

POPs - a summary of information about the known remaining stocks of the organochlorine insecticides aldrin, dieldrin and endrin

January 2013

The following information has been provided by Shell Chemicals Limited, London. Shell¹ was the only manufacturer of aldrin and dieldrin, and was one of only two manufacturers of endrin (the other being Velsicol Chemical Corporation). For convenience in this note the 3 insecticides are jointly referred to as the “drins”. As part of its product stewardship programme, Shell maintains a database of known remaining stocks of drins held by third parties. It also actively pursues the safeguarding and disposal of significant remaining stocks, usually in close association with CropLife International or expert agencies such as GIZ, the German Government Agency for International Cooperation.

Aldrin, dieldrin and endrin are three of the nine pesticide POPs first listed in the Stockholm Convention. It is over 22 years since the last of these three pesticides (aldrin) was manufactured. No stocks of any of the drins are held by Shell companies. According to available records, national governments of 23 countries currently hold a combined total of around 109 tonnes of stocks containing drins, mainly in India and possibly Pakistan. 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 22 tonnes. The past year saw the collection and destruction of some 28 tonnes of stocks containing drins from Nepal. It also saw the closure of a project in India for the destruction of 49 tonnes of dieldrin, because export approval to an accredited incinerator in Europe could not be obtained. The stock has now been safeguarded until such approval can be obtained.

Historical information

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

¹ The Shell Group of Companies is a global group of energy and petrochemical companies and in this document the term Shell is used for convenience to denote one or more companies within the Group

Current stocks summary (all are held by national authorities)

Drins stocks disposal status – January 2013

Country	Tonnes	Approx global %	Comments
India	49.0	45	A Shell/GIZ/Government of India Public/Private Partnership initiative has resulted in the safeguarding of the stock but it has not proved possible to get export approval for the overseas destruction of the stock in an accredited incinerator
Pakistan	45.0	41	The Stockholm Convention NIP has reported a 40t stock of dieldrin at Quetta (to be verified by FAO in 2013) and the other stock data are from an early 2000 inventory of Punjab Province overseen by GIZ
Eritrea	7.4	7	The stocks were safeguarded in an FAO project in 2011 and disposal is expected during 2013.
Tanzania	2.5	2	Africa Stockpiles Programme - Phase 1 – completion expected 2013
Algeria	1.3	1	Project agreed with national authorities and collection and destruction expected during 2013
Ethiopia	0.2	<1	National project in progress - disposal completion expected during 2013
Morocco	0.2	<1	FAO is running this project – disposal expected in 2014
Countries with minor stocks	3.3	3	15 countries – most of the data come from very old inventories
Approx total	109	100	

Notes:

1. The above data are based on multiple sources.
2. There is some doubt about the alleged 40 tonnes of dieldrin at Quetta mentioned in the Government of Pakistan POPs National Implementation Plan because the data conflict with a GIZ inventory carried out some years before that found negligible dieldrin. The actual stock situation will be verified by FAO during 2013, subject to the security situation.
3. Shell has had an active involvement in obsolete stocks disposal projects for national governments since 1990 (the first was the joint USAID/GIZ/Shell dieldrin disposal project for Niger). Between 1990 and 2012, around 680 tonnes of products containing *drins* have been safely destroyed in some 20 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 significant stocks of *drins* have been collected and destroyed.