



## Stockholm Convention on Persistent Organic Pollutants

Original: English

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**Conference of the Parties of the Stockholm  
Convention on Persistent Organic Pollutants  
Fourth meeting**

Geneva, 4–8 May 2009

Item 5 (a) (ii) of the provisional agenda\*

**Matters for consideration or action by the Conference of the Parties:  
measures to reduce or eliminate releases from intentional production  
and use: exemptions**

### **Requests for extension of specific exemptions based on entries in the Register of Specific Exemptions\*\***

#### **Note by the Secretariat**

1. Article 4 of the Stockholm Convention establishes a register for the purpose of identifying the Parties that have specific exemptions listed in Annex A or Annex B of the Convention.
2. Paragraph 3 of Article 4 states that any State upon becoming a Party may, by means of notification in writing to the Secretariat, register for one or more types of specific exemption listed in Annex A or Annex B of the Convention. As indicated in paragraph 1 of Article 4, the Register of Specific Exemptions is to be maintained by the Secretariat and made available to the public. The Register is publicly available on the official Convention website ([www.pops.int](http://www.pops.int)).
3. Paragraph 4 of Article 4 states that unless an earlier date is indicated by a Party or an extension is granted pursuant to paragraph 7 of the Article all registrations for specific exemptions will expire five years after entry into force of the Convention with respect to a particular chemical. For all chemicals currently listed in Annex A and Annex B the five-year period ends on 17 May 2009.
4. Paragraph 7 of Article 4 states that the Conference of the Parties may upon request of a Party extend the expiry date of a specific exemption for a period of up to five years. In doing so it is to take into account the special circumstances of developing country Parties and Parties with economies in transition.
5. Paragraph 5 of Article 4 required the Conference of the Parties to decide upon its review process for the entries in the Register at its first meeting. At its first meeting, the Conference accordingly adopted decision SC-1/24 (with the exception of paragraphs 4 and 5, which it agreed to take up again at

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\* UNEP/POPS/COP.4/1.

\*\* Stockholm Convention, Article 4, paragraph 5; reports of the Conference of the Parties on the work of its first meeting (UNEP/POPS/COP.1/31), annex I, decision SC-1/24, on the work of its second meeting (UNEP/POPS/COP.2/30), annex I, decision SC-2/3 and on the work of its third meeting (UNEP/POPS/COP.3/30), annex I, decision SC-3/3.

a subsequent meeting), by which it established the review process for entries in the Register. At its third meeting the Conference of the Parties adopted decision SC-3/3, by which it revised the review process. The process in its current form is set out in the annex to that decision.

6. To request the extension of a specific exemption a Party must, in accordance with paragraph 6 of Article 4, submit a report to the Secretariat justifying its continuing need for registration of the exemption. According to paragraph 1 of the revised process for the review of entries in the register of specific exemptions, such reports must be submitted at least 12 months before the last meeting of the Conference of the Parties preceding the expiry date of the exemption. The Conference of the Parties' fourth meeting will be its last before the expiry date for the specific exemptions currently listed in Annex A and Annex B. As the meeting will commence on 4 May 2009, the deadline for submitting requests for extension of those exemptions was 4 May 2008.

7. At the third meeting of the Conference of the Parties the representative of Australia announced that his country intended formally to withdraw its specific exemption for the use of mirex (Report of the Conference of the Parties on the work of its third meeting, UNEP/POPS/COP.3/30, paragraph 34).

8. On 6 February 2008, the Secretariat communicated to all Parties having specific exemptions in the Register reminding them of their obligation to submit reports if they wished to request the extension of their exemptions.

9. China informed the Secretariat that it had decided not to request extensions of its specific exemptions for chlordane, for DDT as an intermediate in the production of dicofol and for mirex. The submission by China relating to its decision is contained in document UNEP/POPS/COP.4/INF/4.

10. India submitted to the Secretariat a report, dated 2 May 2008, requesting extension of its specific exemption for the production and use of DDT as an intermediate in the production of dicofol. The report is set out in the annex to the present note.

11. The only other Party that has a specific exemption registered is Botswana, whose exemption is for the use of chlordane. As of 31 November 2008 Botswana had not submitted a report requesting the extension of that exemption.

12. In paragraph 2 of the revised review process for entries in the Register of Specific Exemptions, the Secretariat is requested to circulate extension request reports to all Parties and observers. The Secretariat accordingly circulated the request for extension report submitted by India to all Parties and observers, asking that they submit any information relevant to the report by 30 January 2009. Document UNEP/POPS/COP.4/INF/5 sets out the information received by the Secretariat in response to its request.

13. Paragraph 6 of the review process for entries in the Register, as revised, indicates that the process will expire at the end of the fourth meeting of the Conference of the Parties unless it is reviewed and extended by the Conference of the Parties by the end of that meeting.

### **Possible action by the Conference of the Parties**

14. The Conference of the Parties may wish:

- (a) To take note of the information contained in the present note;
- (b) To consider the request by India for an extension of the exemption for the production and use of DDT as an intermediate in the production of dicofol and make a decision on granting this extension.
- (c) To review and consider extending the expiration date in paragraph 6 of the review process for entries in the Register of Specific Exemptions.

## Annex

## Report by India requesting extension of its specific exemption for the production and use of DDT as an intermediate in the production of dicofol



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The Permanent Mission of India to the United Nations Offices and other International Organisations in Geneva presents its compliments to the Secretariat of the Stockholm Convention of the United Nations Environment Programme (UNEP) and has the honour to enclose Government of India's request for Extension of Specific Exemption for use of DDT (as intermediate) for Dicofol Production.

2 The Permanent Mission of India to the United Nations Offices and other International Organisations in Geneva avails itself of this opportunity to renew to the Stockholm Convention of the United Nations Environment Programme the assurances of its highest consideration.

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## USAGE OF DICOFOL FOR MANAGEMENT OF PHYTOPHAGOUS MITES IN INDIAN AGRICULTURE.

### INTRODUCTION

Mites are closely related to insects, but belongs to a different class of arthropods, the Arachnida. Mites are small, soft skinned organisms with a chitinous skeleton. Mites are characterized mostly oval or flat shaped body, absence of wings & antennae. The adults generally possess four pairs of legs. They are approximately 0.5 mm in size. Phytophagous mites are important pests of Agricultural crops. Mites often spin extensive cobwebs under the leaves or make galls on shoots & leaves in which they feed and live. Mites feed by sucking plant sap causing discoloration and wilting of leaves, early fall of leaves and fruits, causes injury to buds, flowers, fruits, twigs and leaves and eventually yield loss or crop failure.

### TYPES OF PHYTOPHAGOUS MITES

There are mainly five types of mites, namely

1. **Red Spider Mite** - They can be recognized by their oval shaped red color body and spin cobweb under the leaves and feeding causes speckle formation on leaves.
2. **Scarlet Mite**- Scarlet red colored flat body, very similar to Red spider mite but they cannot spin web.
3. **Purple Mite**- Spindle shaped purple colour and five longitudinal white waxy ridges on the dorsal side of the body.
4. **Pink Mite**- Orange colored and carrot shaped body, possess only two pairs of legs. Feeding induces gall formation on shoots, fruits and leaves in plants.
5. **Yellow Mite**- Yellow colored, flat body, minute size.

Mostly dry and warm weather favour the development of mite populations. In hot regions mites reproduce throughout the year. Pink mites prefer warm and humid climate. As a whole mite infestations are abundant in tropical climatic condition.

### MITE INFESTATION SCENARIO IN INDIAN AGRICULTURE

In India major group of crops like fruits, vegetables, chili, cotton, tea, coffee and ornamental plants are severely infested every year by various types of mites. Total acreages of these crops in India is to the tune of 12 million hectare. Approximate estimated annual loss of yield in India due to mite infestation is to the tune of 18-20%

## CHEMICAL CONTROL OF PHYTOPHAGOUS MITES IN INDIAN AGRICULTURE

In India Dicofol is a registered miticide for mite control in field crops. Dicofol is a non persistent, non-systemic organochlorine miticide with strong ovicidal action. It interfere the transmission of nerve impulse and disrupt nervous system of mite pests.

Dicofol is usually synthesized from technical DDT. Dicofol technical is a red brown or amber viscous liquid. In India through modern process, Dicofol Technical grade is produced which contain less than 0.1% DDT. Dicofol is classified by the WHO as class III, having acute oral LD50(Rat)>500 mg/kg bw. Dicofol is less toxic to warm blooded animals.

Dicofol is slightly toxic to birds and non-toxic to honey bees and other pollinators and does not cause harm to other beneficial insect predators. Dicofol is non-persistent in the environment and does not possess any POP characters.

Currently Dicofol Technical producing countries are USA (Rohm & Haas), India (Hindustan Insecticides Limited), Spain (Lanico) and Israel (Makhteshim-Agan).

## ROLE OF DICOFOL IN MITE MANAGEMENT IN INDIAN AGRICULTURE.

In India Dicofol is considered as most important and major tool for protection of agricultural field crops from mite infestation. Dicofol is a broad spectrum miticide. Dicofol is highly effective in controlling all types of mites like red spider mites, scarlet mites, pink mites or gall mites, purple mites and yellow mites which causes severe economic damages to the valued crops in India.

In India Dicofol is used in wide range of crops like Tea, Citrus, Litchi, Mango, Arecanut, Coconut, Apple, Pear, Figs, Cherries, Plums, Peaches, Apricot, Cotton, Sugarcane, Jute, Brinjal, Potato, Tomato, Chillies, Cucurbits, Beans, Okra, Ornamental plants, etc.

Dicofol gives high kill against most species of agricultural mites. Virtually Dicofol effects on all the developmental stages of mites and it has strong ovicidal action too. Dicofol demonstrates better mite control activities at warmer, hot and humid tropical climate. Dicofol as miticide offers proven, economical control on mites on various crops like tea and coffee, fruits and vegetables, chili, cotton, etc. without harm to beneficial insect predators.

In India Dicofol is used as foliar spray in the formulation of 18.5% emulsifiable concentrates (EC) Dicofol 18.5 EC is applied @ 1.25 Lt./hectare per spray. In India approximate annual consumption of Dicofol Technical is to the tune of 200-250MT.

## **SPECIAL ADVNTAGES OF DICOFOL USE IN MITES OF AGRICUCLURAL CROPS.**

1. Dicofol control all types of mites & their eggs. It kills mites by strong contact action. It is broad spectrum in nature.
2. Dicofol controls different stages of mites & thus checks population build up to economic injury level.
3. Dicofol also controls mites resistant to OP group of miticides.
4. Dicofol controls newly hatched nymphs up to a considerable time.
5. Dicofol is safe to men, animal & to the environment.
6. Dicofol is lethal to mite pests but harmless to natural enemies of mites, pollinating insects including honey bees.
7. Dicofol does not cause any phytotoxic effect on crops.
8. Dicofol is compatible with other pesticides.
9. Dicofol application is recommended for wide range of field crops.
10. Dicofol is the most cost effective miticide in India.

## **ALTERNATIVES OF DICOFOL AS SPECIFIC MITICIDE.**

**Propergite** – A non systemic miticide with contact action. Control phytophagous mites on variety of crops. Highly toxic to fish, slightly toxic to honeybees. In India Propergite is used as foliar spray in the formulation of 57 % emulsifiable concentrates (EC). Propergite 57 EC is applied @ 1.00 Lt./hectare per spray. In India approximate annual consumption of Propergite technical is to the tune of 85 MT.

**Fenazaquin** – A non systemic miticide with contact action & good knockdown effect & ovicidal action. Control phytophagous mites on variety of crops. High mammalian toxicity (Acute Oral LD50-134 mg/Kg bw) Highly toxic to fish, slightly toxic to honeybees. In India Fenazaquin is used as foliar spray in the formulation of 10% emulsifiable concentrates (EC) Fenazaquin EC is applied @ 1.00 Lt./hectare per spray. In India approximate annual consumption of Fenazaquin technical is to the tune of 5 MT.

### AFFORDABILITY OF DICOFOL AND ITS ALTERNATIVES

The following data, obtained from averaging the cost of Dicofol & its alternatives marketed in India, reveal that compared to the cost of per hectare per spray application of Dicofol, the other alternative cost are more than quadruple.

Miticides in India	Cost per hectare per spray
<b>DICOFOL –18.5 EC</b>	<b>US \$ - 5.9</b>
<b>PROPERGITE – 57 EC</b>	<b>US \$ - 20</b>
<b>FENAZAQUIN – 10 EC</b>	<b>US \$ - 35</b>

### CONCLUSION

Looking at the aforementioned data, the place of Dicofol as miticide in India is of great significance and importance because of its effectiveness & affordability. Annual consumption of Dicofol technical is to the tune of 200-250 MT as compared to the alternatives (all 2 put together ) which comes to around 90 MT & also much cheaper than its alternatives. **Hence, Dicofol as miticide is essential for the mite pest management in India Agriculture.**