

Secretariat of the Stockholm Convention  
For the attention of: POPs Review Committee  
Ms. Fatoumata Keita Ouane  
United Nations Environment Programme  
11-13 chemin des Arémons  
CH-1219, Chatelaine  
Geneva  
Switzerland

8 January 2009  
L/BGJ/In/2009-1

Dear Madam/Sir,

**Concerning: Endosulfan – UNEP-POP Annex E Response**

CropLife International has the pleasure to submit on behalf of Makteshim-Agan Industries (MAI) the requested Annex E response for endosulfan. The response consists of Annex E submission form, a summary of the submission of information specified in Annex E and a CD with scientific data/information in support of the MAI Annex E response that were not considered during the Annex D discussion.

The enclosed and cited documents provide robust evidence that adverse human health and/or environmental effects resulting from potential long-range environmental transport are unlikely to occur.

The information furnished here demonstrates that endosulfan does not meet the POP criteria and provides sufficient contrary evidence and data to the hazard and alleged human and environmental concerns cited in the POPRC proposal POPRC.4/14. In particular:

- The weight-of-the-evidence indicates in detail that endosulfan does not pose neurotoxic risk to human health, and is not an endocrine-disrupting compound at environmentally relevant levels of exposure.
- It is not persistent in air - the atmospheric half-life of endosulfan is shorter than two days.
- Its persistence in water and soil/sediment requires closer examination of the available evidence as indicated in this submission.
- With respect to bioconcentration/bioaccumulation the measured BCF values are far below the POP trigger of 5,000 (1,000 to 3,000 in fish compared to 600 or less in invertebrates). In addition, the BCF predictions from bioaccumulation modelling with aquatic organisms range from 1,000 (mean prediction) to 2,400 (90<sup>th</sup> percentile).
- Available studies and reviews suggest that it is not possible to conclude with any certainty whether there is a significant relationship between measured concentrations and trophic levels for endosulfan.

- Based on the very low exposure levels in food, water and the environment, no potential concern regarding adverse effects to human health and the environment exists.
- Concerning Long Range Transport, analytical uncertainties and quality assurance issues need to be taken into account when assessing the relevant data available. It should also be noted that there is a high degree of uncertainty concerning the interpretation and significance of the monitoring data available. In fact, many of the published data are of poor analytical quality. It is very uncertain that long-range transport of endosulfan occurs at relevant levels and to a significant extent.
- Concerning ecotoxicological risks, endosulfan concentrations in arctic terrestrial wildlife, fish and seabirds are below effect threshold levels.
- Concerning human dietary risk with respect to indigenous peoples in the Arctic, even considering very conservative assumptions, e.g. all *traditional food* eaten is contaminated with the highest concentration of endosulfan detected; the calculated potential dietary risks are negligible.

Please, ensure that this Annex E response is brought to the attention of the endosulfan Annex E Working Group and the POPs Review Committee. MAI are offering their full cooperation during the evaluation process.


Please, contact the following person for further information, clarification and discussion:

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Thank you very much in advance for your assistance in this matter.

Best regards.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'B. Johnen', written in a cursive style.

Dr. Bernhard Johnen  
Director, International Regulatory Policy