

Format for submitting pursuant to Article 8 of the Stockholm Convention the information specified in Annex E of the Convention

Introductory information	
Name of the submitting Party/observer	United States of America
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Chemical name	Chlordecone
Date of submission	January 27, 2006

(a) Sources, including as appropriate (provide summary information and relevant references)	
(i) Production data:	Chlordecone was produced in the United States between 1951 and 1975. (ATSDR, 1995; Epstein, 1978)
Quantity	Approximately 1.6 million kg of chlodecone were produced in the USA. (ATSDR, 1995; Epstein, 1978)
Location	Claymont, Delaware; Marcus Hook, Pennsylvania, Hopewell, Virginia, State College, Pennsylvania, Niagara Falls, New York (ATSDR, 1995; Epstein, 1978)
Other	
(ii) Uses	Chlordecone was patented in 1952 and introduced commercially in the United States by Allied Chemical in 1958 under the trade names Kepone and GC-1198. There were more than 55 commercial products of Kepone in the U.S. It was used in ant and roach traps, to control mole crickets and exported to Europe, Asia, Latin American and Africa for conversion to Kelevan for use as an insecticide, mainly for the control of the potato beetle and banana root borer. (ATSDR, 1995) Because of oncogenicity concerns, EPA cancelled all chlordecone-containing products as of December 1977. (USEPA,1990)
(iii) Releases:	
Other	Superfund, administered by USEPA, is the government program to clean up uncontrolled hazardous waste sites in the United States. Chlordecone is a chemical of concern on the final National Priorities List for one site in Pennsylvania where chlordecone was manufactured or processed. (USEPA, 2006a) http://www.epa.gov/superfund/sites/npl/index.htm

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(b) Hazard assessment for endpoints of concern, including consideration of toxicological interactions involving multiple chemicals (provide summary information and relevant references)

The Agency for Toxic Substances and Disease Registry, part of U.S. Health and Human Services, updated its Toxicological Profile for Mirex and Chlordecone 1995. It contains extensive information, especially on the health effects of chlordecone.

<http://www.atsdr.cdc.gov/toxprofiles/tp66.html>

The United States Library of Medicine maintains TOXNET, fully searchable databases on toxicology, hazardous chemicals, environmental health and toxic releases. It contains numerous references to chlordecone/kepone. <http://toxnet.nlm.nih.gov/cgi-bin/sis/search>

(c) Environmental fate (provide summary information and relevant references)

Chemical/physical properties	No supplemental information to add.
Persistence	No supplemental information to add.
How are chemical/physical properties and persistence linked to environmental transport, transfer within and between environmental compartments, degradation and transformation to other chemicals?	Chlordecone strongly binds to organic matter in water, sediment, and soil. When bound to organic-rich soil, chlordecone is highly immobile. However, when it is adsorbed to particulate matter in surface water, chlordecone can be transported great distances before partitioning out to sediment. In extensive areas of the James River near where chlordecone was produced in Hopewell, Virginia, sediment serves as a reservoir for this pesticide. http://www.atsdr.cdc.gov/toxprofiles/tp66.html
Bio-concentration or bio-accumulation factor, based on measured values	No supplemental information to add.

(d) Monitoring data (provide summary information and relevant references)

Chlordecone, known as kepone in the United States, was included in the U.S. EPA National Lake Fish Tissue Study to estimate the national distribution of selected residues in fish tissue from lakes and reservoirs in the lower 48 states. There were a total of 881 samples collected and analyzed between 2000 and 2005. Samples were collected and analyzed between 2000 and 2005. For chlordecone, there were 152 hits (17.25%), ranging from 12.3 and 2008 ppb. (USEPA, 2006b) <http://www.epa.gov/waterscience/fishstudy/>

Clams and oysters from the James River at sampling locations from 8-64 miles from Hopewell, Virginia contained 0.2-0.8 ppm of chlordecone. (Epstein, 1978)

High volume air sample filters from Hopewell, approximately 200 yards from the chlordane production plant, ranged from 3.0-55 micrograms/ m³, depending on weather conditions and date of collection. At more distant sites in May 1975, levels ranged from 1.4-21 ng/m³. Specifically, in South Richmond, 15.6 miles north west from Hopewell, the level was 1.41 ng/m³. At Byrd airport, 14.12 miles north of Hopewell, the level was 1.93 ng/m³. In Petersburg, 8.19 miles south west from Hopewell, the level was 20.7 ng/m³. (Epstein, 1978)

(e) Exposure in local areas (provide summary information and relevant references)**- general**

In 1975, USEPA initiated a community survey within one mile of the Life Science Products Company in Hopewell, Virginia. Of the 216 venous blood samples taken from residents, approximately 19% were over, 5 ppb, with none exceeding 50 ppb; the remaining 81% were less than 5 ppb. (Epstein, 1978)

(f) National and international risk evaluations, assessments or profiles and labelling information and hazard classifications, as available (provide summary information and relevant references)

Toxicological Profile for Mirex and Chlordecone. Agency for Toxic Substances and Disease Registry, US Department of Health and Human Services, updated in 1995.
<http://www.atsdr.cdc.gov/toxprofiles/tp66.html>

The United States Library of Medicine maintains TOXNET, fully searchable databases on toxicology, hazardous chemicals, environmental health and toxic releases.
<http://toxnet.nlm.nih.gov/cgi-bin/sis/search>

Epstein, S.S., Kepone-Hazard Evaluation, Science of the Total Environment, 9 (1978), 1-162. Upon request, the USA could provide this publication to the POPRC.

(g) Status of the chemical under international conventions

Chlordecone is listed in Annex I, Substances scheduled for elimination, of the LRTAP POPs Protocol. <http://www.unece.org/env/lrtap/full%20text/1998.POPs.e.pdf>

References

ATSDR, 1995. Toxicological Profile for Mirex and Chlordecone, U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, 1995.
<http://www.atsdr.cdc.gov/toxprofiles/tp66.html>

Epstein, S.S., Kepone-Hazard Evaluation, Science of the Total Environment, 9 (1978), 1-162.

USEPA, 1990. Suspended, Cancelled and Restricted Pesticides, U.S. Environmental Protection Agency, Pesticides and Toxic Substances, document 2OT-1002. February, 1990/

USEPA, 2006a. Personal communication with Aaron Yeow, USEPA, Office of Superfund Remediation and Technology Innovation, with Janice Jensen, USEPA, Office of Pesticide Programs on January 18, 2006.
<http://www.epa.gov/superfund/sites/npl/index.htm>

USEPA, 2006b. Personal communication between Leanne Stahl, project manager for the USEPA National Lake Fish Tissue Study, and Janice Jensen, USEPA, Office of Pesticide Programs, on January 17, 2006.
<http://www.epa.gov/waterscience/fishstudy/>