

## **A summary of information about the production, sale and remaining stocks of the organochlorine insecticides aldrin, dieldrin and endrin (drins)**

**November 2006**

*The following information has been provided by Shell Chemicals Limited, London. The Shell Group of Companies (Shell) was the only manufacturer of aldrin and dieldrin, and was one of only two manufacturers of endrin (the other being Velsicol Chemical Corporation). As part of its product stewardship programme, Shell maintains a database of known remaining stocks of drins held by third parties. It also helps to facilitate the safeguarding and disposal of remaining stocks, usually in close association with CropLife International and in multi-stakeholder projects.*

*Aldrin, dieldrin and endrin (drins) are three of the nine pesticide POPs listed in the Stockholm Convention and this numerical prominence may give the misleading impression that very significant stocks still remain. No stocks are now held by Shell companies. According to available records, national governments of 29 countries currently hold a combined total of around 127 tonnes of drins stocks, mainly in Africa and the Indian Subcontinent. If the weights of the inert formulation ingredients (such as solvents and solid diluents) are excluded, then the total drins active ingredient content of these stocks is less than 50 tonnes. Around 21% of the stocks are expected to be collected and destroyed in the 4-year Phase 1 of the Africa Stockpiles Programme. Initiatives outside of Africa (India and Nepal) have been started that could result in the destruction of another 59% of the recorded stocks. Initiatives elsewhere are under consideration.*

### **Production**

- The dates at which the active ingredients were last manufactured by Shell were:
  - Endrin – 1981
  - Dieldrin – 1987
  - Aldrin - 1990
- Aldrin, dieldrin and endrin (*drins*) were formulated as both solids and liquids, with a wide range of concentrations. Dieldrin formulations for locust control (the main products found as obsolete stocks) contained typically between 50 and 200 g/l of dieldrin active ingredient.

### **Sales**

- The dates of the last sales of *drins* products (including formulations) by Shell in any country were:
  - Endrin – 1987
  - Aldrin and dieldrin - 1991
- Sales for locust control and disease prevention were usually via aid agencies and UN organisations
- Shell withdrew completely from the crop protection business in 1993

## Stocks summary

### Drins stocks disposal status - November 2006

Country	Tonnes	%	Comments
India	48.8	38	Disposal project under discussion
Nepal	26.3	21	Assistance offered by various parties
Tanzania	15.3	12	Africa Stockpiles Programme - Phase 1
Ethiopia	8.7	7	National project in progress - disposal completion expected during 2007
Eritrea	6.4	5	UNFAO verification inventory planned for 2007
Algeria	6.4	5	Options being considered
Pakistan	4.4	3	Data from old partial national inventory - no known national plans
Cameroon	2.4	2	Stock verified October 2006 – options being considered
Morocco	2.0	2	Africa Stockpiles Programme - Phase 1
Iran	2.0	2	Data from old national inventory – no known national plans
El Salvador	1.8	1	Pan American Health Organisation initiative in progress
Angola	1.5	1	Held by private company – options being considered
Countries with less than 1 tonne	1.2	1	17 countries
<b>TOTAL</b>	<b>127.2</b>	<b>100</b>	

#### Notes:

1. The above data are based on multiple sources.
2. A significant factor that is delaying the disposal of some remaining *drins* stocks is that they form a small and dispersed part of far larger obsolete stocks held by a country for which a major project is required and/or awaited. Special intervention projects for the removal of *drins* stocks are undertaken wherever practicable.
3. Shell has had an active involvement in obsolete stocks disposal projects for national governments since 1990 (the first was the joint USAID/GTZ/Shell dieldrin disposal project for Niger). Between 1990 and 2006, almost 650 tonnes of products containing *drins* have been safely destroyed in some 17 disposal projects. Shell contributed financial and/or technical and facilitation support to over half of these. Shell will continue to contribute to such projects until all stocks of *drins* have been collected and destroyed.
4. The most recent drins disposal initiative completed (in 2006) was a UNFAO project for the collection and disposal of locust control stocks from a store at Gao, Mali, that included 43 tonnes containing dieldrin.