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Item 10 of the provisional agenda*

Consideration of a newly proposed chemical, endosulfan, for inclusion in Annexes A, B or C of the Convention

Verification of whether a new proposal for Endosulfan contains the information specified in Annex D of the Convention

Note by the Secretariat

1. Regarding a proposal to list a new chemical in Annexes A, B or C of the Stockholm Convention, paragraph 2 of Article 8 of the Convention reads as follows:

> "The Secretariat shall verify whether the proposal contains the information specified in Annex D. If the Secretariat is satisfied that the proposal contains the information so specified it shall forward the proposal to the Persistent Organic Pollutants Review Committee."

2. The process by which the Secretariat verifies whether a proposal contains the information specified in Annex D of the Convention is described in document UNEP/POPS/POPRC.1/INF/4. It is important to keep in mind that the verification process is not an evaluation of the rigour or strength of the scientific information provided.

3. Pursuant to paragraph 2 of Article 8, the Secretariat has examined a new proposal which pertains to Endosulfan. The proposal was submitted by the European Community and its member States that are Party to the Convention and is contained in document UNEP/POPS/POPRC.3/5. Background information for the proposal is provided in document UNEP/POPS/POPRC.3/INF/9.

4. In accordance with the requirements specified in paragraph 2 of Article 8 of the Convention, the Secretariat has prepared a verification dossier setting out its conclusions as to whether the proposal as submitted provides the information specified in Annex D. The dossier is set out in the annex to the present note. It is presented without formal editing.

* UNEP/POPS/POPRC.3/1/Rev.1.

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Annex

Secretariat verification of specified data for Endosulfan (European Union)

1. Information related to criteria

1(a). Chemical Identity	(i) Names, CAS number, etc…	The IUPAC chemical name and the Chemical Abstracts naming are provided together with the CAS Registry Numbers for are provided for the alpha- and beta-endosulfan, technical endosulfan and endosulfan sulfate. Trade names are provided for technical endosulfan.
	(ii) Structure, isomers, etc…	The molecular mass and molecular formula are provided. Structural formulae are provided for alpha- and beta-endosulfan.
1(b). Persistence	(i) Evidence of half-life greater than… **or**	Persistence is reported for several soil types as between 9 months and 6 years (total endosulfan + endosulfan sulfate). Some data for hydrolytic degradation are provided
	(ii) Evidence it is otherwise sufficiently persistent…	The proposal indicates that endosulfan …'is oxidized in plants and soils to form primarily endosulfan sulfate and endosulfan-diol' through microbial action and hydrolysis respectively.
1(c). Bioaccumulation	(i) Evidence of BCF/BAF greater than… **or**	The BCF for endosulfan are reported to range from <100 in bivalves and from 2,400 to 11,000 in whole fish. No BAFs or log K_{OW} values are provided.
	(ii) Evidence of other reasons for concern… **or**	None provided.
	(iii) Monitoring data indicating bio-accumulation potential…	None provided.
1(d). Potential for Long-range Environmental Transport	(i) Measured levels of concern in distant locations… **or**	Monitoring data are provided for endosulfan concentrations in Arctic air and ocean water and in arctic marine mammals and a sea bird. No statement is made linking these levels to an effect levels.
	(ii) Monitoring data showing transfer may have occurred… **or**	Evidence of endosulfan in arctic air indicates its capacity to move long distances to a receiving environment.
	(iii) Environmental fate properties/models demonstrating the potential for transport….	The atmospheric half-life for endosulfan is reported to be greater than 2 days using predictive methods. An EMEP model indicates that endosulfan released in Europe will spread over the North Atlantic to Greenland.
1(e). Adverse Effects	(i) Evidence of adverse effects… **or**	Excessive and improper usage of endosulfan have lead to illness and death in farm workers and villagers in some developing countries. No exposure estimates are provided. Effects associated with endocrine disruption are mentioned for a fish, birds and mammals exposed to endosulfan.
	(ii) Toxicity or ecotoxicity data that indicate potential for damage…	In laboratory animal studies, endosulfan is reported to be neurotoxic, nephrotixic and harmful to blood related tissues. The alpha isomer was more toxic than the beta isomer. In some tests the metabolite endosulfan sulfate was as toxic as the parent compound.

2. Statement of Concern

Statement of the reasons for concern provided as follows:

"According to the available data, endosulfan is very persistent in the environment and is frequently found in environmental compartments. It has a great potential for bioaccumulation. Due to its physical and chemical properties and atmospheric half-life, and based on modelling data and findings in environmental samples, it has been proved that endosulfan is transported long distances, far from its sources. Endosulfan is a very toxic chemical for nearly all kind of organisms. Endosulfan has the potential to cause some endocrine disruption in both terrestrial and aquatic species. Endosulfan causes neurotoxicity and haematological effects and nephrotoxicity.

Placing on the market and use of endosulfan has been prohibited in the European Union. However, it is still produced in some countries (Worldwide production estimated at 10,000 metric tonnes.) and it continues to be used in many countries. Given the inherent properties of endosulfan, together with demonstrated or potential environmental concentrations that exceed maximum permissible concentrations; and given the widespread occurrence of endosulfan, including in remote areas; it is concluded that endosulfan is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects, such that global action is warranted."

3. Additional Information

- US EPA's re-registration eligibility decision (RED) http://www.epa.gov/oppsrrd1/REDs/endosulfan_red.pdf
- Toxicological profile for endosulfan published by the U.S. Department of Health and Human Services http://www.atsdr.cdc.gov/toxprofiles/tp41-p.pdf.
- Final review of endosulfan by the Australian National registration authority for agricultural and veterinary chemicals http://www.nra.gov.au/chemrev/prsendo71.pdf
- EU DAR of endosulfan for inclusion on Annex I of Directive 91/414/EEC.
- WHO, GENEVA companion volume to Environmental Health Criteria 40: Endosulfan http://www.inchem.org/documents/hsg/hsg/hsg017.htm
- Arctic Monitoring and Assessment Programme (AMAP) http://www.amap.no/
- US EPAs and Environment Canada's common monitoring project Integrated Atmospheric Deposition Network (IADN) http://www.epa.gov/glnpo/fund/projects/99projects/integrated.html
- UNEP Chemicals. Regionally Based Assessment of Persistent Toxic Substances – North America Regional report, December 2002 http://www.chem.unep.ch/pts/regreports/North%20America%20full%20report.pdf.
- OSPAR List of Potential Endocrine Disruptors - Part B http://www.ospar.org/eng/html/sap/Strategy_hazardous_substances.htm#Annex_3.

Secretariat evaluation:

The proposal identifies the chemical as required under Annex D 1 (a) and provides information on the chemical relating to the screening criteria set out in Annex D 1 (b-e). It includes a statement of the reasons for concern and the need for global control. Additional information, in the form of a review paper developed for the proposal, has been provided. The Secretariat is satisfied that the proposal, when combined with the additional information references, contains the information specified in Annex D.