

## **Track B reviews of Dicofol, Endosulfan, HBCDD, PCP and Trifluralin**

The Task Force had arranged for a team of reviewers to examine track B aspects of the five dossiers and their addenda. Reviewers worked and reported independently and agreed a summary report based on the individual reviews.

The information in the dossiers provided a starting point for gathering information necessary to determine possible risk management actions that could be taken. Supplementary information will be needed to conduct a complete socio-economic evaluation of various risk management actions. Many of the reviewers not only indicated gaps in knowledge and pointed towards (new) information not taken up in the dossiers but actually produced these data and their references. The Task Force thanks the reviewers for this, recognizing that this was beyond the task of the reviewers, and will use this information, when the Executive Body decides the substances are a POP under the Protocol, to the further exploration of a management strategy for the substances.

When potential control measures are explored, special attention should be given to the chemical identity of dicofol, endosulfan and HBCDD for these substances have different isomers. Also, impurities contained in dicofol, HBCDD and PCP should be considered when developing a strategy for regulation.

### **1. Dicofol**

The dossier is considered accurate and provides a basis for a risk management strategy for dicofol.

Dicofol is used on a number of crops in Asia, Europe, and North America e.g. beans, grapes, citrus, cucurbits, tomatoes, apple, cotton, and ornamentals.

The dossier gives information on the production, use and emissions in the UN ECE region over the period until 2008. Quantified data are presented. The information is sufficient to provide an overview of the situation of production, use and emissions in the UN ECE region. Also some global information is presented. The dossier also gives information on the contamination with DDT (possibly 10 to 34%) of the dicofol that is still in use worldwide. In the UNECE region dicofol is usually refined. This greatly reduces the DDT contamination level. Also, due to the ban and restrictions in some countries the trend toward the usage of dicofol is downward. A follow-up questionnaire to UNECE member States and China could help create a better picture of current status.

In the EU no authorizations to use dicofol are given out anymore. In Canada a phase out is decided. Very little information on alternatives for dicofol or techniques to reduce emissions is provided in the dossier. Existing information suggests that alternate and efficacious pest control chemistries are available that may limit negative impacts and that costs are low. The cost of various pesticides is only one feature of production costs, and an increased expenditure on a pesticide may not by itself represent a significant increase in production costs, as application rates, number of applications, crop value, etc. will vary. The evaluation of alternatives must also take into account the issue of pest

resistance, as the resistance of mites targeted by both dicofol and several prospective replacements has been demonstrated in some venues.

## 2. Endosulfan

The information in the dossier seemed accurate, though supplementary information is needed for many aspects of a socio-economic evaluation of various risk management actions.

Endosulfan is an insecticide that may be used on a wide variety on food and non-food crops.

The dossier contains information on the production, use, and emissions of endosulfan and on levels of endosulfan in selected environments. Quantified data are presented but cover only the period until the year 2000. The lack of data about use in the EU can be explained as use has declined and was foreseen to end by 2007. Recent data about remaining use in North America and Eastern Europe are lacking. The design of a risk mitigation strategy would benefit from more details about the particular uses of endosulfan.

The dossier provides information about the regulatory status of endosulfan internationally and in the U.S. and Canada. Endosulfan is banned in several countries, which suggests that alternatives are available and effective. The dossier gives very limited information about cost-benefits of endosulfan and alternatives. The magnitude of the benefits and the costs of any risk management strategy will likely vary across crops and regions depending on insect pest populations and the availability of adequate insect control methods. The dossier raises two important points for future consideration: (1) alternatives to endosulfan may pose risks of their own and (2) there may be longer-term costs of reducing or eliminating the use of endosulfan, particularly in managing insecticide resistance.

## 3. HBCDD

The information provided in the dossier is accurate and begins to point towards possible risk management actions that could be taken. The alternatives and control measures need to be more fully developed with regard to costs, technical feasibility, and potential for risk reduction.

HBCDD is a brominated flame retardant most commonly used in polystyrene foam in construction materials. The main uses of HBCDD include insulation, electrical and electronic parts (circuit boards and computer housings). It is also used as a textile-coating agent.

The dossier gives information on EU production volumes and global consumption and use of HBCDD. Quantified data are mainly based on estimates. The data on production and use cover the period until 2007. Data on more recent levels of consumption and production would be needed for, since the phasing-out of other flame retardants since 2001, the HBCDD consumption and production levels may have changed. Information on emissions of HBCDD is provided. Several sources of emissions are quantified, based on

measurements and estimates. Probably the most important source of emissions is the release of HBCDD from products after service life. The dossier does not provide data on these emissions. The most important of these sources are probably disposal of demolition waste and use of sewage sludge.

HBCDD is not yet highly regulated. Countries and international institutions are seeking more information on risks and management options. More detail is needed in order to assess the socio-economic impacts of any proposed restrictions. The substitutes and alternative products are not evaluated with regard to possible environmental disadvantages. The dossier does not elaborate on the types of restrictions being proposed. Detail should be added to describe the types of management options that are under consideration (e.g. a full ban in production and/or consumption of the chemical in the EU or restrictions in production or consumption only on those applications where there is a viable alternative). The most important source of emissions of HBCDD is probably the disposal of construction waste and of sewage sludge. No measures for controlling or destroying HBCDD emissions from these waste streams are given, although for sludge the possibility of incineration of sludge is mentioned. The dossier gives very limited information about cost-benefits of HBCDD and limited information on alternatives.

#### 4. PCP

The dossier is comprehensive, seems accurate and is a good starting point for possible risk management actions that could be taken.

PCP is a biocide and the main use of PCP and its derivatives is as a wood preservative. Also, textiles can be impregnated with PCP.

The dossier gives information on global production and use with a special focus on the USA. Quantified data are presented for the USA, and the EU. Also some global data on production are given. Most information concerns the period until 2000. For the EU also information about the period until 2008 is given. The information on emissions to the environment is mainly based on estimates. Quantified information on emissions to the environment from the prevailing use of PCP in the USA and Canada (utility poles) is lacking. This emission consists of emissions during service life (estimated to be 2% yearly) and emissions after service life (secondary use of poles or waste disposal). PCP is a major source (precursor) of dioxins and furans and hexachlorobenzene.

Regulations to limit or even ban some uses of PCP have been established in at least 26 countries around the world. The dossier contains much information on alternatives for the prevailing use of PCPs as a wood preservative in utility poles. The possible alternatives (substitutes for wooden poles or alternative wood preservatives) are elaborated in detail. Information on costs and benefits of alternatives versus the use of PCPs is provided. The benefits of a ban on PCP will probably outweigh the costs, especially if occupational health is also taken into account. One reviewer did not agree to the conclusions in this paragraph and states: "Although many chemical and non-chemical alternatives exist for wood treated with pentachlorophenol, many are not truly interchangeable due to safety, environmental, efficacy, and/or economic considerations". In their comments to the

dossier USWAG mentions their waste management plan stating that out-of-use wood impregnated with PCP should not be burnt in stoves.

#### 5. Trifluralin

The dossier gives limited information on production, use and emissions and negligible information on the socio-economic effects.

Trifluralin is used worldwide on a number of crops including soybeans, oilseed rape, sunflower, cotton and cereals.

The dossier gives information on global production and use and more specific data on production and use in North America and the EU. Quantified data are presented but much data seem to be estimates, and cover only the period until the year 2005 although use data are generally older. Based on trends in usage in the USA and the banning of trifluralin in Norway, Sweden and Denmark, global production has most likely fallen considerably in the last 10-15 years. It is likely that a large volume of trifluralin continues to be used worldwide.

Based on the fact that the use of trifluralin has been banned it can be concluded that alternatives for the use of trifluralin are available for many crops. This ban exists for a longer period in 5 member states of the EU. The dossier is unclear about the ban in the whole EU region that was announced in 2007. The countries that have banned trifluralin tend to be in cooler climates. It is possible that there may not be direct alternatives in warmer climates. No information is provided in the dossier about alternatives and the cost-benefits of alternatives for trifluralin.