The dietary administration of the test substance would reflect the natural route of exposure to residues, and the endpoints of the study would reflect the most sensitive part of the life cycle observed over two successive generations. In this study the NOAEL is 30 mg a.s./kg b.w./d. This concentration corresponds to 500 mg a.s./kg diet. The concentration in the diet of the test is the basis for the quality standards in biota. Thus, the NOEC of 500 mg a.s./kg should be used in the calculations. According to the EQS-TGD (2011) the relevant AF applied to chronic studies is 30. The following is proposed: $PNEC_{\text{secpois.biota}} = NOEC_{\text{food}} (500 \text{ mg kg}^{-1}) / AF 30 = 16.6 \text{ mg kg}^{-1} \text{ prey}$
6	28	3.5.2 BCF used for secondary poisoning	We note a BCF of 5100 has been used as 'there is a possibility that pendimethalin could be released on a more continuous basis'. In a mesocosm study mimicking realistic outdoor conditions pendimethalin showed no potential for biomagnification (EU review report, 2003). Due to the high Ko/c value the substance dissipates very fast from the water column, becomes bound to the sediment and is less biologically available. Continuous exposure is therefore very unlikely, as also reflected in the monitoring data. Therefore, the BCF of the mesocosm study (BCF = 1000)

			<p>should be used. Please change the PNEC to:</p> <p>$PNEC_{\text{secpois.water}} = 16.6 \text{ mg kg}^{-1} \text{ prey} / \text{BCF (1000)} = 16.6 \text{ } \mu\text{g pendimethalin l}^{-1}$</p> <p>Please delete the text “This concentration is lower than the proposed long-term PNEC for the protection of freshwater and saltwater organisms (i.e. $0.27 \text{ } \mu\text{g l}^{-1}$). Therefore, if quality standards are set on the basis of the proposed long-term water column it is probable that predators would not be protected from secondary poisoning.”</p>
7	32	5.2.6 Summary of proposed PNECs (Table 5.1)	<p>Please adjust the PNECs as proposed above i.e.:</p> <p>$PNEC_{\text{freshwater_lt}} = 1.5 \text{ } \mu\text{g pendimethalin l}^{-1}$</p> <p>$PNEC_{\text{freshwater_st}} = 5.8 \text{ } \mu\text{g pendimethalin l}^{-1}$</p> <p>$PNEC_{\text{secpois.biota}} = 16.6 \text{ } \mu\text{g pendimethalin l}^{-1}$</p>

b) Uses the best information currently available?

If not, please tell us about any information or scientific methods that could improve the approach.

Please see our comments under 2(a) that include proposals for use of different endpoints and assessment factors.

3. Are there any other issues in relation to UKTAG's approach to developing UK environmental standards and conditions that you wish to comment on?

We suggest stakeholders should also be consulted during the initial ranking procedure for selection of new candidate substances to allow consideration of industry expert knowledge before derivation of proposed EQSs.