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FATE
and
TRANSPORT
of
ORGANIC
CHEMICALS
in the
ENVIRONMENT
A Practical Guide

Second Edition

(Formerly Where Did That Chemical Go?)

JUN 25 1998

SM

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Discussion

- WS indicates that this chemical could go either way, but Kow indicates that it should not bioaccumulate; therefore, it is predicted that it should leach, run off and biodegrade, and it should not adsorb to soil and should not be bioaccumulated.
- Kow indicates that bioaccumulation should not occur. It is possible that residues of this chemical could be found in water and food; however, its volatility should help prevent this.
- VP indicates that this chemical is volatile, and this could cause inhalation problems. If it were phototransformed, fallout of photoproducts and the parent chemical could contaminate the environment.
- This chemical is volatile and could present inhalation problems with the parent chemical and potential photoproducts. Although residues could be present in the environment, it is predicted that they would not be there long because they would volatilize.

Exposure

Route of exposure should be by inhalation of volatile residues.

4-Bromophenyl phenyl ether**Data**

WS at 20°C	38 mg/L	[4]
Kow	141,254	[4]
VP at 20°C	0.0015 torr	[4]

Discussion

- WS indicates that this chemical could adsorb to soil, run off with soil, and be bioaccumulated, and that it should not leach and should not be biodegraded.
- Kow indicates bioaccumulation and potential for food-chain contamination. Residues could be expected in the food chain.
- VP indicates potential for volatility. If volatility occurred, fallout could cause contamination of water and the food chain. If the chemical were phototransformed, transformation products also could contaminate the food chain and water.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water and (2) inhalation of volatile residues.

Bufencarb (3-(1-Methylbutyl) phenyl methylcarbamate) (also Bux, Metalkamate, etc.)**Data**

Pesticide		
WS	< 50 ppm	[6]
BCF—static water	0	[6]

Discussion

- WS indicates that this chemical could go either way in relation to leaching, runoff, adsorption, biodegradation, and bioaccumulation.
- BCF indicates that the chemical should not bioaccumulate.
- This chemical should not bioaccumulate, but could be mobile enough to contaminate the food chain. If this occurred, it should be metabolized and biodegraded. There is a possibility that residues could exist in the food chain if dissipation were not rapid enough.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Butralin (4-(1,1-Dimethyl) -N-(1-methylpropyl) -2,6-dinitrobenzenamine) (also Sector)**Data**

WS	1 ppm	[6]
Koc	8,200	[6]

Discussion

- WS indicates that this chemical should leach, run off, and be biodegraded, and it should not adsorb to soil and should not be bioaccumulated.
- Kow indicates that the chemical should not bioaccumulate, and this is in agreement with the value for WS.
- VP indicates volatility, and this could cause inhalation problems. If the chemical were phototransformed, photoproducts and the parent chemical could fall out and contaminate water and food.
- The chemical should leach and run off into aquatic environments; however, this may not be a problem because of its high volatility and potential to biodegrade. Inhalation of the volatile parent chemical and potential photoproducts should be the major concern. Contamination of the food chain is unlikely.

Exposure

Route of exposure should be inhalation of volatile residues.

Bis (2-Chloroethoxy) methane**Data**

WS	81,000 mg/L	[4]
Kow	18	[4]
VP at 20°C	<0.1 torr	[4]

Discussion

- WS indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb in soil and should not be bioaccumulated.
- Kow indicates that bioaccumulation should not occur; however, if residues did get into the environment, some residues could be expected in food and water.
- VP indicates volatility, and fallout could contaminate food and water. If the chemical were phototransformed, transformation products also could contaminate food and water via fallout. Inhalation of the parent chemical and its potential photoproducts could be a problem.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water and (2) inhalation of a volatile residue.

Bis (2-Chloroethyl) ether**Data**

WS	10,200 mg/L	[4]
Kow	38	[4]
VP at 20°C	0.71 torr	[4]

Discussion

- WS indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb to soil and should not be bioaccumulated.
- Kow indicates that the chemical should not bioaccumulate, and this is supported by the value for WS.
- VP indicates volatility, and thus the potential for inhalation problems. If this chemical is phototransformed, photoproducts and the parent chemical should fall out onto water and food, causing food-chain contamination.
- This chemical could contaminate the environment by leaching, run-off, and volatility. No data have been presented to indicate if biodegradation is rapid enough to prevent residues from occurring in the environment. Inhalation of volatile residues could be a problem.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation, however, additional data are needed to assess problems caused by volatility

Chloroform**Data**

WS	8,200 ppm	[4]
VP	150.5 torr at 20°C	[4]

Hydrolysis	$t_{1/2}$ 3,500 years	[4]
Light adsorption	180 to 240 nm range	[4]
Pure chloroform is light-sensitive.		[9]

Discussion

- WS indicates leaching and runoff could occur; however, VP is so high that volatility should occur first.
- VP indicates volatility, and light adsorption indicates phototransformation.
- Hydrolysis indicates that the chemical is stable and should not be hydrolyzed in soils or in water. It could be biodegraded or phototransformed if it were to get into the aquatic environment; however, if it were not ingested, there would be no problem. It could come into direct contact with animals through volatilization.

Exposure

(1) Direct contact, (2) ingestion of contaminated water, or (3) inhalation could be the routes of exposure. Chloroform should volatilize and be phototransformed. If it got into the aquatic environment, it should not bioaccumulate, based on WS, and should volatilize from water unless it reached groundwater, where it could be stable. Inhalation should be the most direct route of exposure.

Chloromethane (also Methyl chloride)**Data**

WS at 20°C	6,450 to 7,250 mg/L	[4]
Kow	8	[4]
VP at 20°C	3,756 torr	[4]

Discussion

- WS indicates that this chemical should leach, run off, and be biodegraded, and it should not be bioaccumulated and should not be adsorbed.
- Kow indicates that the chemical should not bioaccumulate, and this is in agreement with the value for WS.

- VP indicates that volatility should occur for this chemical; thus inhalation could be a problem. If it were phototransformed, photoproducts and the parent chemical could fall out and contaminate water and food.
- This chemical should be mobile in the environment and could contaminate water and food, and thus could result in contamination of the food chain. Inhalation of volatile residues could be a problem.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation of volatile residues.

Bis (2-Chloromethyl) ether**Data**

WS	22,000 mg/L	[4]
VP at 22°C	30 torr	[4]
Kow	2.4	[4]
Hydrolyzes on contact with water	$t_{1/2}$ 10 to 40 sec	[4]

Discussion

- WS indicates that this chemical could run off, leach, and be biodegraded, but it should not bioaccumulate and should not be adsorbed to soil.
- VP indicates volatility; however, this chemical in the presence of moisture should hydrolyze in the atmosphere. Hydrolysis should prevent future exposure of the parent chemical; however, the hydrolytic products need to be studied.
- Kow indicates that this chemical should not bioaccumulate.
- It hydrolyzes with a rapid $t_{1/2}$ of 40 sec. Because the chemical volatilizes and hydrolyzes with moisture, inhalation could be a problem with effects on or in mucous membranes, lungs, and perhaps the digestive system.

Exposure

The main route of exposure could be by inhalation, which could result in problems in the mucous membranes, lungs, and digestive system. Ingestion of contaminated drinking water could be a short-term problem if consumption occurred immediately after contamination; however, this is highly unlikely because of the chemical's rapid hydrolytic rate.

Chloroneb (1,4-Dichloro-2,5-dimethoxybenzene) (also Demosan and Tersan SP)**Data**

Pesticide

WS	8 ppm	[6]
Koc	1,159	[6]

Discussion

- WS indicates that this chemical should be adsorbed to soil, run off with soil, and be bioaccumulated, and it should not leach and should not be biodegraded.
- Koc indicates that this chemical should adsorb in soil and accumulate in the soil environment. Bioaccumulation could be expected, and this chemical could cause food-chain contamination. Residues should be expected in the food chain.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

2-Chlorophenol (also o-Chlorophenol)**Data**

Pesticide

WS at 20°C	28,500 mg/L	[4]
Kow	148	[4]
VP at 20°C	2.2 torr	[4]

Discussion

- WS indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb in soil and should not be bioaccumulated.
- Kow indicates that bioaccumulation should not occur; however, residues could be expected in the food chain.
- VP indicates volatility, and fallout could contaminate food and water. If the chemical were phototransformed, the transformation products could also contaminate food and water. Inhalation of the parent chemical and its potential photoproducts could be a problem.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water and (2) inhalation of a volatile residue.

4-Chlorophenyl phenyl ether**Data**

WS	59 mg/L	[4]
Kow	100,000	[4]
VP at 20°C	0.001 torr	[4]

Discussion

- WS indicates that this chemical could bioaccumulate, adsorb to soil, and run off with soil particles, and it should not leach and should not be biodegraded. If Kow were unknown, this prediction would be difficult, as this chemical could go either way.
- Kow indicates bioaccumulation and potential for food-chain contamination.
- VP indicates that volatility may be likely, and phototransformation could occur. Inhalation and fall out of photo products would be a problem.

Exposure

The routes of exposure could be by (1) ingestion of contaminated food or water if such contamination should occur, and (2) inhalation of volatile residues.

Diphenyl oxide (also Phenyl ether)

Data

WS	21 ppm	[6]
Kow	15,800	[6]
BCF—flowing water	196	[6]

Discussion

- WS indicates that this chemical could go either way in regard to leaching, runoff, adsorption, bioaccumulation, and biodegradation.
- Kow indicates that the chemical should bioaccumulate and could contaminate the food chain.
- BCF indicates that the chemical should not bioaccumulate, and this is in disagreement with the data given for Kow. However, it may not be in disagreement if the chemical is metabolized in animals. Additional data would be needed to discern metabolism; however, the prediction is that the chemical could adsorb in soil and could be metabolized in animals.
- This chemical, if released into the environment, could contaminate the food chain; however, the residues could be metabolized in animals. Residues should be expected in animals, but should dissipate over time.

Exposure

Route of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Di-n-propylnitrosamine

Data

WS at 25°C	9,895 mg/L	[4]
Kow	20	[4]

Discussion

- WS indicates that this chemical could leach, run off, and be biodegraded, and it should not bioaccumulate and should not be adsorbed in soil.
- Kow indicates that bioaccumulation should not occur.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water if that occurred, and (2) inhalation if the chemical were found to be volatile; however, no data are presented herein on volatility.

Disulfoton (also O,O-Diethyl S-[2-(ethylthio) ethyl] phosphorodithioate, Di-Syston, Dithiodemeton, Thiodemeton, etc.)

Data

Pesticide		
WS	25 ppm	[6]
Koc	1,780	[6]

Discussion

- WS indicates that this chemical should adsorb to soil, run off with soil, and be bioaccumulated, and it should not be biodegraded and should not be leached.
- Koc indicates that the chemical should bioaccumulate, and this is supported by the value for WS.
- This chemical should adsorb to soil and could bioaccumulate in the food chain. If released into the environment, it could cause residues in the food chain.

Exposure

Routes of exposure could be by (1) consumption of contaminated food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Exposure

Contamination is possible, of aquatic environments and of air if the chemical is volatile. Exposure could be by (1) ingestion of contaminated drinking water or (2) inhalation if EDB gets into the air.

Ethylene dichloride (also 1,2-Dichloroethane)

Data

WS at 20°C	8,690 mg/L	[4]
Kow	30	[4]
VP at 20°C	61 torr	[4]

Discussion

- WS indicates that this chemical should leach, run off, and be biodegraded, and it should not adsorb to soil and should not be bioaccumulated. The value for Kow supports this prediction.
- Kow indicates that the chemical should not bioaccumulate.
- VP indicates volatility; thus inhalation could be a problem. If it were phototransformed, fallout of photoproducts and the parent chemical could contaminate water and food.
- This chemical could be mobile in the environment, and could contaminate water and food, thus resulting in contamination of the food chain. Inhalation of volatile residues could be a problem.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation of volatile residues.

Fenuron (3-Phenyl-1,1-dimethylurea)

Data

Pesticide		
WS	3,850 ppm	[6]
Koc	27	[6]
Kow	10	[6]

Discussion

- WS indicates that this chemical should leach, run off, and be biodegraded, and it should not be adsorbed in soil and should not be bioaccumulated.
- Koc indicates that this chemical should not adsorb in soil.
- Kow indicates that the chemical should not bioaccumulate.
- This chemical could be mobile in the environment and could cause contamination of the food chain. Residues could dissipate, however, there are no data to discern dissipation.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Fluchloralin (N-(Chloroethyl)-alpha, alpha, alpha-trifluoro-2,6-dinitro-N-propyl-p-toluidine) (also Basalin)

Data

Pesticide

WS	<1 ppm	[6]
Koc	3,600	[6]

Discussion

- WS indicates that this chemical should adsorb to soil, run off with soil, and be bioaccumulated, and it should not be biodegraded and should not be leached.
- Koc indicates that the chemical should adsorb to soil.
- The data indicate that the chemical should adsorb to soil and bioaccumulate in the food chain if released into the environment. If this occurred, residues in the food chain could be expected.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

- Koc indicates that the chemical should adsorb to soil.
- Kow indicates the chemical should bioaccumulate, and this could cause contamination of the food chain.
- This chemical, if released into the environment, could cause contamination of the food chain.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Methyl chloroform (also 1,1,1-Trichloroethane)

Data

WS at 20°C	480 to 4,400 mg/L	[4]
Kow	148	[4]
VP at 20°C	96 torr	[4]

Discussion

- WS has such a large range of values that it would be difficult to predict what could occur in the environment unless other data were available.
- Kow indicates that this chemical should not bioaccumulate. By using the value for Kow and the highest value for WS, the two would be in agreement. The prediction is that the chemical could leach, run off, and biodegrade, and it should not bioaccumulate and should not be adsorbed in soil.
- VP indicates volatility; thus inhalation could be a problem. If the chemical were phototransformed, photoproducts and the parent chemical could fall out and contaminate water and food.
- This chemical should be mobile in the environment; therefore, it could contaminate water and food, and thus could cause residues in the food chain. Volatile residues could be a problem for inhalation. There are no data to discern if dissipation would occur.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation of volatile residues.

3-Methylcholanthrene

Data

WS	0.00323 ± 0.00017 μ/ml	[3]
Kow	2,632,000 ± 701,000	[3]
Koc	1,244,046	[3]

Discussion

- WS indicates that this chemical should not leach or run off unless the runoff is with soil. It indicates bioaccumulation and accumulation.
- Kow indicates bioaccumulation and potential for food-chain contamination.
- Koc indicates adsorption to soil, which should prevent leaching.
- Based on the data, this chemical should not leach, should not be biodegraded, should bioaccumulate, should adsorb to soil, and should be persistent in the environment.

Exposure

This chemical should be kept out of the aquatic environment, as food-chain contamination is probable. If this chemical gets into soil, and crops are planted in the soil, crop uptake of the chemical is likely, as is food-chain contamination. Inhalation could be a problem; however, no data are presented herein on volatility.

Methylene chloride (also Dichloromethane)

Data

WS	13,2000 to 20,000 mg/L	[4]
Kow	17.78	[4]
VP at 20°C	362.4 torr	[4]

Discussion

- WS indicates that this chemical should leach, run off, and be biodegraded, and it should not adsorb to soil and should not be bioaccumulated.
- Kow indicates that the chemical should not bioaccumulate.
- VP indicates that this chemical is volatile, and this could cause inhalation problems. If the chemical were phototransformed, photoproducts and the parent chemical could fall out onto water and food, and thus could contaminate the food chain.
- This chemical should leach and run off into aquatic environments; however, this may not be a problem, because the chemical is very volatile. It should not last very long in any environment, because of its volatility. Biodegradation also should prevent this chemical from lasting long in the environment. The major concern should be its inhalation and phototransformation, if that occurred, and fallout of photoproducts onto water and soil. No data are presented herein on photo aspects.

Exposure

Route of exposure should be by inhalation of volatile residues.

Methyl isothiocyanate**Data****Pesticide**

WS	7,600 ppm	[6]
Koc	6	[6]

Discussion

- WS indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb in soil and should not be bioaccumulated.
- Koc indicates that adsorption in soil should not occur; therefore, accumulation in soil also should not occur.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility

2-Methylnaphthalene**Data**

WS	25.4 ppm	[6]
Koc	8,500	[6]
Kow	13,000	[6]

Discussion

- WS indicates that this chemical could go either way in regard to leaching, runoff, adsorption, biodegradation, and bioaccumulation
- Koc indicates the chemical could adsorb to soil, and this is supported by the Kow value.
- Kow indicates that this chemical should bioaccumulate, and this could cause food-chain contamination.
- If this chemical were released into the environment, it could contaminate the food chain.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Methylparathion (O,O-Dimethyl-O-p-nitrophenyl phosphorothioate)**Data****Pesticide**

WS	57 ppm	[6]
Koc	9,800	[6]
Kow	82	[6]
BCF—static water	95	[6]
VP	9.5 mm Hg × 10 ⁶ at 20°C	[3]
Degrades in soil		[3]

Polychlorinated biphenyls (also PCB's and Aroclors)**Data**

WS	0.0027 to 0.34 ppm	[4]
VP	0.0000771 to 0.00406 mm Hg	[4]
Kow	647 to 21,700	[4]
Absorbs light	280 to 320 nm range	[4]
Does not hydrolyze		[4]

Discussion

- Polychlorinated biphenyls, as a group, are benzenoid hydrocarbons with different numbers of chlorine atoms on different parts of the molecule. Aroclors, or PCB's, are mixtures of biphenyl molecules with different numbers of chlorine atoms attached to the molecule.
- WS indicates that they should not leach, should be adsorbed to soil organic matter, should not be biodegraded, and could bioaccumulate.
- Kow indicates that bioaccumulation and food-chain contamination are likely.
- VP indicates that volatility should not be a problem, and that phototransformation is likely.
- Absorption of light indicates that phototransformation is likely.
- Based on the data, these chemicals should be persistent in the environment, accumulate in soils, and bioaccumulate. Food-chain contamination is likely.

Exposure

The main route of exposure should be through consumption of contaminated drinking water and food if that occurred.

Profluralin (*N*-(Cyclopropylmethyl)- α , α , α -trifluoro-2,6-dinitro-*N*-propyl-*p*-toluidine) (also Preqard and Tolban)**Data**

Pesticide		
WS	0.1 ppm	[6]
Koc	8,600	[6]

Discussion

- WS indicates that this chemical should adsorb in soil, run off with soil, and be bioaccumulated, and it should not leach and should not be biodegraded.
- Koc indicates that the chemical could go either way; however, by using the value given for WS, it is predicted that the chemical could adsorb in soil.
- If this chemical were released into the environment, it could bioaccumulate and cause contamination of the food chain

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Propham (also Isopropyl carbanilate, IPC, and prophos)**Data**

Pesticide		
WS	250 ppm	[6]
Koc	51	[6]
Soil TLC-Rf	0.51	[1]

Discussion

- WS indicates that this chemical could go either way in regard to leaching, runoff, adsorption, biodegradation, and bioaccumulation.
- Koc indicates that the chemical should not be adsorbed to soil and could be mobile.
- Soil TLC indicates that the chemical could leach
- Using all three pieces of data, one can predict that this chemical could leach, run off, and be biodegraded, and it should not be adsorbed and should not be bioaccumulated. If it were released into the environment, residues could be found in water and in the food chain, but not be bioaccumulated in animals. No data are presented on t_4 in soils or in animals; thus one cannot predict whether residues could be present in the food chain.

Discussion

- WS, supported With Koc and Kow, indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb to soil and should not be bioaccumulated.
- Koc indicates that adsorption in soil should be of no concern.
- BCF indicates that bioaccumulation should be of no concern; however, residues could be expected in the food chain.
- Soil TLC indicates the potential to leach.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein to indicate volatility.

TCE (also Trichloroethylene and Ethylene trichloride)**Data**

WS at 20°C	1,100 ppm	[8]
Kow	195	[4]
VP at 20°C	57.9 torr	[4]
Does not absorb visible or near UV		[4]
Photooxidation occurs		[4]

Discussion

- WS indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb to soil and should not be bioaccumulated.
- Kow indicates that this chemical should not bioaccumulate.
- VP indicates this chemical could be volatile, and it should not be phototransformed because it does not absorb visible or UV light. Fallout onto aquatic and food environments is possible; thus contamination of the food chain could occur.
- Photooxidation has occurred, and TCE has photooxidized to form dichloroacetyl chloride and phosgene. *Note:* These breakdown prod-

ucts are mentioned because phosgene is a highly toxic gas that will produce death.

- Contamination of the food chain is possible, and residues in the food chain are possible.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water if such occurred, and (2) inhalation of volatile residues.

Terbicil (3-tert-Butyl-5-chloro-6-methyl uracil)**Data**

Pesticide		
WS	0.071 g/100 ml at 25°C	[2]
Soluble in water		[2]
Mobile in soil because of low adsorption		[2]

Discussion

- WS indicates that the chemical could leach in soil, could run off, should not be adsorbed, might be biodegraded, and should not bioaccumulate. This chemical could contaminate the aquatic environment.

Exposure

Exposure could be by consumption of contaminated food and water if such contamination occurred. If the chemical were volatile (no volatility data are given here), then inhalation would be a problem.

Terbufos (S-[(1,1-Dimethylethyl) thio] methyl] O,O-diethyl phosphorodithioate) (also Counter)**Data**

Pesticide		
WS	12 ppm	[6]

to residues; however, no data are presented herein to indicate this. It is predicted that residues may occur in the food chain if they are not dissipated rapidly.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein on volatility.

Toluene (also Toluol)

Data

WS at 25°C	534.8 mg/L	[4]
Kow	490	[4]
VP at 25°C	28.7 torr	[4]

Discussion

- WS, supported by Kow, indicates that this chemical could leach, run off, and be biodegraded, and it should not adsorb in soil and should not be bioaccumulated.

Kow indicates that bioaccumulation should not occur; however, residues could be expected in the food chain.

VP indicates volatility; fallout could contaminate food and water. If the chemical were phototransformed, transformation products also could fall out and contaminate food and water. Inhalation of the parent chemical and potential photoproducts could be a problem.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water if such occurred, and (2) inhalation of volatile residues.

Toxaphene (Technical chlorinated camphene (67–69% chlorine))

Data

Pesticide		
WS	0.4 ppm	[6]
BCF—flowing water	26,400	[6]
BCF—static water	4,250	[6]

Discussion

- WS indicates that this chemical could adsorb in soil, run off with soil, and be bioaccumulated, and it should not leach and should not be biodegraded.
- BCF indicates that bioaccumulation and food-chain contamination could occur. Residues could be expected in the food chain.

Exposure

Routes of exposure could be by (1) ingestion of contaminated food and water if such occurred, and (2) inhalation if the chemical were volatile; however, no data are presented herein to indicate volatility.

Triallate

Data

WS	4 ppm	[6]
Koc	2,220	[6]

Discussion

- WS indicates that this chemical should adsorb to soil, runoff with soil, and be bioaccumulated, and it should not be biodegraded and should not be leached.
- Koc indicates that the chemical should adsorb to soil, and this prediction is in agreement with the value for WS.
- This chemical could bioaccumulate and cause contamination of the food-chain; however, additional data are needed for a conclusive prediction. If such contamination occurred, then residues could be expected in the food chain.

Exposure

Routes of exposure could be by (1) consumption of contaminated water and food if such contamination occurred, but additional data are needed; and (2) inhalation if the chemical were volatile, but no data are presented herein on volatility.