



EUROPEAN COMMISSION
DIRECTORATE-GENERAL HEALTH AND CONSUMER PROTECTION
Directorate C - Scientific Opinions
Unit C2 - Management of Scientific Committees; scientific co-operation and networks

Scientific Committee on Toxicity, Ecotoxicity and the Environment

Brussels,
C2/JCD/csteeop/Creosote**30102001/D(01)**

**SCIENTIFIC COMMITTEE ON TOXICITY, ECOTOXICITY AND
THE ENVIRONMENT (CSTEE)**

Opinion on:

**Justification of the Dutch request for derogation under article 95(5) of
the EC Treaty - provisions of the Directive 94/60/EC concerning Creosote**

Opinion expressed at the 27th CSTEE plenary meeting

Brussels, 30 October 2001

Background

The Dutch Board for the Authorisation of Pesticides (CTP) decided in 1996 that there are unacceptable environmental effects caused by the use of coal tar (including creosote and carbolineum) wood preservatives in hydraulic engineering (*i.e.* in direct contact with surface water) and in wood in direct contact with groundwater (CTB, 1995; 1996a+b). Based on these results the decision was made to ban the use of coal tar biocides in these applications.

By a letter of 23 January 2001 the Netherlands notified a request under Art. 95 (5) of the EC Treaty seeking the Commission's approval on draft national legislation on the use of creosote being more restrictive than the provisions of the relevant Community legislation (Directive 76/769/EEC, as amended by Directive 94/60/EC).

Considering that the justification of the Dutch notification appeared *prima facie* to be a complex matter and not involve a danger to human health, by note of 31 March 2001 the Commission consulted the CSTEE seeking confirmation of its conclusion on these points.

In its opinion of June 12, 2001, the CSTEE confirmed that the justification of the Dutch request is a complex issue and does not directly involve a danger to human health.

The Commission subsequently adopted a decision to extend the period within which a decision must be adopted for a period of six months in order to be able to proceed to a thorough evaluation of all evidence submitted.

Now that the English translation of all submitted documentation is available the Commission consulted the CSTEE to provide an opinion on the following questions:

- 1. Is the CSTEE of the opinion that the environmental quality standards for surface water, groundwater, sediments and soil referred to in the request from the Netherlands as the basis for the environmental risk assessment are justified?***

2. *Is the CSTEE of the opinion that the methodology followed and the assumptions made by the Netherlands in the context of their environmental risk assessment are consistent and adequate?*

3. *In the Netherlands, measures are already in place aiming at an enhanced protection of water from pollution caused by the leaching of creosote from treated wood compounds into the aquatic environment: prohibition of use creosote with B[a]P content ≥ 50 ppm for the impregnation of wood, requirement of specific preservation technique and a far-reaching authorisation system covering the use of creosote-treated wood in contact with surface water)³. In the light of this and the CSTEE conclusions on point 1 and 2, is the CSTEE of the opinion that the Netherlands have provided sufficient evidence to show that the use of creosoted wood in contact with surface water or groundwater presents environmental risks? If so, is it possible to quantify these risks?*

4. *In the light of the CSTEE conclusions on points 1, 2 and 3, is the CSTEE of the opinion that the Netherlands have demonstrated that the potential environmental risks are specific to the Netherlands?*

CSTEE's answers to these questions:

Question 1:

By environmental quality standards the CSTEE presumes is meant the PNECs used in the risk assessment. For PAH exudates to surface water and sediment the Dutch authorities in fact use L(E)C₅₀s. However these have been converted to appropriate PNECs by a Dutch advisory group using NOECs in certain instances in the case of PAHs. The use of the value of 0.1 µg/l as a groundwater environmental standard is not supported by the CSTEE. This value was initially derived from the analytical detection limit and has been demonstrated in some cases not to be sufficiently protective for aquatic ecosystems. Therefore the CSTEE recommend that where possible PNECs should be used for aquatic risk assessments. For all compartments therefore the methodology follows standard procedures as specified in the

TGD and the CSTEE believe that these provide a satisfactory basis for environmental risk assessment.

Question 2:

The Dutch methodology differs from the standard methodology used under *e.g.* the ESR; *i.e.* they use PEC/ L(E)C₅₀ rather than PEC/PNEC. However, these have been translated into the standard approach and the risk quotients that have been calculated are consistent with standard EU methodology. There are several other features to take into account. The PECs are derived from standard models that are adequate and are based upon both newly treated wood and old wood values. The latter are fluxes from wood that has been impregnated and used in waterway works 45 years before the leaching experiment was done. The PEC for old wood was calculated for a 118 days period and is therefore illustrative of long term exposure. The effect concentrations are calculated for 11 PAHs and there is an attempt to derive an overall effect from these by summing risk quotients (RQs). However CSTEE would counsel caution in doing this since additivity may not be appropriate. As it turns out RQs for specific PAHs within the mixture are substantially above 1 and therefore the summed response need not be taken into account. The CSTEE is therefore of the opinion that the methodology followed and the assumptions made in the environmental risk assessment are adequate and are consistent with the standard approach for existing substances.

Question 3:

The risk assessment for standard creosote gives RQs for specific PAHs substantially above 1 for surface water and sediments on the basis of the old wood exposure scenario. There is likely to be interaction between PAHs, but this has not been considered (see Question 2) so that the risks estimated could be even greater than indicated. In particular, for the water column anthracene, fluoroanthene, fluorene and pyrene each have RQs greater than 1 and for sediment this applies to fluoroanthene only. Similarly, the concentrations in groundwater are above the PNECS for most of the PAHs, using both new wood and old wood scenarios and also higher than the PNECs available for key PAHs. Hence for standard creosote there are grounds for concern with regard to environmental effects. As is usual with RQ analyses it is not possible to precisely quantify ecological effects further than this.

Turning to modified creosote in which B[a]P is reduced to less than 50 ppm the CSTEE notes that the levels of anthracene and fluoroanthene are not substantially reduced with respect to untreated creosote [Table 1 of CSTEE/2001/26 – Add 13 - “Foundation of the appeal against the EC-directive on creosote” - Report from the Ministry of Housing, Spatial Planning and Environment (Directorate for Chemicals and Risk Management) (NL) – 11 July 1995]. Since the RQs for these two PAHs in untreated creosote are well above 1 the CSTEE does not believe that controls based on B[a]P limit alone will be adequate.

Question 4:

CSTEE considers that on the basis of the conclusions on 1, 2 and 3, the Netherlands have demonstrated a substantial cause for concern with regard to environmental impacts to aquatic, sediment and groundwater compartments. Whether this concern is specific to the Netherlands will depend upon the extent to which exposure scenarios in the Netherlands differ from those in other Member States. The CSTEE recognises that the use of creosote treated wood in contact with waterways is deployed very extensively in the Netherlands as bank protection. However, the CSTEE has no information on the extent to which this is deployed in other Member States. In any case the CSTEE believes that there are bound to be local circumstances throughout the EU where larger amounts of creosoted wood will be in contact with water and therefore likely to present risks to the local aquatic environment. Hence the CSTEE is of the opinion that there are risks for the aquatic environment within the Netherlands, that these risks are likely to be extensive within this Member State, but the CSTEE does not have sufficient information to give advice on how specific they are to the NL within the EU.

The CSTEE is further of the opinion that risk management of creosote as a wood treatment substance in contact with water, must consider the risks associated with the possible substitutes.

In addition, the PNEC values should be refined using higher tier data, including the simultaneous exposure to several PAHs.