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Evaluation of Medicines for Human Use

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**COMMITTEE ON HERBAL MEDICINAL PRODUCTS
(HMPC)**

REFLECTION PAPER ON THE USE OF FUMIGANTS

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BACKGROUND

The quality of herbal medicinal products¹ is determined by the quality of the starting plant material, in-process controls, GMP controls, process validation and by specifications applied to them throughout development and manufacture.

Consistent quality of products of herbal origin can only be assured if the starting plant material is defined in a rigorous and detailed manner, particularly the specific botanical identification of the plant material used. It is also important to know the geographical source and the conditions under which the herbal substance is obtained in order to ensure that the material is of consistent quality. The 'Guideline on Good Agricultural and Collection Practice for starting materials of herbal origin' provides recommendations for an appropriate quality assurance system on the cultivation and harvesting of plant materials.

In addition, in accordance with European medicines legislation, the quality dossier should address potential contamination by microorganisms, products of microorganisms, pesticides, toxic metals, radioactive contamination, fumigants, etc. Thus, the potential for residues of fumigation agents should be fully considered.

PROBLEM STATEMENT

The use of ethylene oxide for the decontamination of herbal substances is prohibited in Europe² since 31 December 1989³.

In addition, manufacturers and applicants need to be aware that the use of methyl bromide, one of the most widely used fumigants, is currently being phased out worldwide in accordance with the Montreal Protocol 1992 because it is an ozone depleting substance.

As such manufacturers and applicants will need to consider alternative strategies for pest control of herbal substances used in herbal medicinal products.

CONCLUSION AND RECOMMENDATION

The effectiveness of fumigation can only be achieved and maintained through a correct management of plant materials, warehouses and manufacturing premises. The strategy should be based on a risk assessment specifically related to the plant material to be protected, which will lead to appropriate methods of prevention, monitoring and pest control.

In considering alternative strategies, the following issues should be taken into account:

1. Effectiveness of the overall strategy including the need for fumigation.

¹ Throughout the guideline and unless otherwise specified, the term "herbal medicinal product" includes "traditional herbal medicinal product"

² European Pharmacopoeia monograph on herbal drugs (1433)

³ Directive 86/355/EEC

2. Choice of fumigant and time of application.
3. Risk assessment in terms of physical-chemical, toxicological and eco-environmental characteristics in relation to the uses and the method of application.
4. Minimising risks to workers, consumers, environment and the herbal substances themselves.
5. Appropriate tests, limits and analytical methods for fumigant residues.

Overall, it is recommended that the use of fumigant products is limited as far as possible. Fumigants should only be used when a real need is identified and in such cases; treatment should be carried out at the earliest possible stage and exclusively by adequately trained and qualified personnel, according to the specific recommendations for use.