LISTING OF NEW CHEMICALS UNDER THE ROTTERDAM AND STOCKHOLM CONVENTIONS

Learning centre on Overcoming new challenges in chemicals and hazardous wastes management

CSD-19
NLB Conference Room B
6 May, 3-6 pm

UNEP BASEL CONVENTION ROTTERDAM CONVENTION STOCKHOLM CONVENTION

TOPICS

- Process of listing new chemicals under the Rotterdam and Stockholm Conventions
- Case study: endosulfan

PROCESS FOR LISTING NEW CHEMICALS UNDER THE CONVENTIONS

UNEP BASEL CONVENTION ROTTERDAM CONVENTION STOCKHOLM CONVENTION

Process for listing a new chemical under the Rotterdam Convention

- A Party is to notify the Secretariat when it takes a final regulatory action to ban or severely restrict a chemical
- When 2 complete notifications, from 2 regions, are received, they are forwarded to the Chemical Review Committee (CRC)
- CRC is to review the information provided in such notifications in accordance with the criteria set out in Annex II
- CRC recommends to the COP whether the chemical should be listed in Annex III and a decision guidance document (DGD) should be drafted
- COP decides whether the chemical should be listed in Annex III

Chemical Review Committee

- Subsidiary body to the Rotterdam Convention composed of 31 government designated experts in chemicals management
- Annual meeting
- Review of chemicals for addition to Convention
- Drafts decision guidance documents
- Members serve in their individual capacity and not as national representatives

Annex II criteria for reviewing chemicals

In reviewing notifications, the CRC shall:

a) Confirm that the regulatory action has been taken in order to protect human health and the environment

b) Establish that the regulation has been taken as a consequence of a risk evaluation

c) Consider whether the regulatory action provides a sufficiently broad basis to merit inclusion of the chemical

d) Take into account that intentional misuse is not in itself an adequate reason to list a chemical in Annex III

Process for listing a new chemical under the Stockholm Convention

1. Any Party may submit a proposal for listing a new chemical
2. The proposal is evaluated by the POPs Review Committee (POPRC) based on screening criteria specified in Annexes of the Convention
3. POPRC makes recommendations to the Conference of the Parties (COP)
4. COP decides whether to list the chemical and control measures to be applied

POPs Review Committee (POPRC)

- Subsidiary body to the Convention that meets annually;
- 31 government designated experts;
- Scientific review of proposals for listing new chemicals;
- Advisory role on scientific issues related to implementation of the Convention, e.g. alternatives, toxic interactions

Evaluation criteria for candidate POPs

Annex D (POPs properties)

Chemical identity, persistence, bio-accumulation,

potential for long-range environmental transport,adverse effects

Annex E (Risks)

sources, hazard assessment, environmental fate, monitoring data, exposure, national and international risks evaluations, status under international conventions

Annex F (socio-economic considerations)

Efficacy and efficiency of possible control measures, alternatives, impacts on society of possible control measures, waste and disposal implications, access to information, status of control and monitoring capacity, national and regional control actions taken

CASE STUDY: ENDOSULFAN

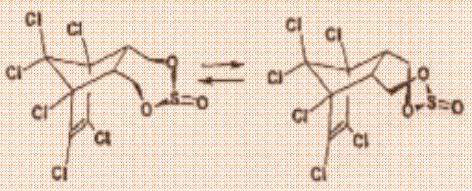
UNEP BASEL CONVENTION ROTTERDAM CONVENTION STOCKHOLM CONVENTION

Chemical profile of endosulfan

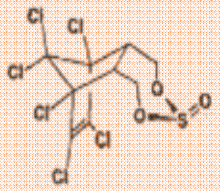
- **Endosulfan is an insecticide, effective against a broad range of insect pests**
- Technical grade endosulfan is a mixture of two biologically active isomers (α- and β-) in approximately 2:1 to 7:3 ratio, along with impurities and degradation products.

Chemical identity

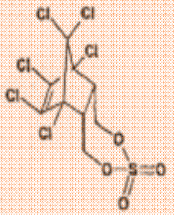
Molecular formula: $C_9H_6Cl_6O_3S$



alpha



beta



endosulfan sulfate (main transformation product)

CAS numbers:

alpha endosulfan: 959-98-8
beta endosulfan: 33213-65-9
technical endosulfan: 115-29-7
endosulfan sulfate: 1031-07-8

Chemical name: 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide

Production

- Endosulfan was developed in the 1950s

- Production stopped in many countries including in the USA in the 1980s and in Europe in 2007

- Current annual worldwide production ranges from 18,000-20,000 tons:
  - India: ~ 10,000 tons
  - China: ~ 5,000 tons
  - Israel + Brazil + South Korea: 3,000 to 5000 tons

Use

- Insecticide to control a broad spectrum of pests on a wide range of crops: for example, soy, cotton, rice, and tea
- Wood preservatives: Ornamental trees, shrubs, and herbaceous plants
- Veterinary insecticide to control ectoparasites on beef and lactating cattle

Country/Region	Estimated current use quantity (tons)
World	18,000 to 20,000
India	5,000
Brazil	4,400 to 7,200
China	4,100
Argentina	1,500
USA	180 to 400

- The use of endosulfan is banned or being phased out in at least 60 countries that together account for 45 per cent of current global use.

Proposal to list endosulfan under the Stockholm Convention

- Endosulfan was proposed for listing by the European Community and its member States that are Parties to the Stockholm
- At its 4th meeting in October 2008, POPRC examined the proposal based on information on endosulfan relating to the screening criteria set out in Annex D (POPs properties):
  - Chemical identity
  - Persistence
  - Bio-accumulation
  - Potential for long-range environmental transport
  - Adverse effects

  The evaluation is documented in: **Annex to decision POPRC-4/5**
- **POPRC decided that it is satisfied that the screening criteria have been fulfilled and to develop a risk profile, based on information in Annex E**

Annex E information (Risk profile)

At its 5th meeting in October 2009, the Committee reviewed the **risk profile** that contains the following type of information :

- Sources (production, uses and releases)
- Hazard assessment
- Environmental fate including information on persistence and bioaccumulation
- Monitoring data
- Exposure in local areas and as a result of long-range environmental transport
- National and international risks evaluations
- Status under international conventions

Details: UNEP/POPS/POPRC.5/10/Add.2

Decision POPRC-5/5

POPRC:

- adopted the risk profile evaluation for endosulfan
- decided 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
- Decided to develop a risk management evaluation, based on information specified in Annex F

Annex F information (Socio-economic considerations)

At its 6th meeting in October 2010, POPRC reviewed the **risk management evaluation** (RME) that contains information on:

- Efficacy and efficiency of possible control measures
- Alternatives
- Impacts on society of implementing possible control measures
- Waste and disposal implications
- Access to information and public information
- Status of control and monitoring capacity
- National and regional control actions taken

Details : UNEP/POPS/POPRC.6/13/Add.1

Needs expressed for specific exemptions

- **Challenges for replacing endosulfan:**
  - In general due to specific properties of endosulfan such as appropriateness for pollinator management, IPM systems, insecticide resistance management and its broad spectrum of targeted pests;
  - For specific crop-pest complexes in some countries.
- **Several countries that are currently phasing-out endosulfan have indicated a need to continue some applications of endosulfan to allow for the phase-in of alternatives.**

Decision POPRC-6/8

POPRC:

- adopted the risk management evaluation for endosulfan
- decided to recommend to the Conference of the Parties that it considers listing technical endosulfan , its related isomers and endosulfan sulfate in Annex A to the Convention, with specific exemptions

COP decision on endosulfan

Chemical	Activity	Specific exemption
Technical endosulfan* (CAS No: 115-29-7), its related isomers* (CAS No: 959-98-8 and CAS No: 33213-65-9)	Production	As allowed for the parties listed in the Register of Specific Exemptions
	Use	Crop-pest complexes as listed in accordance with the provisions of part VI of this Annex

Crop	
Cotton	Cotton bollworms, pink bollworms, aphids, jassids, whiteflies, thrips, leafroller
Jute	hairy caterpillar, yellow mites
Coffee	borer, stem borer
Tea	Aphids, caterpillars, tea mosquito bugs, mealybugs, scale insects, thrips, flushworm, smaller green leaf hopper, tea geometrid
Tobacco	Oriental tobacco bud worm, aphids
Cow peas, beans, tomato	Whiteflies, aphids, leaf miner
Okra, tomato, eggplant	Fruit and shoot borer, diamondback moth, aphids, jassids
Onion, potato, chillies	Aphids, jassids
Apple	Yellow aphids
Mango	Hopper and fruitflies
Gram, arhar	Aphids, caterpillar, podborer, pea semilooper
Maize	Aphids, stem borer, pink borer
Paddy/rice	White jassids, stem borer, gall midge, rice hispa
Wheat	Aphids, termites, pink borer
Groundnuts	Aphids
Mustard	Aphids, gall midge

Past review of endosulfan under the Rotterdam Convention

- The Chemical Review Committee (CRC) has previously prepared two draft Decision Guidance Documents prepared for endosulfan based on past years notifications
- These will be considered by the Conference of the Parties at its 5th meeting in June 2011

Recent review of endosulfan by CRC

- At its 7th meeting in March 2011, the CRC reviewed two notifications of final regulatory action from, submitted by Benin (African region) and New Zealand (Southwest Pacific region).
- CRC decided:
  - that the new notifications for endosulfan satisfied Annex I and II requirements
  - to draft a Decision Guidance Document for review and adoption at its eighth meeting, along with a draft recommendation for consideration by the COP at its 6th meeting in 2013.

Thank you

For further information please visit us at:

www.basel.int
www.pic.int
www.pops.int