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## **MEDITERRANEAN ACTION PLAN MED POL**

Consultation Meeting to review legally binding programmes  
and action plans as part of the implementation of Art. 15 of the LBS Protocol

Kalamata (Greece), 1 June 2009

### **DRAFT**

## **Regional Plan on the Phasing Out of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex and Toxaphene in the framework of the implementation of Article 15 of the LBS Protocol**



**The Contracting Parties to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities**

1. Recalling Article 8 of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean as amended in Barcelona 1995, hereinafter referred to as the Barcelona Convention,
2. Recalling Annex 1.C of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities,
3. Recalling further the decision 17/8 of the 15<sup>th</sup> meeting of the contracting parties entitled "Implementation of NAPs and the preparation of legally binding measures and timetables required by Art.15 of the LBS Protocol", highlighting the need to continue the implementation of NAPs endorsed in 2005 to the greatest possible extent and the development of a differentiation mechanism based on Emissions Limit Values (ELVs),
4. Taking into account the pertinent provisions of the relevant international environmental conventions, especially the Stockholm Convention on organic pollutants, and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade,
5. Taking full account of the National Implementation Plans in course of development or already developed by the Parties under the Stockholm Convention,
6. Noting the different capabilities of the Parties to undertake measures, as well as their common but differentiated responsibilities,
7. Noting also that the present use of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, Toxaphene by the Parties is mostly limited,
8. Considering that in spite of the actions already taken at regional and national level, these substances may still enter the marine environment by an insufficient management of stockpiles and wastes, although, in decreasing amounts,
9. Recognizing that Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, Toxaphene are persistent organic pollutants that possess toxic properties, resist degradation, bioaccumulate and are transported widely,
10. Fully aware of the health concerns resulting from local exposure to persistent organic pollutants,
11. Recognizing the special hydrographical and ecological characteristics of the Mediterranean Sea Area,
12. Affirming that precaution underlies the concerns of all the Parties of the Mediterranean Action Plan,
13. Conscious of the need of developing regional regulatory measures for hazardous pesticides in close cooperation with other international conventions,

Have agreed on the following:

## ARTICLE I

### Definitions of Terms

14. "Persistent Organic Pollutants (POPs)" are organic compounds from natural or anthropogenic origin that possess toxic properties, resist physical, chemical and biological degradation, bioaccumulate in high concentrations through the food web and are transported through air, water and migratory species, reaching regions where they have never been produced or used; their high persistence pose a risk of causing adverse effects to the environment and human health.
15. "Wastes" means substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law.
16. "Environmental Sound Management" of pesticides wastes means taking all practical steps to ensure that wastes are collected, transported, and disposed of (including after-care of disposal sites) in a manner which will protect human health and the environment against the adverse effects which may result from such wastes.

## ARTICLE II

17. The Parties shall prohibit and/or take legal and administrative measures necessary to eliminate:
- i. the production and use of the chemicals listed in Annex A, subject to the provisions of that Annex; and
  - ii. the import and export of the chemicals listed in Annex A, in accordance with the provisions of Art. 2.
18. The Parties shall ensure that a chemical as active substance and or as a waste listed in Annex A is imported or exported only:
- i. for the purpose of environmental sound disposal according to the provisions of the protocol on the Prevention of Pollution of the Mediterranean sea by Transboundary Movements of Hazardous Wastes and their Disposal, or
  - ii. for a use or purpose which is permitted for a Party under Annex A.
19. The Parties shall ensure that the management and destruction of these chemicals, stockpiles and waste containing such chemicals, will be carried out with appropriate equipment, precautions to avoid accidents and spillage and by specialized personnel in an environmentally sound manner, making use of BAT and BEPs as listed in Annex B. The list is not exhaustive.
20. The Parties shall provide technical assistance to those Parties with limited capacity to implement their obligations; in particular, regarding safe and efficient use of pesticides and pest control practices in agriculture, as well as environmental sound disposal of stockpiles and waste containing chemicals listed in Annex A.
21. The Parties shall promote alternative chemicals used to substitute chemicals listed in Annex A do not exhibit the characteristics of persistent organic pollutants. In this sense, Parties shall exchange information on appropriate alternatives to persistent

organic pesticides, suitable for the Mediterranean conditions. Possible alternatives are listed in Annex C.1, although the list is not exhaustive and should not be interpreted as a list of recommended alternatives. Developing management strategies and good practices are also detailed in Annex C.2.

### ARTICLE III

#### Monitoring and Reporting

22. For the purpose of monitoring the implementation of this measure the Parties shall make use of the MAP biannual reporting system for the implementation of the Protocol for the protection of the Mediterranean Sea Against Pollution from Land Based Sources and activities of 1996 to report on all measures taken in accordance with this Action Plan, as well as their consideration by the National Implementation Plans (NIPs) developed or being developed under the Stockholm Convention.

### ARTICLE IV

#### Temporal implementation

23. Each Party shall implement the measures to eliminate the chemicals listed in Annex A as soon as possible. Parties shall decide the deadline for prohibition taking into account its national circumstances and respective capacity to implement the required measures. Such deadlines could be 31 December 2012 or 31 December 2015 at the latest. The adopted deadlines shall be communicated and justified to the Secretariat one year after the adoption of this Action Plan.

### ARTICLE V

#### Entry into Force

24. The regional plan shall enter into force and become binding on the 180<sup>th</sup> day following the day of notification by the Secretariat in accordance with the provisions of paragraphs 3 and 4 of Article 15 of the Protocol.

### References

- Abildgaard A, 2000. Alternatives to Persistent Organic Pollutants. Final Report. COWI. Nordic Chemical Group.
- Mörner J., Bos R. and Fredrix M. (2002) Reducing and Eliminating the use of Persistent Organic Pesticides: Guidance on alternative strategies for sustainable pest and vector management. Inter-Organization Programme for the sound management of Chemicals (IOMC)
- Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.
- Ritter L, Solomon KR, Forget J, 1995. Persistent Organic Pollutants. An Assessment Report on: DDT Aldrin Dieldrin Endrin Chlordane Heptachlor Hexachlorobenzene Mirex Toxaphene Polychlorinated Biphenyls Dioxins and Furans. Canadian Network of Toxicology Centres and Deloitte and Touche Consulting Group. The International Programme on Chemical Safety (IPCS) within the framework of the Inter Organization Programme for the Sound Management of Chemicals (IOMC). (<http://www.pops.int/documents/background/>)
- UNEP/POPs Database on Alternatives, (<http://dbserver.irptc.unep.ch/irptc/owa/ini.init>).
- UNEP/MAP (2004) Plan for the management of PCBs waste and nine pesticides for the Mediterranean Region. MAP Technical Reports Series n°155, Athens, 2004.

**ANNEX A**

Part I – List of chemicals subject to elimination, and specific exemptions.

<b>CHEMICAL</b>	<b>ACTIVITY</b>	<b>SPECIFIC EXEMPTIONS<sup>a, b</sup></b>
Aldrin CAS No: 309-00-2	Production	None
	Use	Local ectoparasiticide Insecticide
Chlordane CAS No: 57-74-9	Production	As allowed for the Parties listed in the Register
	Use	Local ectoparasiticide Insecticide Termiticide Termiticide in buildings and dams Termiticide in roads Additive in plywood adhesives
Dieldrin CAS No: 60-57-1	Production	None
	Use	In agricultural operations
Endrin CAS No: 72-20-8	Production	None
	Use	None
Heptachlor CAS No: 76-44-8	Production	None
	Use	Termiticide Termiticide in structures of houses Termiticide (subterranean) Wood treatment In use in underground cable boxes
Mirex CAS No: 2385-85-5	Production	As allowed for the Parties listed in the Register
	Use	Termiticide
Toxaphene CAS No: 8001-35-2	Production	None
	Use	None

<sup>a</sup> As considered in the Stockholm Convention.

<sup>b</sup> Exemptions can also be granted for quantities of a chemical to be used for laboratory-scale research or as a reference standard.

## ANNEX B

### BAT and BEP for environmental sound management of POP pesticides

Several BAT and BEP for the phasing out of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex, Toxaphene are hereby described:

1. Develop appropriate strategies to identify:
  - a) Stockpiles consisting of or containing chemicals listed in Annex A;
  - b) Products and articles in use and wastes consisting of or containing chemicals listed in Annex A;
2. Minimize cross-contamination which may affect the choice of available destruction options. Managers of collection points and consolidation stores shall ensure segregation of pesticides waste by trained personnel on the basis of:
  - a) label information where pesticides waste is in its original container with a definitive label;
  - b) or indicative analytical tests, where label information is not available.
3. Take appropriate measures so that such wastes, including products and articles upon becoming wastes, are:
  - a) Handled, collected, transported and stored in an environmentally sound manner,
  - b) Disposed in such in a way that the POP content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of POPs or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic pollutant is low, taking into account international rules, standards, and guidelines, and relevant global and regional regimes governing the management of hazardous wastes,
  - c) Not permitted to be subjected to disposal operations that may lead to recovery, recycling, reclamation, direct reuse or alternative uses of persistent organic pollutants,
  - d) Not transported across international boundaries without taking into account relevant international rules, standards and guidelines.
4. Waste pesticide holders, including farmers and householders, shall be responsible for the sound management of that waste which is in their possession;
5. Persistent organic pesticide waste must be segregated from other categories of waste that may be collected in any collection program;
6. Mixing or bulking of pesticides waste shall not occur unless the waste has been positively identified by individual or composite sampling and analysis techniques;
7. Managers of collection points and consolidation stores shall adopt and employ emergency containment and clean-up procedures for the accidental release of pesticides waste into the environment, as approved by the national authority;



8. Endeavor to develop appropriate strategies to identify sites contaminated by chemicals listed in Annex A. Remediation should be undertaken in an environmentally sound manner.

9. Pesticides waste in consolidation stores shall be consigned, within one year of the starting date, for destruction by a licensed destruction facility, unless the national authority determines that viable destruction facilities are not available in the country;

The BAT and BEP list above mentioned is not exhaustive; more extensive information is described in the UNEP/MAP Technical Report n° 155 Plan for the management of PCB waste and nine pesticides for the Mediterranean Region.

Parties shall add and exchange information concerning other strategies and/or practices helpful to the phase out of the pesticides concerned.

## ANNEX C

### C.1. List of alternative chemicals

Some possible chemical alternatives to POP pesticides have already been proposed (Table 1) by several sources such as the UNEP database on alternatives (UNEP/POPs, 2004), the assessment report of the Canadian Network of Toxicology Centres for the IPCS (Ritter *et al.*, 1995), and the report of the Nordic Chemical Group (Abildgaard, 2000).

Table 1 Summary of potential chemical substitutes of POP pesticides

Persistent Organic Pollutant	Chemical substitute
Aldrin	acephate, carbaryl, carbofuran, carbosulfan, chlorpyrifos, cypermethrin, diazinon, endosulfan, isofenphos, malathion, methomyl, permethrin, phorate, pirimiphos-methyl, pyrethrum, resmethrin
Chlordane	acephate, alphamethrin, bendiocarb, carbaryl, carbofuran, carbosulfan, chlorpyrifos, creosote, cyfluthrin, cyromazine, endosulfan, deltamethrin, diazinon, dichlorvos, fenithion, fenitrothion, fonofos, isazophos, malathion, permethrin, propoxur, phorate, pyrethrin, phoxim, trichlorphon
Dieldrin	acephate, ethyl-azinphos, bendiocarb, bromophos, carbaryl, carbofuran, chlorpyrifos, cyfluthrin, deltamethrin, diazinon, dichlorvos, endosulfan, ethyl-pirimphos, fenitrothion, fenthion, isazofos, malathion, methomyl, monocrotophos, permethrin, propoxur, prothiophos, pyrethrin, sulprophos
Endrin	carbaryl, chlorpyrifos, endosulfan
Heptachlor	acephate, bendiocarb, carbaryl, carbofuran, carbosulfan, chlorpyrifos, cyfluthrin, diazinon, dichlorvos, ethyl-azinphos, ethyl-pirimphos, etoprophos, terbufos
Mirex	carbaryl, deltamethrin, diazinon, diflubenzuron, sulfuramid
Toxaphene	alachlor, chlorpyrifos, demethoate, trifluralyn, metribuzin

Although all the above chemicals are feasible substitutes to POP pesticides listed in Annex A, **this list should not be used nor interpreted as a list of recommended alternatives**, as many of these chemical alternatives are believed to be also toxic and may entire risks for human health and environment.

The following general criteria should be taken into account to identify alternatives to POP pesticides:

1. As far as possible, to apply those alternatives not implying the use of chemical substances, such as biological pest management and other techniques used in ecological agriculture (see section C.2 below).
2. Chemical substitutes must be authorized in the regional or national legislation.
3. Chemical substitutes should not present, or at least should contribute to decrease the following characteristics: carcinogenicity, mutagenicity, toxicity for reproduction, endocrine disruptors, neurotoxicity, toxic, persistent and bioaccumulative (TPB).

#### C.2. Management and safe use of pesticides – Best practices

Alternative products to POP pesticide are available, and information concerning their appropriate use should thus be provided. Good strategies and practices should be developed so as to ensure the best management of pesticide products and mitigate their risk to the environment.

In this respect, the Agenda 21 (UN, 1992) states that Integrated Pest Management (IPM) should be the guiding principle for pest control. Adopting the IPM approach means furthermore assuming the priority reliance on environmental management and non-chemical control methods.

Several IPM good practices and strategies are detailed hereby:

- Reduction of pesticide use;
- Limitation of the treated area to the most urgent foci and leaving refugia untreated to conserve susceptible individuals in pest populations;
- Use pesticides with low persistence, especially in agriculture;
- Selected pesticides must be approved for intended use;
- Very toxic legal pesticides should only be used in emergencies by trained applicators.
- Not only chemical substitutes should be covered but also biological, environmental and other alternative approaches, as well as experiences in using these.
- Replacement of certain pesticides with other pesticides without understanding the basic ecology will result in the continuation of current problems faced by pest and disease vector management.
- Within the context of IPM/IVM, installing a programme of pesticide rotation.

- A number of information products are developed in collaboration with other organizations with specialization in certain fields, like WHO and FAO, or based on their work.
- Production levels in agro-ecosystems can be maintained and improved using less pesticides when the ecology of the systems is understood;