

Regulatory Analysis Form

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REVIEW COMMISSION



(1) Agency

Department of Environmental Protection

(2) I.D. Number (Governor's Office Use)

7-356

IRRC Number: 2133

(3) Short Title

Administration of Land Recycling Program

(4) PA Code Cite

25 Pa. Code, Chapter 250

(5) Agency Contacts & Telephone Numbers

Primary Contact: Sharon Freeman, 717-783-1303

Secondary Contact: Barbara Sexton, 717-783-1303

(6) Type of Rulemaking (Check One)

- Proposed Rulemaking
 Final Order Adopting Regulation
 Final Order, Proposed Rulemaking Omitted

(7) Is a 120-Day Emergency Certification Attached?

- No
 Yes: By the Attorney General
 Yes: By the Governor

(8) Briefly explain the regulation in clear and non-technical language.

The regulation set forth cleanup standards for environmental media that are protective of human health and the environment and which also consider future use of a site. The standards developed were Background, Statewide health, and Site-specific. An additional provision provided for certain areas to be remediated as special industrial areas. The cleanup standards are based on risk. Attainment of a standard provides for releases from liability for persons remediating a site. The regulations clarified definitions in the Act, presented general procedures, and set methods for risk assessment and demonstration of attainment of a cleanup standard. This proposed rulemaking updates the regulations based on several years of implementing the land recycling program and current science and makes several typographic and technical corrections to the original regulation.

(9) State the statutory authority for the regulation and any relevant state or federal court decisions.

This rulemaking is being made under the authority of Sections 104(a), 301(c) and 303(a) of the Land Recycling and Environmental Remediation Standards Act (35 P.S. 6026.101 *et seq.*). Section 104(a) authorizes the Environmental Quality Board (Board) to adopt Statewide health standards, appropriate mathematically valid statistical tests to define compliance with Act 2 and other regulations that may be needed to implement the provisions of Act 2. Section 301(c) authorizes the Department to establish by regulation procedures for determining attainment of remediation standards when practical quantitation limits set by the U.S. Environmental Protection Agency (EPA) have a health risk that is greater than the risk levels established in Act 2. Section 303(a) authorizes the Board to promulgate Statewide health standards for regulated substances for each environmental medium and methods used to calculate the standards. This rulemaking is also being made under the authority of Section 105(a) of the Solid Waste Management Act (35 P.S. Sections 6018.101 *et seq.*) (SWMA). Section 105(a) grants the Board the power and duty to adopt the rules and regulations of the Department to carry out the provisions of the SWMA.

Regulatory Analysis Form

(10) Is the regulation mandated by any federal or state law or court order, or federal regulation? If yes, cite the specific law, case or regulation, and any deadlines for action.

While no deadline exists for this amendatory rulemaking, the Land Recycling and Environmental Standards (35 P.S. 6026.101 *et seq.*) does mandate that the Department develop rules to implement the provisions of that act. The initial regulations were adopted August 15, 1997, and became effective August 16, 1997, 27 Pa.B. 4181.

(11) Explain the compelling public interest that justifies the regulation. What is the problem it addresses?

The regulations have encouraged voluntary cleanup and reuse of contaminated sites while promoting additional jobs and economic stimulus to stressed communities. The regulations have reduced abandonment of industrial properties while saving development of Pennsylvania's greenfields. The program has resulted in increased voluntary cleanups, reducing the cost to the Commonwealth necessary otherwise to cleanup contaminated sites. The regulations cover all contaminated sites in Pennsylvania, identifying risk based cleanup standards and simplifying the approval process of site remediation. Compliance with the requirements of the regulation provides for a release of liability for the person remediating a site. A person performing remediation will be eligible for relief of liability for the remediation of the site under the statutes for any contamination identified in reports submitted to and approved by the Department. The regulations are being amended due to new scientific information regarding contaminants, and the results of a recent program evaluation that identified areas of the regulations that needed correction or further clarification.

(12) State the public health, safety, environmental or general welfare risks associated with non-regulation.

The regulations were designed to identify, reduce, or eliminate contamination from hazardous substances. The regulations established uniform cleanup standards and promoted the reuse of contaminated industrial properties. Non-regulation would not have provided the cleanup standards needed to pursue both voluntary and enforcement oriented remediations needed to protect human health and the environment and spur needed economic development.

Regulatory Analysis Form

(13) Describe who will benefit from the regulation. (Quantify the benefits as completely as possible and approximate the number of people who will benefit.)

The regulations have been a part of an award winning successful program providing significant benefits to the citizens of the Commonwealth. Act 2, along with the regulations, has resulted in the cleanup and reuse of over 500 contaminated sites since 1995. By encouraging the reuse of industrial properties, the regulations have reduced abandonment of these properties while saving the development of Pennsylvania's greenfields. This has resulted in a significant increase in the rate of environmental cleanups and a cost savings to the Commonwealth, which otherwise would have incurred costs for some of the cleanups.

(14) Describe who will be adversely affected by the regulation. (Quantify the adverse effect as completely as possible and approximate the number of people who will be adversely affected.)

The regulations have affected owners and operators and purchasers of all properties and facilities who have volunteered or been required to perform remediation of contaminated sites. This universal group also includes individuals, corporations, businesses, authorities, and municipalities, and others doing remediation regardless of original liability for the contamination. By providing remediation standards and the opportunity for release from liability, under the provisions of the Act and these regulations, it is not expected that the regulations will pose an adverse effect to persons and entities performing remediation under these regulations.

(15) List the persons, groups or entities that will be required to comply with the regulation. (Approximate the number of people who will be required to comply.)

This regulation affects owners and operators and purchasers of all properties and facilities who volunteer or who are required to perform remediation of contaminated sites. This universal group also includes any individual, corporation, business, authority, or municipality or other entity doing remediation, regardless of original liability for the contamination.

(16) Describe the communications with and inputs from the public in the development and drafting of the regulation. List the persons and/or groups who were involved, if applicable.

Since September 1998, the Department has involved the CSSAB in the identification, formulation and final drafting of the proposed changes in this regulation. In their February 3, 2000 meeting the board voted to recommend approval of this regulation amendment.

Regulatory Analysis Form

(17) Provide a specific estimate of the cost and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required.

The costs imposed by the statute are the fees required for submission of plans and reports for site remediation. Specifically, these costs are \$250 for each submission of a final report for remediation to a Background or Statewide health standard; \$250 for each remedial investigation report, risk assessment report, and cleanup plan at sites being remediated to a Site-specific standard, and \$500 for a final report for a Site-specific standard remediation. This proposed rulemaking does not contain any increases to these statutory fees.

(18) Provide a specific estimate of the cost and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required.

Local governments do have opportunity to participate in the remediation planning process in certain circumstances, and hence some costs in labor will result. Based on experience in the interim period, municipalities have chosen to be involved in only a few cases. The work involved would include administrative, legal and technical consulting review of a project. It is estimated that 20 sites for each 150 sites entering the program will involve local government review. At \$40.00 labor cost involving 100 hours per site it would involve \$4,000 per site. It should be noted that these costs are only incurred by local governments when they choose to become involved in the process. On the plus side, the reuse of industrial properties that are vacant or underutilized will increase the local tax base which will increase the revenues to the local government. Also, the reuse of the sites as commercial and industrial enterprises will increase the number of jobs available for the citizens of the area near the redeveloped site.

(19) Provide a specific estimate of the cost and/or savings to state government associated with the implementation of the regulation, including any legal, accounting or consulting procedures which may be required.

State costs to administer the Land Recycling Program are approximately \$2million per year. These costs are primarily to cover staff salaries, benefits and overhead. This work is being accomplished using existing resources. Therefore, they represent a diverted cost as opposed to an additional cost. Although there is no actual savings to the state, avoided costs due to simplified procedures are significant, and may reach greater than \$5 million per year.

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(20) In the table below, provide an estimate of the fiscal savings and cost associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years. * Costs are in thousands dollars.

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
SAVINGS:	\$*	\$*	\$*	\$*	\$*	\$*
Regulated Community	0	7,500	15,000	22,500	30,000	30,000
Local Government	0	0	0	0	0	0
State Governments	0	0	0	0	0	0
Total Savings	0	7,500	15,000	22,500	30,000	30,000
COSTS:						
Regulated Community	30.5	56.2	112.5	168.7	225	225
Local Government	0	80	160	240	320	320
State Governments	0	0	0	0	0	0
Total Cost	30.5	136.2	272.5	408.7	545	545
REVENUE LOSSES:						
Regulated Community	0	0	0	0	0	0
Local Government	0	0	0	0	0	0
State Governments	0	0	0	0	0	0
Total Revenue Losses	0	0	0	0	0	0

(20a) Explain how the cost estimates listed above were derived.

The numbers of sites expected to come into the program is 150 per year and double each year over the next 3 years. Based on current sites entering the program in the 21 months since the effective date of the Act, 12 about 150 sites. The savings to the regulatory community are expected to decrease by a minimum of 50%, or estimated to be an average of \$50,000 savings per site. This includes savings in multiple review letters, meetings, etc. with the regulatory agency which in the past have resulted in multiple site characterization and cleanup efforts on the same site.

Local governments do have opportunity to voluntarily participate in certain circumstances, and hence where they choose to do so some costs in labor will result. Based on experience in the interim period, municipalities have chosen to be involved in only a few cases. Estimate of 20 cases for each 150 sites entering the program, at \$40.00 labor cost involving 100 hours per case.

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(20b) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3	FY-2	FY-1(95/96)	Current FY
Land Recycling Prog.	\$0	\$0	\$844,300	\$1,790,000

(21) Using the cost-benefit information provided above, explain how the benefits of the regulation outweigh the adverse effects and cost.

Before Act 2 was effective, July 1995, the Land Recycling Program was not an option for the regulated community. The Environmental Cleanup Program staff time spent working on a Land Recycling Program Act 2 site is considerably less than staff time reviewing sites under other existing remediation programs. So with the same amount of staff time, more sites will be remediated under the Land Recycling Program than in the past. The benefits are in the form of environmental remediation plus providing for the reuse of previously unused or underused contaminated industrial properties. There are fees charged for each submittal under the Background, Statewide health and Site-specific Standards which is used to offset staff time needed to review the information submitted by the regulated community.

(22) Describe the non-regulatory alternative considered and the cost associated with those alternatives. Provide the reasons for their dismissal.

Act 2 mandates promulgation of regulations for statewide health cleanup standards and methods to demonstrate attainment. The Department did consider other non-regulatory alternatives through use of a Technical Guidance Manual to be used to supplement the regulations

(23) Describe alternative regulatory schemes considered and the cost associated with those schemes. Provide the reasons for their dismissal.

The Department considered developing a regulatory program based upon detailed regulations for implementing the program. Because the intent of the program is to facilitate more cleanups through uniform cleanup standards and procedures, the Department chose to develop regulations that would be more flexible and allow for expanded use of guidance, rather than prescriptive regulation, in implementing the program. This approach will benefit both the person performing remediation and the Department by providing the needed flexibility to address site issues not found in the Federal CERCLA program or other state regulations.

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(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

Yes. In some instances, the groundwater and soil MSCs under the Statewide health standards are more stringent than federal standards.

With regard to the groundwater MSCs, Act 2 requires the use of maximum contaminant levels (MCLs) and health advisory levels (HALs) as Statewide health standards. Both the state and the federal governments are authorized to develop MCLs as drinking water standards. Under the PA Safe Drinking Water Act, the state is authorized to develop both primary and secondary MCLs that are at least as stringent as the federal standards and may develop more stringent standards. Also, the state is authorized to develop such standards for bottled water. The final regulations are consistent with both the state and federal drinking water programs, where they identify MCLs as drinking water standards. To the extent that the state drinking water program is more stringent than the federal program, that stringency is reflected in these final regulations.

In addition, the groundwater MSC for lead is based on the state bottled water MCL. It should be noted that the federal government withdrew their MCL for lead in drinking water and substituted it with a treatment technique requirement, known as an action level. However, the state's bottled water MCL is consistent with the standard for lead in bottled water developed by the U.S. Food and Drug Administration.

(25) How does the regulation compare with those of other states? Will the regulation put Pennsylvania at a competitive disadvantage with other states?

The regulations have not put Pennsylvania at a competitive disadvantage with other states. In fact, the regulations have been a major step forward in making Pennsylvania competitive with other states and a leader in the area of Brownfield redevelopment. This was and has remained a basis for the regulations. By establishing uniform risk based cleanup standards, providing for release of liability for persons performing remediation, and promoting the reuse of industrial properties, Pennsylvania has become more competitive. This has allowed for the reuse of properties otherwise left vacant which have resulted in loss of tax base for municipalities and loss of jobs in communities with the resultant economic decline in many areas of the state. The effect of the regulations has encouraged the remediation of contaminated sites and the reuse of industrial properties, which has allowed business to remain in Pennsylvania and provide a climate conducive for new industry to consider Pennsylvania for location.

(26) Will the regulation affect existing or proposed regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No changes anticipated beyond that already initiated by Act 2 itself and as a part of the Regulatory Review.

(27) Will any public hearings or informational meetings be scheduled? Please provide the dates, times, and locations, if available.

No public hearings are scheduled.

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(28) Will the regulation change existing reporting, record keeping, or other paperwork requirements? Describe the changes and attach copies of forms or reports which will be required as a result of implementation, if available.

This proposed rulemaking does not change existing reporting, record keeping or other paperwork requirements.

(29) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

None. No special provisions were considered to be necessary.

(30) What is the anticipated effective date of the regulation; the date by which compliance with the regulation will be required; and the date by which any required permits, licenses or other approvals must be obtained?

The proposed rulemaking is scheduled for Environmental Quality Board consideration at its February 15, 2000 meeting. Following publication in the Pennsylvania Bulletin, the Department will review comments submitted on the proposed rulemaking and prepare a final rulemaking. At this time EQB consideration of the final rulemaking package is scheduled for August 2000.

(31) Provide the schedule for continual review of the regulation.

A program evaluation of the regulations and the Land Recycling Program was performed in 1998, three years after the effective date of Act 2. The regulations are being proposed for revision at this time due in part to the program evaluation. The program will be evaluated every two years after the initial evaluation, beginning in 2000.

FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE BUREAU
(Pursuant to Commonwealth Documents Law)

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2133

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Copy below is hereby approved as to form and legality. Attorney General

Cristina J. O'Connell
DEPUTY ATTORNEY GENERAL

JUN 28 2000

DATE OF APPROVAL

Check if applicable
Copy not approved. Objections
attached.

Copy below is hereby certified to be a true and correct copy of a document issued, prescribed or promulgated by:

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-356

DATE OF ADOPTION:

BY:

J. M. Seif

TITLE:

JAMES M. SEIF, CHAIRMAN

(EXECUTIVE OFFICER, CHAIRMAN OR SECRETARY)

Copy below is hereby approved as to form and legality. Executive or Independent Agencies.

R. Grimaldi
BY:

6/21/00
DATE OF APPROVAL

(Deputy General Counsel)
(Chief Counsel, Independent Agency)
(Strike inapplicable title)

Check if applicable. No Attorney General approval or objection within 30 days after submission.

NOTICE OF
PROPOSED RULEMAKING
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

ADMINISTRATION OF LAND RECYCLING PROGRAM

25 Pa. Code, Chapter 250

Notice of Proposed Rulemaking
Department of Environmental Protection
Environmental Quality Board
(25 Pa. Code, Chapter 250)

(ADMINISTRATION OF LAND RECYCLING PROGRAM)

Preamble

The Environmental Quality Board (Board) proposes to amend 25 Pa. Code, Chapter 250 (relating to administration of land recycling program). The amendments provide up-to-date scientific information on toxicity and other parameters of substances and corresponding changes along with corrections to the Statewide health standard medium specific concentrations (numeric standards). The amendments also propose policy clarifications and changes raised as issues during the Department of Environmental Protection's (Department) 1998-99 land recycling program evaluation.

This proposal was adopted by the Board at its meeting of June 20, 2000.

A. Effective Date

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final rulemaking.

B. Contact Persons

For further information Thomas K. Fidler, Chief, Division of Land Recycling and Cleanup Program, P.O. Box 8471, Rachel Carson State Office Building, Harrisburg, PA 17105- 8471, (717) 783-7816, or Kurt Klappowski, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section I of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal is available electronically through the DEP Web site (<http://www.dep.state.pa.us>).

C. Statutory Authority

This rulemaking is being made under the authority of Sections 104(a), 301(c) and 303(a) of the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101-6026.908) (Act 2). Section 104(a) authorizes the Board to adopt Statewide health standards, appropriate mathematically valid statistical tests to define compliance with Act 2 and other regulations that may be needed to implement the provisions of Act 2 (35 P.S. § 6026.104(a)). Section 301(c) authorizes the Department to establish by regulation procedures for determining attainment of remediation standards when practical quantitation limits set by the U.S. Environmental Protection Agency (EPA) have a health risk that is greater than the risk levels established in Act 2 (35 P.S. § 6026.301(c)). Section 303(a) authorizes the Board to promulgate Statewide health standards for regulated substances for each environmental medium and methods used to calculate the standards (35 P.S. § 6026.303(a)). This rulemaking is also being made under the authority of Section 105(a) of the Solid Waste Management Act (35 P.S. §§ 6018.101-6018.1003) (SWMA). Section 105(a) grants the Board the power and duty to adopt the rules and regulations of the Department to carry out the provisions of the SWMA.

D. Background and Purpose

Aside from minor typographical or technical corrections to the 1997 rule, there are two basic reasons for the changes in this regulatory proposal. The first is more up-to-date scientific information on parameters which effect the calculation of the Statewide health standard medium-specific concentrations (MSCs). The second is policy clarifications or developments which the Department determined would improve implementation of the Statewide health standard and attainment provisions in the rule.

The Cleanup Standards Scientific Advisory Board (CSSAB) was consulted on the proposed changes. The Department has incorporated into this proposal language suggested by the CSSAB. On February 3, 2000, the CSSAB voted to recommend approval of the proposed regulation package.

E. Summary of Regulatory Requirements

Subchapter A. General Provisions

1. Section 250.1. Definitions.

A definition has been added for the term "agricultural purposes" to clarify what they are and that they include food processing. The term is used in section 250.303(c)(1). Its scope is important in the non-use aquifer determination because groundwater usage for drinking water and agricultural purposes are protected.

2. Section 250.5. Public notice by applicant.

The proposal contains a new requirement for newspaper and municipal notices when a request for determination of non-use aquifer area is made. These edits are made in conjunction with the changes proposed in sections 250.6 and 250.303.

3. Section 250.6. Public participation.

Changes are proposed to provide for public participation when request is made for non-use aquifer determination. Municipalities and public water suppliers will have the opportunity to comment on the non-use aquifer designations made by the Department. In cases where municipalities propose to "pre-certify" areas as meeting non-use aquifer provisions of 250.303, a public participation plan is required. These edits are made in conjunction with the changes proposed in sections 250.5 and 250.303.

Subchapter C. Statewide Health Standards

1. Section 250.303. Aquifer determination; current use and currently planned use of aquifer groundwater.

The proposal includes three changes to this section. Since the determination of non-use aquifer status affects the use of groundwater in an area, the Department feels it is important that the local municipality and public water supplier be given an opportunity for participation prior to the Department making the determination. The non-use aquifer designation under the Statewide health standard is based on a number of factors, one of which is that there are no water supply wells in the

area defined in the regulations. The proposed changes are made in conjunction with changes to sections 250.5 and 250.6.

The proposal modifies section 250.303(b) to specify that the conditions of subsection (c) are met 1,000 feet downgradient of all points of compliance plus any areas to which the contamination would reasonably migrate at levels above the MSC for groundwater used or currently planned to be used. The proposal deletes the reference in the 1997 rule that specifically required the conditions to be met “within the property”. This phrase is unnecessary because the sentence goes on to include “...any additional areas where the contamination might reasonably migrate at concentrations that exceed the MSC for groundwater used or currently planned to be used.” Furthermore, the effect of the present wording is to “disqualify” properties which may be relatively large compared to their contaminant plumes, because the non-use criteria (e.g., must be greater than 1/2 mile from a municipal well which is in the upgradient direction) apply to the entire (large) property even if the contamination could not reasonably ever migrate to every part of it.

A new section is proposed for the regulation to provide of a process whereby municipal authorities, political subdivisions or Commonwealth agencies could “pre-certify” that a given area meets the requirements for non-use aquifer designation in section 250.303(b). This would expedite land reuse in urban areas where non-use aquifer criteria clearly apply. Pre-certification in advance of any NIR would greatly aid any remediator considering applying Act 2 non-use aquifer standards in these areas. A public participation plan is required as part of this process.

2. Section 250.304. MSCs for groundwater.

The 1997 rule did not establish a hierarchy for the use of sources of data for aqueous solubility used to calculate the caps for the groundwater MSCs. Section 304(f) is proposed to be revised to provide such a hierarchy. This hierarchy was developed in close consultation with the CSSAB. The CSSAB also provided a methodology for selecting the appropriate solubility value as follows:

If the values in the first two references agree within 5%, then the lower of the two values is used.

If the values in the first two references do not agree within 5%, or there are not two values in those references, then the next reference is consulted, until two values within 5% are found. The selected value is the median of all values examined.

If none of the values for a compound agree within 5% from all references, then the selected value is the median of all values examined.

3. Section 250.311. Evaluation of ecological receptors.

The third step of the ecological screen evaluates whether Constituents of Potential Ecological Concern (CPECs) are present on the site. A number of CPECs (such as iron) occur naturally and were not originally intended to be included in the evaluation of the presence of CPECs. The proposal amends subsections (c) and (d) to clarify that the evaluation of CPECs on a site includes only those associated with the release(s) at a site.

Subchapter G. Demonstration of Attainment

1. Section 250.703. General attainment requirements for soil.

The proposal amends this section to make it clear that attainment tests for soils are applied to the volume of soil initially found to be exceeding the selected standards unless that soil is removed from the site. If the contaminated soil is removed from the site, attainment sampling is applied to the base of the excavation outlined by that volume of soil.

2. Section 250.707. Statistical tests.

The Department is proposing new wording to this section to address small excavation cleanups of petroleum releases where no prior site characterization is performed. The proposal establishes a quick, clear, non-exceedance demonstration test that could be applied in such situations. This would include sites such as tank sites or spills along highway interstates. Commonly on these small sites excavation is conducted prior to any site characterization sampling. The sampling conducted is at the end of the excavation and is simply to confirm that the excavation is complete. Although such an approach eliminates the site characterization sampling which would typically be required, a non-exceedance test is applied to the excavation attainment samples. This will save time, money and will be more practically applied for remediators of small excavations. Optionally, a remediator could fully characterize the site prior to excavation, and ultimately apply any of the statistical tests provided for under section 250.707.

Appendix A Tables 1-5, and Table 6

The 1997 rule contained a finite listing of MSCs for regulated substances in Appendix A, Tables 1-4 and in Table 6, Threshold of Regulation Compounds, for substances that had no toxicology information available (Table 6 substances). For some Table 6 substances, toxicology information has become available from the sources listed in section 250.605 (relating to sources of toxicity information) since 1997. For those substances, MSCs under Tables 1-4 have been calculated, appropriate chemical properties added in Table 5, Physical and Toxicological Properties, and those substances have been removed from Table 6. Additionally, several substances that were not included in either Tables 1-5 or Table 6, but which did have toxicology information available, were recommended for inclusion in Tables 1-5 by the CSSAB. Finally, several typographical errors were corrected.

This proposal amends Table 5, Physical and Toxicological Properties, to incorporate updates in toxicity values. These updates in toxicity values can be classified into four categories:

1. New toxicity values that are different from what are presented in Table 5 of the 1997 rule. These are new values developed by EPA and other agencies since the final regulation was promulgated in 1997.
2. Toxicity values for new regulated substances proposed to be added to the current Statewide Health Standard tables.
3. Toxicity values for the Table 6 substances. As noted above, Table 6 substances did not have toxicity values available when the final regulation was promulgated in 1997. Due to continuous

development of toxicity values by EPA and other agencies, some of the Table 6 substances may have toxicity values now. This proposal contains new MSCs for these substances.

4. Additional toxicity values for the compounds on the current Statewide Health Standard tables. For some regulated substances, the MSCs in the 1997 rule were developed based on carcinogenic effects only because no toxicity values based on non-carcinogenic effects were available when the final regulation was promulgated in 1997. Where additional appropriate carcinogenic or non-carcinogenic toxicity values have been developed since 1997 for regulated substances that are on the current Statewide Health Standard tables, the Department is proposing to use these new toxicity values to make changes in existing MSCs.

Table 1 – MSCs for Organic Regulated Substances in Groundwater

The 1997 rule contained groundwater MSCs for individual PCB aroclors. The CSSAB recommended that the EPA MCL for total PCB be included in Table 1, in addition to the individual PCB aroclors. Section 303(b)(3) of Act 2 (35 P.S. § 6026.303(b)(3)) requires MCLs established by EPA to be the MSC for groundwater in aquifers used or currently planned to be used for drinking water or agricultural purposes.

Table 2 – MSCs for Inorganic Regulated Substances in Groundwater

The 1997 Rule applied the groundwater MCL for total chromium in calculating the generic numeric soil to groundwater value for chromium III, but did not do so in calculating the generic value for chromium VI. The CSSAB recommended that the calculation for chromium VI be changed to be consistent with the calculation for chromium III, by utilizing the EPA MCL for total chromium for both.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the proposed regulation.

Benefits

Remediators will benefit from the additional flexibility being proposed for demonstrating attainment on groundwater cleanups and in cases where small excavation of soil cleanups are performed. The remediators will also benefit from having information and standards that incorporate more current scientific information than was available when the final regulation was promulgated in 1997. The public will benefit from the increased opportunity to participate in the designation of non-use aquifer areas. Local governments will benefit from their ability to provide comments on non-use aquifer area designation decisions and in their ability to "pre-certify" areas in their community as meeting the non-use aquifer conditions of section 250.303.

Compliance Costs

This proposed amendment does not directly increase costs of compliance. Indirectly, there may be increased costs in some areas and decreased costs in other areas. Increased costs for remediators will occur in cases where the local municipality requests a public involvement plan in the designation of a non-use aquifer area. These costs will be related to the development of a public participation plan, interaction with the municipality and project delays related to the

additional time required to have the municipality involved in the process. Decreased costs will occur associated with the demonstration of attainment of a standard in cases of minor groundwater or soil contamination.

Compliance Assistance Plan

The land recycling program regularly provides outreach in two areas: updates to the technical guidance manual supporting Chapter 250, and in annual client workshops where training on the regulations, guidance and policies takes place.

Paperwork Requirements

No new paperwork is required by this proposed rulemaking. Additional paperwork will be required when an area-wide determination of non-use aquifer status is voluntarily sought under section 250.303. It should be noted, however, that such a determination will ultimately lead to a reduction in paperwork for remediators who wish to use the area-wide non-use aquifer determination in future cleanups.

G. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

H. Regulatory Review

Under Section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on July 11, 2000, the Department submitted a copy of these proposed amendments to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department in compliance with Executive Order 1996-1, "Regulatory Review and Promulgation." A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, if IRRC has objections to any portion of the proposed amendments, it will notify the Department within 10 days of the close of the Committees' review period. The notification shall specify the regulatory review criteria which have not been met by that portion of the proposed amendments to which an objection is made. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the amendments, by the Department, the General Assembly and the Governor of objections raised.

I. Public Comments

Written Comments - Interested persons are invited to submit comments, suggestions, or objections regarding the proposed regulation to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by September 27, 2000 (within 60 days of publication in the *Pennsylvania Bulletin*). Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in

length and must also be received by September 27, 2000 (within 60 days following publication in the *Pennsylvania Bulletin*). The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

Electronic Comments - Comments may be submitted electronically to the Board at RegComments@dep.state.pa.us and must also be received by the Board by September 27, 2000. A subject heading of the proposal and a return name and address must be included in each transmission. If an acknowledgement of electronic comments is not received by the sender within two working days, the comments should be retransmitted to ensure receipt.

BY:

JAMES M. SEIF
Chairman
Environmental Quality Board

Annex A

Title 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart D. ENVIRONMENTAL HEALTH AND SAFETY

ARTICLE VI. GENERAL HEALTH AND SAFETY

CHAPTER 250. ADMINISTRATION OF LAND RECYCLING PROGRAM

Subchapter A. GENERAL PROVISIONS

§ 250.1. Definitions.

In addition to the words and terms defined in the act, the following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Act—The Land Recycling and Environmental Remediation Standards Act (35 P. S. §§ 6026.101–6026.909).

AGRICULTURAL PURPOSES- COMMERCIAL AGRICULTURAL ACTIVITIES, INCLUDING, BUT NOT LIMITED TO IRRIGATION OF CROPS, WATERING OF LIVESTOCK, AND FOOD PRODUCTION, PROCESSING OR PACKAGING.

Anisotropy—The variability of a physical property based on direction, for example, variation in permeability in relation to direction of groundwater flow.

* * * * *

§ 250.5. Public notice by applicant.

(a) Public notice under the background, Statewide health or site-specific standard and under a special industrial area cleanup shall be initiated by the applicant through an NIR. For remediations proposing the use of a site-specific standard or, for remediations under an SIA

agreement, the public and the municipality where the site is located shall be provided a 30-day period, in the NIR, in which the municipality may request to be involved in the development of the remediation and reuse plans.

(b) The remedial investigation report, the risk assessment report and the cleanup plan, prepared under a site-specific remediation, may not be submitted to the Department until after the initial 30-day public and municipal comment period following the submission of the NIR has expired.

(c) The baseline environmental report, prepared under an SIA remediation, shall be submitted after the initial 30-day public and municipal comment period has expired.

(d) AT THE SAME TIME A REQUEST FOR A NON-USE AQUIFER DESIGNATION UNDER THE STATEWIDE HEALTH STANDARD IS MADE TO THE DEPARTMENT, THE REMEDIATOR SHALL SEND NOTICE TO EVERY MUNICIPALITY AND COMMUNITY WATER SUPPLIER SERVICING THE AREA REQUESTED FOR DESIGNATION AS NON-USE UNDER §250.303(b) (RELATING TO AQUIFER DETERMINATION; CURRENT USE AND CURRENTLY PLANNED USE OF AQUIFER GROUNDWATER). THE NOTICE SHALL INCLUDE A COPY OF THE REQUEST FOR DETERMINATION OF NON-USE AQUIFER SUBMITTED TO THE DEPARTMENT.

(e) UPON RECEIPT OF A REQUEST FOR A NON-USE AQUIFER DESIGNATION, THE MUNICIPALITY AND COMMUNITY WATER SUPPLIER WILL HAVE 45 DAYS TO INDICATE TO THE DEPARTMENT AND THE REMEDIATOR ANY INFORMATION RELEVANT TO THE REQUIREMENTS OF §250.303 (RELATING TO AQUIFER DETERMINATION; CURRENT USE AND CURRENTLY PLANNED USE OF AQUIFER GROUNDWATER).

§ 250.6. Public participation.

(a) The publication date of the summary of the NIR in a newspaper of general circulation in the area of the site shall initiate the 30-day public and municipal comment period during which the municipality can request to be involved in the development of the remediation and reuse plans for a site being remediated to a site-specific standard or for remediation at an SIA.

(b) The person proposing remediation shall be responsible for developing and implementing a public involvement plan if both of the following circumstances exist:

(1) The remediation involves a site-specific standard or an SIA cleanup.

(2) A municipality, through its official representatives, has requested, in writing, to be involved in the development of the remediation and reuse plans within the 30-day public and municipal comment period identified in the notice to the municipality and the newspaper notice.

(c) If a public involvement plan has been initiated, the person proposing remediation shall, at a minimum, provide:

(1) Public access at convenient locations for document review.

(2) Designation of a single contact person to address questions from the community.

(3) A location near the remediation site for any public hearings and meetings that may be part of the public involvement plan.

(d) If a public involvement plan has been requested, it shall be submitted with one of the following:

(1) A remedial investigation report under a site-specific remediation.

(2) A baseline environmental report under an SIA cleanup.

(e) A PUBLIC INVOLVEMENT PLAN SHALL BE DEVELOPED BY THE PERSON MAKING A PRE-CERTIFICATION DETERMINATION REQUEST UNDER §250.303(f) IN CONJUNCTION WITH ALL MUNICIPALITIES SERVING THE PROPOSED NON-USE AQUIFER AREA. THE PUBLIC INVOLVEMENT PLAN SHALL BE IMPLEMENTED PRIOR TO SUBMISSION OF THE PRE-CERTIFICATION REQUEST TO THE DEPARTMENT. SUCH A PUBLIC INVOLVEMENT PLAN SHALL CONTAIN AT A MINIMUM:

(1) NOTICE PUBLISHED IN A LOCAL NEWSPAPER OF GENERAL CIRCULATION AND PROVIDED TO THE APPLICABLE MUNICIPALITY OR MUNICIPALITIES BY LETTER. THE NOTICE TO THE MUNICIPALITY SHALL BE MADE BY THE PERSON INITIATING THE REQUEST FOR NON-USE AQUIFER DETERMINATION. THIS NOTICE SHALL PROVIDE A BRIEF DESCRIPTION OF THE AREA FOR WHICH THE NON-USE AQUIFER DESIGNATION IS BEING REQUESTED.

(2) A PUBLIC INVOLVEMENT PLAN WITH A 90-DAY COMMENT PERIOD. THE COMMENT PERIOD SHALL BE INITIATED AT THE TIME OF THE NEWSPAPER PUBLICATION. THE NON-USE AQUIFER PRE-CERTIFICATION REQUEST SHALL NOT BE SUBMITTED TO THE DEPARTMENT UNTIL THE CONCLUSION OF THE 90-DAY COMMENT PERIOD. ALL COMMENTS RECEIVED DURING THE COMMENT PERIOD MUST BE RESPONDED TO AND PROVIDED WITH THE PRE-CERTIFICATION REQUEST.

(3) PUBLIC ACCESS AT CONVENIENT LOCATIONS FOR DOCUMENT REVIEW.

(4) DESIGNATION OF A SINGLE CONTACT PERSON TO ADDRESS QUESTIONS FROM THE COMMUNITY.

(5) A LOCATION NEAR THE PROPOSED NON-USE AQUIFER DESIGNATION SITE FOR ANY PUBLIC HEARINGS AND MEETINGS THAT MAY BE PART OF THE PUBLIC INVOLVEMENT PLAN.

Subchapter C. STATEWIDE HEALTH STANDARDS

§ 250.303. Aquifer determination; current use and currently planned use of aquifer groundwater.

(a) With the exception of seasonal, localized and hydrologically isolated perched systems under a property, all geologic formations or parts or groups of formations in this Commonwealth which are saturated are presumed to be aquifers for the purpose of applying the Statewide health standards. The term includes saturated residuum such as saprolite and other weathered rock strata or intervals developed from underlying bedrock and other saturated deposits overlying these formations to which the geologic formations are hydrologically connected.

(b) All groundwater in aquifers is presumed to be used or currently planned for use. The Department may determine, in writing, based on a demonstration by the person remediating the site that groundwater is not used or currently planned to be used, IF THE PUBLIC PARTICIPATION REQUIREMENTS OF §§ 250.5 (RELATING TO PUBLIC NOTICE BY APPLICANT) AND 250.6 (RELATING TO PUBLIC PARTICIPATION) ARE MET, AND if the requirements in subsection (c) are met within THE SITE ON THE property and within a radius of 1,000 feet downgradient of the points of compliance plus any additional areas to which the contamination has migrated and might reasonably migrate at concentrations that exceed the MSC for groundwater used or currently planned to be used. METHODS APPROPRIATE FOR DETERMINING CURRENT OR CURRENTLY PLANNED FUTURE USE MAY INCLUDE

DOOR-TO-DOOR SURVEYS, VERIFYING COMMUNITY WATER SYSTEM BILLING RECORDS AND INTERVIEWING COMMUNITY WATER SYSTEM SUPPLIERS WITH REGARD TO THEIR CURRENTLY PLANNED FUTURE GROUNDWATER USE.

(c) The following requirements shall be met within the area described in subsection (b):

(1) No groundwater derived from wells or springs is used [or currently planned to be used] for drinking water or agricultural purposes.

(2) All downgradient properties are connected to a community water system.

(3) The area described in subsection (b) does not intersect a radius of 1/2 mile from a community water supply well source or does not intersect an area designated by the Department as a zone 2 wellhead protection area under Chapter 109 (relating to safe drinking water).

(4) THERE ARE NO CURRENTLY PLANNED FUTURE USES OF THE GROUNDWATER IN THAT AREA BY ANY COMMUNITY WATER SUPPLIER OR USE FOR AGRICULTURAL PURPOSES.

(d) If the Department determines that groundwater is not used or currently planned to be used, the following requirements apply within the area identified in subsection (b):

(1) The requirements in § 250.309 (relating to MSCs for surface water).

(2) The ecological screening process identified in § 250.311 (relating to evaluation of ecological receptors).

(e) The MSCs for groundwater in an aquifer that is not used or currently planned for use, under § 250.304(d) (relating to MSCs for groundwater), shall be met at the points of compliance identified in § 250.302 (relating to point of compliance).

(f) AFTER RECEIPT OF A NON-USE AQUIFER DETERMINATION REQUEST, AND RECEIPT OF THE REQUIRED PUBLIC INVOLVEMENT PLAN, THE DEPARTMENT MAY MAKE A "PRE-CERTIFICATION" DETERMINATION THAT A SPECIFIC GEOGRAPHIC AREA MEETS THE CONDITIONS OF SUBSECTION (c). ONLY MUNICIPAL AUTHORITIES AND POLITICAL SUBDIVISIONS ARE ELIGIBLE TO REQUEST SUCH A DETERMINATION. IF A MUNICIPAL ORDINANCE EXISTS WHICH PROVIDES FOR THE FULFILLMENT OF ALL ASPECTS OF SUBSECTION (c), THE PERSON APPLYING FOR A NON-USE AQUIFER DESIGNATION MAY USE THE EXISTENCE OF SUCH AN ORDINANCE TO DEMONSTRATE THAT THE REQUIREMENTS OF SUBSECTION (c) HAVE BEEN MET. ANY SUCH DETERMINATION MADE PURSUANT TO THIS SUBSECTION SHALL EXPIRE AFTER THREE YEARS AND MAY BE UPDATED AT ANY TIME ADDITIONAL RELEVANT INFORMATION COMES TO THE ATTENTION OF THE DEPARTMENT. AT THE END OF THE THREE YEAR PERIOD, THE APPLICANT MAY REQUEST A RENEWAL OF DETERMINATION FROM THE DEPARTMENT.

(g) PUBLIC PARTICIPATION REQUIREMENTS OF §250.6(e) SHALL BE MET ON ALL "PRE-CERTIFICATION" REQUESTS.

§ 250.304. MSCs for groundwater.

* * * * *

(f) In addition to the requirements in this section, the MSCs are further limited by solubility as identified in Appendix A, Table 5. The solubility limits are derived from the [following] references IN SUBSECTION (g), which are keyed to the numbers in Table 5[:]. THE FOLLOWING PROCEDURE WAS USED TO DETERMINE THE APPROPRIATE

SOLUBILITY VALUE FOR EACH REGULATED SUBSTANCE: WHERE MULTIPLE SOURCES ARE CITED IN TABLE 5, THE VALUE FOR THE SOLUBILITY LIMIT IS THE MEDIAN OF THE VALUES IN THE INDICATED REFERENCES.

(1) USING THE HIERARCHY ESTABLISHED IN SUBSECTION (g), THE FIRST TWO REFERENCES WERE CONSULTED. IF THE SOLUBILITY VALUES AGREED WITHIN FIVE PERCENT, THE SELECTED VALUE IS THE LOWER OF THE TWO VALUES.

(2) IF THE VALUES IN STEP (1) DID NOT AGREE WITHIN FIVE PERCENT, THE NEXT REFERENCES IN ORDER WERE CONSULTED UNTIL TWO VALUES THAT DID AGREE WITHIN FIVE PERCENT WERE FOUND. THE SELECTED VALUE IS THEN THE MEDIAN OF ALL THE VALUES CONSULTED.

(3) IF NONE OF THE VALUES IN ALL OF THE REFERENCES IN SUBSECTION (g) AGREED WITHIN FIVE PERCENT, THEN THE SELECTED VALUE IS THE MEDIAN OF ALL VALUES IN ALL REFERENCES.

(g) THE REFERENCES REFERRED TO IN SUBSECTION (f) ARE:

(1) LIDE, D.R., ED. 1996. CRC HANDBOOK OF CHEMISTRY AND PHYSICS. 77TH EDITION. CRC PRESS.

(2) BUDAVARIS, ED. 1996. THE MERCK INDEX 12TH ED. MERCK AND CO.

(3) PERRY, R.H., ET AL. 1997. PERRY'S CHEMICAL ENGINEER'S HANDBOOK. 7TH ED. MCGRAW-HILL, NEW YORK.

[(1)] (4) Howard, P. H. 1991. *Handbook of Environmental Fate and Exposure Data for Organic Chemicals. Vol. III. Pesticides.* Lewis Publishers.

[(2)] Lyman, W. J., W. F. Reehl, and D. H. Rosenblatt. 1982. *Handbook of Chemical Property*

Estimation Methods. McGraw-Hill Book Co. NY.]

[(17)] (5) Verschueren, K. 1977. *Handbook of Environmental Data on Organic Chemicals*. Van Nostrand Reinhold.

(6) MACKAY, D., ET AL. 1997. ILLUSTRATED HANDBOOK OF PHYSICAL-CHEMICAL PROPERTIES AND ENVIRONMENTAL FATE FOR ORGANIC CHEMICALS. 5 VOLUMES. LEWIS PUBLISHERS, NEW YORK.

[(5)] (7) Montgomery, J. H. 1991. *Groundwater Chemicals Desk Reference*. Vol. II. Lewis Publishers. AND

[(6)] Montgomery, J. H., and L. M. Welkom. 1990. *Groundwater Chemicals Desk Reference*. Vol. I. Lewis Publishers.

[(4)] (8) Milne, G.W.A., Ed. 1995. *CRC Handbook of Pesticides*. CRC Press, Inc.

[(8)] (9) National Library of Medicine (Grateful Med). *Hazardous Substances Databank*.

[(16)] (10) EPA. 1994. *Superfund Chemical Data Matrix*. Office of Solid Waste and Emergency Response. EPA 540-R-94-009.

[(3)] (11) Mabey, et al. 1982. *Aquatic Fate Process Data for Organic Priority Pollutants*. SRI. EPA Contract Nos. 68-01-3867, 68-03-2981.

[(7)] (12) Montgomery, J. H. 1993. *Agrochemicals Desk Reference, Environmental Data*. Lewis Publishers.

[(9)] Nirmalakhandan, N. N., and R. E. Speece. 1988a. *Prediction of Aqueous Solubility of Organic Chemicals Based on Molecular Structure*. ES&T 22:328-337.

(10) Nirmalakhandan, N. N., and R. E. Speece. 1988b. *Prediction of Aqueous Solubility of*

Organic Chemicals Based on Molecular Structure. 2. Application to PNAS, PCBs, PCDDs, etc.
ES&T. 23:708-713.

(11) Sax, N. I. 1989. *Dangerous Properties of Industrial Materials*. Seventh Edition. Vol. 1-3.
Van Nostrand Reinhold.

(12) Environmental Protection Agency. Undated. *IRIS—The Integrated Risk Information System*.

(13) Environmental Protection Agency. 1985. *Physical/Chemical Properties and
Characterization of RCRA Wastes According to Volatility. Office of Air Quality and Planning
and Standards*. EA 450/3-85-007.

(14) Environmental Protection Agency. 1989. *Database of Chemical Properties for SARA.
Section 313 Chemicals*.

(15) Environmental Protection Agency. 1992. *Handbook of RCRA Ground-water Monitoring
Constituents: Chemical & Physical Properties*. 40 CFR Part 264, Appendix IX. Office of Solid
Waste. Permits and State Programs Division. EPA 530-R-92-022.]

[(18) Windholz. M., ED. 1976. *The Merck Index*. 9th ED. Merck and Co.]

§ 250.311. Evaluation of ecological receptors.

(a) In addition to any protection afforded under other requirements for meeting surface water and air quality standards and MSCs under this chapter, based on the screening process in this section, direct impacts from regulated substances to the following receptors shall be assessed and addressed to implement a remedy that is protective of the environment:

(1) Individuals of threatened or endangered species as designated by the United States Fish and Wildlife Service under the Endangered Species Act (16 U.S.C.A. §§ 1531–1544).

(2) Exceptional value wetlands as defined in § 105.17 (relating to wetlands).

(3) Habitats of concern.

(4) Species of concern.

(b) For purposes of determining impacts on ecological receptors, no additional evaluation is required if the remediation attains a level equal to 1/10th of the value in Appendix A, Tables 3 and 4, except for constituents of potential ecological concern identified in Table 8, or if the criteria in paragraph (1), (2) or (3) are met. Information that supports a determination that no additional evaluation is required shall be documented in the final report.

(1) Jet fuel, gasoline, kerosene, number two fuel oil or diesel fuel are the only constituents detected onsite.

(2) The area of contaminated soil is less than 2 acres and the area of contaminated sediment is less than 1,000 square feet.

(3) The site has features, such as buildings, parking lots or graveled paved areas, which would obviously eliminate the specific exposure pathways, such as soils exposure.

(c) If none of the criteria in subsection (b) are met and if no Constituents of Potential Ecological Concern (CPECs) ASSOCIATED WITH A RELEASE AT THE SITE, as identified in Appendix A, Table 8, are detected onsite, an onsite evaluation shall be conducted to document any indications of ecological impact. Ecological impacts requiring more detailed evaluation exist if there are differences of greater than 50% in the density or diversity of species or habitats of concern when compared with nearby reference areas representing equivalent ecological areas without contamination, if available. This evaluation shall also document the presence of threatened and endangered species and exceptional value wetlands. If no ecological impacts requiring further evaluation are identified, and no threatened and endangered species exist within

a 2,500-foot radius of the site and no exceptional value wetlands exist on the site, no further evaluation is required and that determination shall be documented in the final report.

(d) If none of the criteria in subsection (b) are met and if CPECs ASSOCIATED WITH THE RELEASE AT THE SITE are detected onsite or ecological impacts requiring more detailed evaluation, threatened and endangered species, or exceptional value wetlands as identified in subsection (c) exist, a detailed onsite evaluation shall be conducted by a person qualified to perform environmental risk assessments to document any substantial ecological impacts.

Substantial ecological impacts exist if there are differences of greater than 20% in the density of species of concern or greater than 50% in the diversity and extent of habitats of concern when compared with nearby reference areas representing equivalent ecological areas without contamination, if available. If there are no substantial ecological impacts identified and there are no threatened or endangered species on or within a 2,500-foot radius of the site and no exceptional value wetlands on the site, that determination shall be provided in the final report.

* * * * *

Subchapter G. DEMONSTRATION OF ATTAINMENT

§ 250.703. General attainment requirements for soil.

* * * * *

(b) The [volume] LOCATION of soil to which the attainment criteria is applied shall be determined by circumscribing with an irregular surface those concentrations detected during characterization which exceed the selected standard. WHERE SUCH SOIL IS TO BE REMOVED FROM THE SITE, THE ATTAINMENT APPLIES TO THE BASE OF THE EXCAVATION OUTLINED BY THAT IRREGULAR SURFACE.

* * * * *

§ 250.707. Statistical tests.

* * * * *

(b) The following statistical tests may be accepted by the Department to demonstrate attainment of the Statewide health standard. The statistical test for soil shall apply to each distinct area of contamination. The statistical test for groundwater will apply to each compliance monitoring well. Testing shall be performed individually for each regulated substance identified in the final report site investigation as being present at the site for which a person wants relief from liability under the act. The application of a statistical method shall meet the criteria in subsection (d).

(1) For soil attainment determination at each distinct area of contamination, subparagraph (i), (ii) or (iii) shall be met in addition to the attainment requirements in §§ 250.702 and 250.703 (relating to attainment requirements; and general attainment requirements for soil).

(i) Seventy-five percent of all samples, which shall be randomly collected in a single event from the site, shall be equal to or less than the Statewide health standard or the limit related to PQLs with no individual sample exceeding ten times the Statewide health standard.

(ii) As applied in accordance with EPA approved methods on statistical analysis of environmental data, as identified in subsection (e), the 95% UCL of the arithmetic mean shall be at or below the Statewide health standard.

(iii) [For sites that qualify as localized contamination sites under the document entitled "Closure Requirements for Underground Storage Tank Systems" (DEP Technical Guidance Document No. 2530-BK-DEP2008), where samples are taken in accordance with that document that result in fewer samples being taken than otherwise required in this section, no sample may exceed the

Statewide health standard.] FOR SITES WITH A PETROLEUM RELEASE WHERE FULL SITE CHARACTERIZATION HAS NOT BEEN DONE IN ASSOCIATION WITH AN EXCAVATION REMEDIATION, ATTAINMENT OF THE STATEWIDE HEALTH STANDARD MUST BE DEMONSTRATED USING THE FOLLOWING PROCEDURE:

(A) FOR SITES WHERE THERE IS LOCALIZED CONTAMINATION AS DEFINED IN THE DOCUMENT "CLOSURE REQUIREMENTS FOR UNDERGROUND STORAGE TANK SYSTEMS" (DEP TECHNICAL DOCUMENT 2530-BK-DEP2008), SAMPLES SHALL BE TAKEN IN ACCORDANCE WITH THAT DOCUMENT.

(B) FOR SITES NOT COVERED BY CLAUSE (A), SAMPLES SHALL BE TAKEN FROM THE BOTTOM AND SIDEWALLS OF THE EXCAVATION IN A BIASED FASHION THAT CONCENTRATES ON AREAS WHERE ANY REMAINING CONTAMINATION ABOVE THE STATEWIDE HEALTH STANDARD WOULD MOST LIKELY BE FOUND. THE SAMPLES SHALL BE TAKEN FROM THESE SUSPECT AREAS BASED ON VISUAL OBSERVATION AND THE USE OF FIELD INSTRUMENTS. IF A SUFFICIENT NUMBER OF SAMPLES HAS BEEN COLLECTED FROM ALL SUSPECT LOCATIONS AND THE MINIMUM NUMBER OF SAMPLES HAS NOT BEEN COLLECTED, OR IF THERE ARE NO SUSPECT AREAS, THE LOCATIONS TO MEET THE MINIMUM NUMBER OF SAMPLES SHALL BE BASED ON A RANDOM PROCEDURE. THE NUMBER OF SAMPLE POINTS REQUIRED SHALL BE DETERMINED IN THE FOLLOWING WAY:

(I) FOR 250 CUBIC YARDS OR LESS OF EXCAVATED CONTAMINATED SOIL, FIVE SAMPLES SHALL BE COLLECTED.

(II) FOR EACH ADDITIONAL 100 CUBIC YARDS OF EXCAVATED CONTAMINATED

SOIL, ONE SAMPLE SHALL BE COLLECTED.

(III) FOR EXCAVATIONS INVOLVING MORE THAN 1000 CUBIC YARDS OF CONTAMINATED SOIL, THE DEPARTMENT SHALL APPROVE THE CONFIRMATORY SAMPLING PLAN.

(IV) WHERE WATER IS ENCOUNTERED IN THE EXCAVATION AND NO OBVIOUS CONTAMINATION IS OBSERVED OR INDICATED, SOIL SAMPLES COLLECTED JUST ABOVE THE SOIL/WATER INTERFACE SHALL MEET THE MSC DETERMINED BY USING THE SATURATED SOIL COMPONENT OF THE SOIL-TO-GROUNDWATER NUMERIC VALUE.

(V) WHERE WATER IS ENCOUNTERED IN THE EXCAVATION AND NO OBVIOUS CONTAMINATION IS OBSERVED OR INDICATED, A MINIMUM OF TWO SAMPLES SHALL BE COLLECTED FROM THE WATER SURFACE IN THE EXCAVATION.

(C) ALL SAMPLE RESULTS SHALL MEET THE STATEWIDE HEALTH STANDARD.

(iv) FOR SITES WHERE THERE IS A RELEASE TO SURFACE SOILS RESULTING IN EXCAVATION OF 50 CUBIC YARDS OR LESS OF CONTAMINATED SOIL, SAMPLES SHALL BE COLLECTED AS DESCRIBED IN SECTION 250.707(b)(1)(iii)(B), EXCEPT THAT TWO SAMPLES SHALL BE COLLECTED.

* * * * *

APPENDIX A
TABLE 1 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN GROUNDWATER

REGULATED SUBSTANCE	CASRN	USED AQUIFERS						NON-USE AQUIFERS					
		TDS ≤ 2500			TDS > 2500			R		NR			
		R	NR		R	NR		R	NR				
ACENAPHTHENE	83329	2200	G	[3500] 3800	S	[3500] 3800	S	[3500] 3800	S	[3500] 3800	S	[3500] 3800	S
ACENAPHTHYLENE	208968	2200	G	[3000] 6100	[S] G	[3000] 16000	S	[3000] 16000	S	[3000] 16000	S	[3000] 16000	S
ACEPHATE	030560-19-1	76	G	300	G	7,600	G	30,000	G	76	G	300	G
ACETALDEHYDE	75070	19	N	[57] 52	N	1900	N	[5700] 5200	N	19	N	[67] 52	N
ACETONE	67641	3700	G	10000	G	370000	G	1000000	G	37000	G	100000	G
ACETONITRILE	75058	[58] 1700	N	[420] 3500	N	[5800] 170000	N	[42000] 350000	N	[580] 17000	N	[4200] 35000	N
ACETOPHENONE	98862	3700	G	10000	G	370000	G	1000000	G	3700	G	10000	G
ACETYLAMINOFLUORENE, 2- (2AAF)	53963	0.17	G	0.68	G	17	G	68	G	170	G	680	G
ACROLEIN	107028	0.055	N	0.12	N	5.5	N	12	N	0.55	N	1.2	N
ACRYLAMIDE	79061	0.033	N	0.14	N	3.3	N	14	N	0.033	N	0.14	N
ACRYLIC ACID	79107	2.8	N	5.8	N	280	N	580	N	280	N	580	N
ACRYLONITRILE	107131	0.63	N	2.7	N	63	N	270	N	63	N	270	N
ALACHLOR	15972608	2	M	2	M	200	M	200	M	2	M	2	M
ALDICARB	116063	7	M	7	M	700	M	700	M	7000	M	7000	M
ALDRIN	309002	0.0087	N	0.037	N	0.87	N	3.7	N	0.87	N	3.7	N
ALLYL ALCOHOL	107186	49	N	100	N	4900	N	10000	N	4900	N	10000	N
AMINOBIHENYL, 4-	92671	0.031	G	0.12	G	3.1	G	12	G	31	G	120	G
AMITROLE	61825	0.7	G	2.8	G	70	G	280	G	700	G	2800	G
AMMONIA	007664-41-7	30,000	H	30,000	H	3,000,000	H	3,000,000	H	30,000	H	30,000	H
AMMONIUM SULFAMATE	007773-06-0	2,000	H	2,000	H	200,000	H	200,000	H	2,000	H	2,000	H
ANILINE	62533	2.8	N	5.8	N	280	N	580	N	2.8	N	5.8	N
ANTHRACENE	120127	[43] 66	S	[43] 66	S	[43] 66	S	[43] 66	S	[43] 66	S	[43] 66	S
ATRAZINE	1912249	3	M	3	M	300	M	300	M	3	M	3	M
BAYGON (PROPOXUR)	000114-26-1	3	H	3	H	300	H	300	H	3,000	H	3,000	H
BENOMYL	017804-35-2	1,800	G	2,000	S	2,000	S	2,000	S	1,800	G	2,000	S
BENTAZON	025057-89-0	1,100	G	3,100	G	110,000	G	310,000	G	1,100	G	3,100	G
BENZENE	71432	5	M	5	M	500	M	500	M	500	M	500	M
BENZIDINE	000092-87-5	0.0029	G	0.01	G	0.29	G	1	G	3	G	11	G
BENZO[A]ANTHRACENE	56553	0.9	G	3.6	G	[44] 11	S	[44] 11	S	[44] 11	S	[44] 11	S
BENZO[A]PYRENE	50328	0.2	M	0.2	M	3.8	S	3.8	S	3.8	S	3.8	S
BENZO[B]FLUORANTHENE	205992	0.9	G	1.2	S	1.2	S	1.2	S	1.2	S	1.2	S
BENZO[GHI]PERYLENE	191242	0.26	S	0.26	S	0.26	S	0.26	S	0.26	S	0.26	S
BENZO[K]FLUORANTHENE	207089	0.55	S	0.55	S	0.55	S	0.55	S	0.55	S	0.55	S
BENZOIC ACID	65850	150000	G	410000	G	[3400000] 2700000	S	[3400000] 2700000	S	150000	G	410000	G
BENZOTRICHLORIDE	000098-07-7	0.051	G	0.2	G	5.1	G	20	G	51.00	G	200.0	G
BENZYL ALCOHOL	100516	11000	G	31000	G	1100000	G	3100000	G	11000	G	31000	G
BENZYL CHLORIDE	100447	0.87	N	3.7	N	87	N	370	N	87	N	370	N
BHC, ALPHA-	319846	0.1	G	0.41	G	10	G	41	G	100	G	410	G
BHC, BETA-	319857	0.37	G	1.4	G	37	G	[140] 100	[G] S	[370] 100	[G] S	[1400] 100	[G] S

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APPENDIX A

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REGULATED SUBSTANCE	CASRN	USED AQUIFERS								NON-USE AQUIFERS			
		TDS ≤ 2500				TDS > 2500				R		NR	
		R	NR			R	NR			R	NR		
BHC, DELTA-	319868	[44] 22	G	[34] 61	G	[4400] 2200	G	[3400] 6100	G	[44000] 8000	[G] S	[24000] 8000	S
BHC, GAMMA (LINDANE)	58899	0.2	M	0.2	M	20	M	20	M	200	M	200	M
BIPHENYL, 1,1-	000092-52-4	1,800	G	5,100	G	7,200	S	7,200	S	7,200	S	7,200	S
BIS(2-CHLOROETHYL)ETHER	111444	0.13	N	0.55	N	13	N	55	N	13	N	55	N
BIS(2-CHLORO-ISOPROPYL)ETHER	108601	300	H	300	H	30000	H	30000	H	30000	H	30000	H
BIS(CHLOROMETHYL)ETHER	542881	0.00069	N	0.0029	N	0.069	N	0.29	N	0.069	N	0.29	N
BIS[2-ETHYLHEXYL] PHTHALATE	117817	6	M	6	M	[340] 290	S	[340] 290	S	[340] 290	S	[340] 290	S
BISPHENOLA	000080-05-7	1,800	G	5,100	G	120,000	S	120,000	S	120,000	S	120,000	S
BROMACIL	000314-40-9	80	H	80	H	8,000	H	8,000	H	80	H	80	H
BROMOCHLOROMETHANE	000074-97-5	90	H	90	H	9,000	H	9,000	H	90	H	90	H
BROMODICHLOROMETHANE	75274	100	M	100	M	10000	M	10000	M	100	M	100	M
BROMOMETHANE	74839	10	H	10	H	1000	H	1000	H	1000	H	1000	H
BROMOXYNIL	001689-84-5	730	G	2,000	G	73,000	G	130,000	S	730	G	2,000	G
BROMOXYNIL OCTANOATE	001689-99-2	80	S	80	S	80	S	80	S	80	S	80	S
BUTADIENE, 1,3-	000106-99-0	0.15	N	0.65	N	15	N	65	N	15	N	65	N
BUTYL ALCOHOL, N-	71363	970	N	2000	N	97000	N	200000	N	9700	N	20000	N
BUTYLATE	002008-41-5	350	H	350	H	35,000	H	35,000	H	350	H	350	H
BUTYLBENZENE, N-	000104-51-8	370	G	1,000	G	15,000	S	15,000	S	370	G	1,000	G
BUTYLBENZENE, SEC-	000135-98-8	370	G	1,000	G	17,000	S	17,000	S	370	G	1,000	G
BUTYLBENZENE, TERT-	000098-06-6	370	G	1,000	G	30,000	S	30,000	S	370	G	1,000	G
BUTYLBENZYL PHTHALATE	85687	2700	S	2700	S	2700	S	2700	S	2700	S	2700	S
CAPTAN	133062	190	G	[740] 500	[G] S	[3300] 500	S	[3300] 500	S	[3300] 500	S	[3300] 500	S
CARBARYL	63252	700	H	700	H	70000	H	70000	H	[83000] 120000	S	[83000] 120000	S
CARBAZOLE	000086-74-8	33	G	130	G	1,200	S	1,200	S	1,200	S	1,200	S
CARBOFURAN	1563662	40	M	40	M	4000	M	4000	M	40	M	40	M
CARBON DISULFIDE	75150	1900	N	4100	N	190000	N	410000	N	1900	N	4100	N
CARBON TETRACHLORIDE	56235	5	M	5	M	500	M	500	M	50	M	50	M
CARBOXIN	005234-68-4	700	H	700	H	70,000	H	70,000	H	700	H	700	H
CHLORAMBEN	000133-90-4	100	H	100	H	10,000	H	10,000	H	100	H	100	H
CHLORDANE	57749	2	M	2	M	56	S	56	S	56	S	56	S
CHLORO-1,1-DIFLUOROETHANE, 1-	000075-68-3	140,000	N	290,000	N	1,400,000	S	1,400,000	S	140,000	N	290,000	N
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107051	2.8	N	5.8	N	280	N	580	N	280	N	580	N
CHLOROACETOPHENONE, 2-	000532-27-4	0	G	1	G	31	G	88	G	310	G	880	G
CHLOROANILINE, P-	106478	150	G	410	G	[3000] 15000	[S] G	[3000] 41000	[S] G	150	G	410	G
CHLOROBENZENE	108907	100	M	100	M	10000	M	10000	M	10000	M	10000	M
CHLOROBENZILATE	510156	2.4	G	9.6	G	240	G	960	G	2400	G	9600	G
CHLOROBUTANE, 1-	000109-69-3	15,000	G	41,000	G	680,000	S	680,000	S	15,000	G	41,000	G
CHLORODIBROMOMETHANE	124481	100	M	100	M	10000	M	10000	M	10000	M	10000	M
CHLORODIFLUOROMETHANE	000075-45-6	100	H	100	H	10,000	H	10,000	H	100	H	100	H

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REGULATED SUBSTANCE	CASRN	USED AQUIFERS						NON-USE AQUIFERS					
		TDS ≤ 2500			TDS > 2500			R		NR			
		R	NR		R	NR		R	NR				
CHLOROETHANE	75003	[28000] 230	G	[58000] 900	G	[2800000] 23000	G	[57000000] 90000	[S]	[2800000] 23000	[S]	[57000000] 90000	[S]
CHLOROETHYL VINYL ETHER, 2-	110758	240	N	510	N	24000	N	51000	N	240	N	510	N
CHLOROFORM	67663	100	M	100	M	10000	M	10000	M	1000	M	1000	M
CHLORONAPHTHALENE, 2-	91587	2900	G	[6700] 8200	[S]	[6700] 12000	S	[6700] 12000	S	2900	G	[6700] 8200	[S]
CHLORONITROBENZENE, P-	000100-00-5	37	G	140	G	3,700	G	14,000	G	37	G	140	G
CHLOROPHENOL, 2-	95578	40	H	40	H	4000	H	4000	H	40	H	40	H
CHLOROPRENE	126998	19	N	41	N	1900	N	4100	N	1900	N	4100	N
CHLOROPROPANE, 2-	000075-29-6	280	N	580	N	28,000	N	58,000	N	280	N	580	N
CHLOROTHALONIL	001897-45-6	60	G	240	G	600	S	600	S	60	G	240	G
CHLOROTOLUENE, O-	000095-49-8	100	H	100	H	10,000	H	10,000	H	100	H	100	H
CHLORPYRIFOS	2921882	20	H	20	H	[4300] 1100	S	[4300] 1100	S	20	H	20	H
CHLORSULFURON	064902-72-3	1,800	G	5,100	G	130,000	S	130,000	S	1,800	G	5,100	G
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	001861-32-1	400	H	400	H	500	S	500	S	500	S	500	S
CHRYSENE	218019	1.9	S	[4.8] 1.9	S	[4.8] 1.9	S	[4.8] 1.9	S	[4.8] 1.9	S	[4.8] 1.9	S
CRESOL	1319773	49	N	100	N	4900	N	10000	N	4900	N	10000	N
CRESOL, O- (METHYLPHENOL, 2-)	000095-48-7	1,800	G	5,100	G	180,000	G	510,000	G	180,000	G	510,000	G
CRESOL, M (METHYLPHENOL, 3-)	000108-39-4	1,800	G	5,100	G	180,000	G	510,000	G	1,800,000	G	2,500,000	S
CRESOL, P (METHYLPHENOL, 4-)	000106-44-5	180	G	510	G	18,000	G	51,000	G	180,000	G	510,000	G
CRESOL, P-CHLORO-M-	59507	180	G	510	G	18000	G	51000	G	180	G	510	G
CROTONALDEHYDE	4170303	0.079	N	0.34	N	7.9	N	34	N	7.9	N	34	N
CROTONALDEHYDE, TRANS-	000123-73-9	0.35	G	1.40	G	35	G	140	G	35.00	G	140.00	G
CUMENE	98828	[26] 1100	N	[52] 2300	N	[2500] 50000	[N]	[5200] 50000	[N]	[2500] 50000	[N]	[5200] 50000	[N]
CYCLOHEXANONE	108941	49000	N	100000	N	4900000	N	[5000000] 10000000	[S]	49000	N	100000	N
CYFLUTHRIN	068359-37-5	1	S	1	S	1	S	1	S	1	S	1	S
CYROMAZINE	066215-27-8	270	G	770	G	27,000	G	77,000	G	270	G	770	G
DDD, 4,4'-	72548	0.62	N	2.7	N	62	N	160	S	62	N	160	S
DDE, 4,4'-	72559	[4.3] 1.9	[S]	[4.3] 7.6	[S]	[4.3] 40	S	[4.3] 40	S	[4.3] 40	S	[4.3] 40	S
DDT, 4,4'-	50293	[4.7] 1.9	[S]	[4.7] 5.5	S	[4.7] 5.5	S	[4.7] 5.5	S	[4.7] 5.5	S	[4.7] 5.5	S
DI(2-ETHYLHEXYL)ADIPATE	000103-23-1	400	M	400	M	40,000	M	40,000	M	200,000	S	200,000	S
DIALATE	2303164	2.5	N	10	N	250	N	1000	N	250	N	1000	N
DIAMINOTOLUENE, 2,4-	000095-80-7	0.21	G	1	G	21	G	81	G	210.00	G	810.00	G
DIAZINON	333415	0.6	H	0.6	H	60	H	60	H	0.6	H	0.6	H
DIBENZO[A,H]ANTHRACENE	53703	0.09	G	0.36	G	[0.5] 0.6	S	[0.5] 0.6	S	[0.5] 0.6	S	[0.5] 0.6	S
DIBROMO-3-CHLOROPROPANE, 1,2-	96128	0.2	M	0.2	M	20	M	20	M	20	M	20	M
DIBROMOBENZENE, 1,4-	000106-37-6	370	G	1,000	G	20,000	S	20,000	S	370	G	1,000	G
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106934	0.05	M	0.05	M	5	M	5	M	5	M	5	M
DIBROMOMETHANE	74953	97	N	200	N	9700	N	20000	N	9700	N	20000	N

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		TDS ≤ 2500				TDS > 2500				R		NR	
		R	NR			R	NR			R	NR		
DIBUTYL PHTHALATE, N-	84742	3700	G	10000	G	[43000] 370000	[S] G	[43000] 400000	S	[43000] 400000	S	[43000] 400000	S
DICHLORO-2-BUTENE, 1,4-	000764-41-0	0.02	N	0.07	N	2	N	7	N	0.02	N	0.07	N
DICHLOROBENZENE, 1,2-	95501	600	M	600	M	60000	M	60000	M	60000	M	60000	M
DICHLOROBENZENE, 1,3-	541731	600	H	600	H	60000	H	60000	H	60000	H	60000	H
DICHLOROBENZENE, P-	106467	75	M	75	M	7500	M	7500	M	7500	M	7500	M
DICHLOROBENZIDINE, 3,3'-	91941	1.5	G	5.8	G	150	G	580	G	1500	G	[5800] 3100	[G] S
DICHLORODIFLUOROMETHANE (FREON 12)	75718	1000	H	1000	H	100000	H	100000	H	100000	H	100000	H
DICHLOROETHANE, 1,1-	75343	27	N	110	N	2700	N	11000	N	270	N	1100	N
DICHLOROETHANE, 1,2-	107062	5	M	5	M	500	M	500	M	50	M	50	M
DICHLOROETHYLENE, 1,1-	75354	7	M	7	M	700	M	700	M	70	M	70	M
DICHLOROETHYLENE, CIS-1,2-	156592	70	M	70	M	7000	M	7000	M	700	M	700	M
DICHLOROETHYLENE, TRANS-1,2-	156605	100	M	100	M	10000	M	10000	M	1000	M	1000	M
DICHLOROMETHANE (METHYLENE CHLORIDE)	75092	5	M	5	M	500	M	500	M	500	M	500	M
DICHLOROPHENOL, 2,4-	120832	20	H	20	H	2000	H	2000	H	20000	H	20000	H
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94757	70	M	70	M	7000	M	7000	M	7000	M	7000	M
DICHLOROPROPANE, 1,2-	78875	5	M	5	M	500	M	500	M	50	M	50	M
DICHLOROPROPENE, 1,3-	000542-75-6	1	N	5	N	120	N	490	N	120	N	490	N
DICHLOROPROPIONIC ACID, 2,2- (DALAPON)	75990	200	M	200	M	20000	M	20000	M	20000	M	20000	M
DICHLOROVOS	62737	0.52	N	2.2	N	52	N	220	N	0.52	N	2.2	N
DICYCLOPENTADIENE	000077-73-6	1	N	1	N	55	N	120	N	1	N	1	N
DIELDRIN	60571	0.041	G	0.16	G	4.1	G	16	G	41	G	160	G
DIETHYL PHTHALATE	84662	5000	H	5000	H	500000	H	500000	H	[900000] 1100000	S	[900000] 1100000	S
DIFLUBENZURON	035367-38-5	200	S	200	S	200	S	200	S	200	S	200	S
DIMETHOATE	60515	7.3	G	20	G	730	G	2000	G	7300	G	20000	G
DIMETHOXYBENZIDINE, 3,3-	000119-90-4	47	G	190	G	4,700	G	19,000	G	47,000	G	60,000	S
DIMETHYLAMINOAZOBENZENE, P-	60117	0.14	G	0.57	G	14	G	57	G	140	G	[230] 570	[S] G
DIMETHYLANILINE, N,N-	000121-69-7	73	G	200	G	7,300	G	20,000	G	7,300	G	20,000	G
DIMETHYLBENZIDINE, 3,3-	000119-93-7	0.07	G	0.28	G	7	G	28	G	72.00	G	280.00	G
DIMETHYLHYDRAZINE, 1,1-	57147	0.087	N	0.37	N	8.7	N	37	N	0.87	N	3.7	N
DIMETHYLPHENOL, 2,4-	105679	730	G	2000	G	73000	G	200000	G	730000	G	2000000	G
DINITROBENZENE, 1,3-	99650	1	H	1	H	100	H	100	H	1000	H	1000	H
DINITROPHENOL, 2,4-	51285	19	N	41	N	1900	N	4100	N	190	N	410	N
DINITROTOLUENE, 2,4-	121142	2.1	G	8.4	G	210	G	840	G	2100	G	8400	G
DINITROTOLUENE, 2,6- (2,6-DNT)	606202	37	G	100	G	3700	G	10000	G	37000	G	100000	G
DINOSEB	88857	7	M	7	M	700	M	700	M	700	M	700	M
DIOXANE, 1,4-	123911	5.6	N	24	N	560	N	2400	N	56	N	240	N
DIPHENAMID	000957-51-7	200	H	200	H	20,000	H	20,000	H	200	H	200	H
DIPHENYLAMINE	122394	200	H	200	H	20000	H	20000	H	200000	H	200000	H

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		TDS ≤ 2500			TDS > 2500			R			NR		
		R		NR	R		NR	R		NR	R		NR
DIPHENYLHYDRAZINE, 1,2-	122667	0.83	G	3.3	G	83	G	[330] 250	[G] S	[330] 250	[G] S	[330] 250	[G] S
DIQUAT	85007	20	M	20	M	2000	M	2000	M	20	M	20	M
DISULFOTON	298044	0.3	H	0.3	H	30	H	30	H	30	H	30	H
DIURON	330541	10	H	10	H	1000	H	1000	H	10	H	10	H
ENDOSULFAN	000115-29-7	58	N	120	N	480	S	480	S	480	S	480	S
ENDOSULFAN I (ALPHA)	959988	220	G	[530] 500	S	[530] 500	S	[530] 500	S	220	G	[530] 500	S
ENDOSULFAN II (BETA)	33213659	220	G	[280] 450	S	[280] 450	S	[280] 450	S	220	G	[280] 450	S
ENDOSULFAN SULFATE	1031078	120	S	120	S	120	S	120	S	120	S	120	S
ENDOTHALL	145733	100	M	100	M	10000	M	10000	M	100	M	100	M
ENDRIN	72208	2	M	2	M	200	M	200	M	2	M	2	M
EPICHLOROHYDRIN	106898	2.8	N	5.8	N	280	N	580	N	280	N	580	N
ETHEPHON	016672-87-0	180	G	510	G	18,000	G	51,000	G	180	G	510	G
ETHION	563122	18	G	51	G	[600] 850	S	[600] 850	S	18	G	51	G
ETHOXYETHANOL, 2- (EGEE)	110805	[3000] 550	N	[8200] 1200	N	[300000] 55000	N	[820000] 120000	N	[300000] 55000	N	[820000] 120000	N
ETHYL ACETATE	141786	8700	N	18000	N	870000	N	1800000	N	870000	N	1800000	N
ETHYL ACRYLATE	140885	3.1	N	13	N	310	N	1300	N	310	N	1300	N
ETHYL BENZENE	100414	700	M	700	M	70000	M	70000	M	70000	M	70000	M
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	000759-94-4	910	G	2,600	G	91,000	G	260,000	G	910	G	2,600	G
ETHYL ETHER	60297	1900	N	4100	N	190000	N	410000	N	1900	N	4100	N
ETHYL METHACRYLATE	000097-63-2	870	N	1,800	N	87,000	N	180,000	N	870	N	1,800	N
ETHYLENE GLYCOL	107211	7000	H	7000	H	700000	H	700000	H	700000	H	700000	H
ETHYLENE THIOUREA (ETU)	000096-45-7	3	H	3	H	300	H	300	H	3,000	H	3,000	H
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIOATE	002104-64-5	0.37	G	1	G	37	G	100	G	0.37	G	1	G
FENAMIPHOS	22224926	2	H	2	H	200	H	200	H	2	H	2	H
FENVALERATE (PYDRIN)	051630-58-1	85	S	85	S	85	S	85	S	85	S	85	S
FLUOMETURON (FLUOMETRON IN EPA FEB 96)	002164-17-2	90	H	90	H	9,000	H	9,000	H	90	H	90	H
FLUORANTHENE	206440	[270] 260	S	[270] 260	S	[270] 260	S	[270] 260	S	[270] 260	S	[270] 260	S
FLUORENE	86737	[490] 1500	[G] S	[490] 1900	S	[490] 1900	S	[490] 1900	S	[490] 1900	S	[490] 1900	S
FLUOROTRICHLOROMETHANE (FREON 11)	75694	2000	H	2000	H	200000	H	200000	H	200000	H	200000	H
FONOFOS	944229	10	H	10	H	1000	H	1000	H	10	H	10	H
FORMALDEHYDE	50000	1000	H	1000	H	100000	H	100000	H	100000	H	100000	H
FORMIC ACID	64186	19000	N	41000	N	1900000	N	4100000	N	190000	N	410000	N
FOSETYL-AL	039148-24-8	110,000	G	310,000	G	11,000,000	G	31,000,000	G	110,000	G	310,000	G
FURAN	000110-00-9	10	N	20	N	970	N	2,000	N	970	N	2,000	N
FURFURAL	98011	[440] 97	[G] N	[290] 200	N	[44000] 9700	[G] N	[29000] 20000	N	[440] 97	[G] N	[290] 200	N
GLYPHOSATE	1071836	700	M	700	M	70000	M	70000	M	700	M	700	M
HEPTACHLOR	76448	0.4	M	0.4	M	40	M	40	M	180	S	180	S
HEPTACHLOR EPOXIDE	1024573	0.2	M	0.2	M	20	M	20	M	200	M	200	M
HEXACHLOROBENZENE	118741	1	M	1	M	[6.2] 6	S	[6.2] 6	S	[6.2] 6	S	[6.2] 6	S

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APPENDIX A

TABLE 1 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN GROUNDWATER

REGULATED SUBSTANCE	CASRN	USED AQUIFERS						NON-USE AQUIFERS					
		TDS ≤ 2500			TDS > 2500			R	NR				
		R	NR		R	NR							
HEXACHLOROBUTADIENE	87683	1	H	1	H	100	H	100	H	1000	H	1000	H
HEXACHLOROCYCLOPENTADIENE	77474	50	M	50	M	[3400] 1800	S	[3400] 1800	S	[3400] 1800	S	[3400] 1800	S
HEXACHLOROETHANE	67721	1	H	1	H	100	H	100	H	100	H	100	H
HEXANE	110543	550	N	1200	N	9500	S	9500	S	550	N	1200	N
HEXYTHIAZOX (SAVEY)	078587-05-0	500	S	500	S	500	S	500	S	500	S	500	S
HYDRAZINE/HYDRAZINE SULFATE	000302-01-2	0.01	N	0.04	N	1	N	4	N	0.09	N	0.37	N
HYDROQUINONE	000123-31-9	1,500	G	4,100	G	150,000	G	410,000	G	1,500,000	G	4,100,000	G
INDENO[1,2,3-CD]PYRENE	193395	0.9	G	3.6	G	62	S	62	S	62	S	62	S
IPRODIONE	036734-19-7	1,500	G	4,100	G	13,000	S	13,000	S	1,500	G	4,100	G
ISOBUTYL ALCOHOL	78831	2900	N	6100	N	290000	N	610000	N	290000	N	610000	N
ISOPHORONE	78591	100	H	100	H	10000	H	10000	H	10000	H	10000	H
KEPONE	143500	0.041	G	0.16	G	4.1	G	16	G	41	G	160	G
MALATHION	121755	200	H	200	H	20000	H	20000	H	20000	H	20000	H
MALEIC HYDRAZIDE	123331	4000	H	4000	H	400000	H	400000	H	4000	H	4000	H
MANEB	012427-38-2	180	G	510	G	18,000	G	23,000	S	180	G	510	G
MERPHOS OXIDE	000078-48-8	1.10	G	3	G	110	G	310	G	1.10	G	3	G
METHACRYLONITRILE	126987	1.9	N	4.1	N	190	N	410	N	1.9	N	4.1	N
METHAMIDOPHOS	010265-92-6	2	G	5	G	180	G	510	G	2	G	5	G
METHANOL	67561	4900	N	10000	N	490000	N	1000000	N	490000	N	1000000	N
METHOMYL	16752775	200	H	200	H	20000	H	20000	H	200	H	200	H
METHOXYCHLOR	72435	40	M	40	M	[400] 45	S	[400] 45	S	[400] 45	S	[400] 45	S
METHOXYETHANOL, 2-	000109-86-4	37	G	100	G	3,700	G	10,000	G	37	G	100	G
METHYL ACETATE	000079-20-9	37,000	G	100,000	G	3,700,000	G	10,000,000	G	37,000	G	100,000	G
METHYL ACRYLATE	000096-33-3	1,100	G	3,100	G	110,000	G	310,000	G	110,000	G	310,000	G
METHYL CHLORIDE	74873	3	H	3	H	300	H	300	H	300	H	300	H
METHYL ETHYL KETONE	78933	2800	N	5800	N	280000	N	580000	N	280000	N	580000	N
METHYL ISOBUTYL KETONE	108101	[220] 190	N	[470] 410	N	[22000] 19000	N	[47000] 41000	N	[22000] 19000	N	[47000] 41000	N
METHYL METHACRYLATE	80626	[780] 1900	N	4100	N	190000	N	410000	N	190000	N	410000	N
METHYL METHANESULFONATE	66273	6.7	G	26	G	670	G	2600	G	6.7	G	26	G
METHYL PARATHION	298000	2	H	2	H	200	H	200	H	200	H	200	H
METHYL STYRENE (MIXED ISOMERS)	025013-15-4	220	G	610	G	22,000	G	61,000	G	220	G	610	G
METHYL TERT-BUTYL ETHER (MTBE)	1634044	20	H	20	H	2000	H	2000	H	200	H	200	H
METHYLENE BIS(2-CHLOROANILINE), 4,4'-	000101-14-4	5	G	20	G	510	G	2,000	G	5	G	20	G
METHYLNAPHTHALENE, 2-	91576	[1500] 730	G	[4100] 2000	G	25000	S	25000	S	[1500] 730	G	[4100] 2000	G
METHYLSTYRENE, ALPHA	000098-83-9	680	N	1,400	N	68,000	N	140,000	N	680	N	1,400	N
NAPHTHALENE	91203	20	H	20	H	2000	H	2000	H	20000	H	20000	H
NAPHTHYLAMINE, 1-	134327	0.37	G	1.4	G	37	G	140	G	370	G	1400	G
NAPHTHYLAMINE, 2-	91598	0.37	G	1.4	G	37	G	140	G	370	G	1400	G
NAPROPAMIDE	015299-99-7	3,700	G	10,000	G	70,000	S	70,000	S	3,700	G	10,000	G
NITROANILINE, M-	99092	2.1	G	5.8	G	210	G	580	G	2.1	G	5.8	G
NITROANILINE, O-	88744	2.1	G	5.8	G	210	G	580	G	2.1	G	5.8	G
NITROANILINE, P-	100016	2.1	G	5.8	G	210	G	580	G	2.1	G	5.8	G
NITROBENZENE	98953	18	G	51	G	1800	G	5100	G	18000	G	51000	G

All concentrations in ug/L
R = Residential
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M = Maximum Contaminant Level

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N = Inhalation
S = Aqueous solubility cap

APPENDIX A
TABLE 1 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN GROUNDWATER

REGULATED SUBSTANCE	CASRN	USED AQUIFERS						NON-USE AQUIFERS			
		TDS ≤ 2500			TDS > 2500			R	NR		
		R	NR		R	NR					
NITROPHENOL, 2-	88755	[2300] 290	G	[6300] 820	G	[230000] 29000	G	[630000] 82000	G	[2400000] [S] 290000 G	[2400000] [S] 820000 G
NITROPHENOL, 4-	100027	60	H	60	H	6000	H	6000	H	60000	60000
NITROPROPANE, 2-	79469	0.016	N	0.068	N	1.6	N	6.8	N	0.16	0.68
NITROSODIETHYLAMINE, N-	55185	0.001	N	0.0043	N	0.1	N	0.43	N	0.01	0.043
NITROSODIMETHYLAMINE, N-	62759	0.0031	N	0.013	N	0.31	N	1.3	N	0.031	0.13
NITROSO-DI-N-BUTYLAMINE, N-	000924-16-3	0.03	N	0.11	N	3	N	11	N	2.70	11.00
NITROSODI-N-PROPYLAMINE, N-	621647	0.094	G	0.37	G	9.4	G	37	G	94	370
NITROSODIPHENYLAMINE, N-	86306	130	G	530	G	13000	G	35000	S	35000	35000
NITROSO-N-ETHYLUREA, N-	000759-73-9	0.005	G	0.019	G	0	G	2	G	0.470	1.900
OCTYL PHTHALATE, DI-N-	117840	730	G	2000	G	3000	S	3000	S	3000	3000
OXAMYL (VYDATE)	23135220	200	M	200	M	20000	M	20000	M	200	200
PARATHION	56382	220	G	610	G	20000	S	20000	S	220	610
PCB-1016 (AROCLOR)	12674112	2.6	G	7.2	G	[49] 250	S	[49] 250	S	2.6	7.2
PCB-1221 (AROCLOR)	11104282	1.3	G	5.2	G	130	G	[200] 520	[S] G	1.3	5.2
PCB-1232 (AROCLOR)	11141165	1.3	G	5.2	G	130	G	520	G	1.3	5.2
PCB-1242 (AROCLOR)	53469219	1.3	G	5.2	G	[430] 100	[G] S	[240] 100	S	1.3	5.2
PCB-1248 (AROCLOR)	12672296	0.37	G	1.4	G	[6] 37	[S] G	[6] 54	S	0.37	1.4
PCB-1254 (AROCLOR)	11097691	0.37	G	1.4	G	[42] 37	[S] G	[42] 57	S	0.37	1.4
PCB-1260 (AROCLOR)	11096825	0.25	N	1.1	N	25	N	80	S	0.25	1.1
PEBULATE	001114-71-2	1,800	G	5,100	G	92,000	S	92,000	S	1,800	5,100
PENTACHLOROBENZENE	608935	29	G	82	G	[240] 740	S	[240] 740	S	[240] 740	[240] 740
PENTACHLORONITROBENZENE	82688	2.5	G	10	G	250	G	[590] 440	S	[590] 440	[590] 440
PENTACHLOROPHENOL	87865	1	M	1	M	100	M	100	M	1000	1000
PHENACETIN	62442	300	G	1200	G	30000	G	120000	G	300000	760000
PHENANTHRENE	85018	[4200] 1100	S	[4200] 1100	S	[4200] 1100	S	[4200] 1100	S	[4200] 1100	[4200] 1100
PHENOL	108952	4000	H	4000	H	400000	H	400000	H	400000	400000
PHENYLENEDIAMINE, M-	108452	220	G	610	G	22000	G	61000	G	220000	610000
PHENYLPHENOL, 2-	000090-43-7	340	G	1,300	G	34,000	G	130,000	G	340,000	700,000
PHORATE	298022	1.9	N	4.1	N	190	N	410	N	1.9	4.1
PHTHALIC ANHYDRIDE	85449	73000	G	200000	G	6200000	S	6200000	S	6200000	6200000
PICLORAM	001918-02-1	500	M	500	M	50,000	M	50,000	M	500	500
POLYCHLORINATED BIPHENYLS (AROCLORS) (PCBS)	001336-36-3	1	M	1	M	50	M	50	M	1	1
PRONAMIDE	23950585	50	H	50	H	5000	H	5000	H	50	50
PROPANIL	000709-98-8	180	G	510	G	18,000	G	51,000	G	180	510
PROPHAM	000122-42-9	730	G	2,000	G	73,000	G	200,000	G	730	2,000
PROPYLBENZENE, N-	000103-65-1	370	G	1,000	G	37,000	G	52,000	S	370	1,000
PROPYLENE OXIDE	75569	2.8	G	11	G	280	G	1100	G	2.8	11

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APPENDIX A

TABLE 1 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN GROUNDWATER

REGULATED SUBSTANCE	CASRN	USED AQUIFERS								NON-USE AQUIFERS			
		TDS ≤ 2500				TDS > 2500				R		NR	
		R	NR			R	NR			R	NR		
PYRENE	129000	[43] 130	S	[43] 130	S	[43] 130	S	[43] 130	S	[43] 130	S	[43] 130	S
PYRIDINE	110861	9.7	N	20	N	970	N	2000	N	97	N	200	N
QUINOLINE	000091-22-5	0.06	G	0.22	G	6	G	22	G	55.00	G	220.00	G
QUIZALOFOP (ASSURE)	076578-14-8	300	S	300	S	300	S	300	S	300	S	300	S
RONNEL	000299-84-3	1,800	G	5,100	G	40,000	S	40,000	S	1,800	G	5,100	G
SIMAZINE	122349	4	M	4	M	400	M	400	M	4	M	4	M
STRYCHNINE	57249	11	G	31	G	1100	G	3100	G	11000	G	31000	G
STYRENE	100425	100	M	100	M	10000	M	10000	M	10000	M	10000	M
TEBUTHIURON	034014-18-1	500	H	500	H	50,000	H	50,000	H	500	H	500	H
TERBACIL	005902-51-2	90	H	90	H	9,000	H	9,000	H	90	H	90	H
TERBUFOS	13071799	0.9	H	0.9	H	90	H	90	H	0.9	H	0.9	H
TETRACHLOROBENZENE, 1,2,4,5-	000095-94-3	11	G	31	G	580	S	580	S	580	G	580	G
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746016	0.00003	M	0.00003	M	0.003	M	0.003	M	0.019	S	0.019	S
TETRACHLOROETHANE, 1,1,1,2-	000630-20-6	70	H	70	H	7,000	H	7,000	H	7,000	H	7,000	H
TETRACHLOROETHANE, 1,1,2,2-	79345	0.74	N	3.2	N	74	N	320	N	74	N	320	N
TETRACHLOROETHYLENE (PCE)	127184	5	M	5	M	500	M	500	M	50	M	50	M
TETRACHLOROPHENOL, 2,3,4,6-	58902	290	N	610	N	29000	N	61000	N	29000	N	61000	N
TETRAETHYL LEAD	78002	0.0037	G	0.01	G	0.37	G	1	G	3.7	G	10	G
TETRAETHYLDITHIOPYROPHOSPHATE	003689-24-5	5	N	10	N	490	N	1,000	N	5	N	10	N
THIOFANOX	039196-18-4	11	G	31	G	1,100	G	3,100	G	11	G	31	G
THIRAM	137268	180	G	510	G	18000	G	30000	S	180	G	510	G
TOLUENE	108883	1000	M	1000	M	100000	M	100000	M	100000	M	100000	M
TOLUIDINE, M-	108441	2.8	G	11	G	280	G	1100	G	2.8	G	11	G
TOLUIDINE, O	95534	[3-7] 2.8	G	[44] 11	G	[370] 280	G	[1400] 1100	G	[3700] 2800	G	[14000] 11000	G
TOLUIDINE, P-	106490	3.5	G	14	G	350	G	1400	G	3.5	G	14	G
TOXAPHENE	8001352	3	M	3	M	300	M	300	M	3	M	3	M
TRIALATE	002303-17-5	470	G	1,300	G	4,000	S	4,000	S	470	G	1,300	G
TRIBROMOMETHANE (BROMOFORM)	75252	100	M	100	M	10000	M	10000	M	10000	M	10000	M
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	000076-13-1	83,000	N	170,000	S	170,000	S	170,000	S	170,000	N	170,000	S
TRICHLOROBENZENE, 1,2,4-	120821	70	M	70	M	7000	M	7000	M	[49000] 44000	S	[49000] 44000	S
TRICHLOROBENZENE, 1,3,5-	108703	40	H	40	H	4000	H	4000	H	40	H	40	H
TRICHLOROETHANE, 1,1,1-	71556	200	M	200	M	20000	M	20000	M	2000	M	2000	M
TRICHLOROETHANE, 1,1,2-	79005	5	M	5	M	500	M	500	M	50	M	50	M
TRICHLOROETHYLENE (TCE)	79016	5	M	5	M	500	M	500	M	50	M	50	M
TRICHLOROPHENOL, 2,4,5-	95954	3700	G	10000	G	370000	G	1000000	G	1000000	S	1000000	S
TRICHLOROPHENOL, 2,4,6-	88062	60	G	240	G	6000	G	24000	G	60000	G	240000	G
TRICHLOROPHENOXACETIC ACID, 2,4,5- (2,4,5-T)	93765	70	H	70	H	7000	H	7000	H	70000	H	70000	H
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)	93721	50	M	50	M	5000	M	5000	M	50	M	50	M
TRICHLOROPROPANE, 1,1,2-	000598-77-6	180	G	510	G	18,000	G	51,000	G	180	G	510	G
TRICHLOROPROPANE, 1,2,3-	96184	40	H	40	H	4000	H	4000	H	4000	H	4000	H
TRICHLOROPROPENE, 1,2,3-	000096-19-5	180	G	510	G	18,000	G	51,000	G	180	G	510	G
TRIFLURALIN	001582-09-8	5	H	5	H	500	H	500	H	5	H	5	H
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4)	000095-63-6	16	N	35	N	1,600	N	3,500	N	1,600	N	3,500	N

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 S = Aqueous solubility cap

APPENDIX A
TABLE 1 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN GROUNDWATER

REGULATED SUBSTANCE	CASRN	USED AQUIFERS								NON-USE AQUIFERS			
		TDS ≤ 2500				TDS > 2500				R		NR	
		R	NR	R	NR	R	NR	R	NR	R	NR		
TRIMETHYLBENZENE, 1,3,5-	000108-67-8	16	N	35	N	1,600	N	3,500	N	16	N	35	N
TRINITROTOLUENE, 2,4,6-	000118-96-7	2	H	2	H	200	H	200	H	2	H	2	H
VINYL ACETATE	108054	550	N	1200	N	55000	N	120000	N	550	N	1200	N
VINYL BROMIDE (BROMOETHENE)	000593-60-2	1	N	6	N	140	N	580	N	14	N	58	N
VINYL CHLORIDE	75014	2	M	2	M	200	M	200	M	20	M	20	M
WARFARIN	81812	[0.00000092] 11	[S] G	[0.00000092] 31	[S] G	[0.00000092] 1100	[S] G	[0.00000092] 3100	[S] G	[0.00000092] 11000	[S] G	[0.00000092] 17000	S
XYLENES (TOTAL)	1330207	10000	M	10000	M	180000	S	180000	S	180000	S	180000	S
ZINEB	012122-67-7	1,800	G	5,100	G	10,000	S	10,000	S	1,800	G	5,100	G

All concentrations in ug/L
R = Residential
NR = Non-Residential
M = Maximum Contaminant Level

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N = Inhalation
S = Aqueous solubility cap

APPENDIX A

Table 2 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Groundwater

REGULATED SUBSTANCE	CASRN	USED AQUIFERS								NON-USE AQUIFERS			
		TDS ≤ 2500				TDS > 2500				R		NR	
		R		NR		R		NR		R		NR	
ANTIMONY	7440360	6	M	6	M	600	M	600	M	6000	M	6000	M
ARSENIC	7440382	50	M	50	M	5000	M	5000	M	50000	M	50000	M
ASBESTOS	12001295	7,000,000	M	7,000,000	M	7,000,000	M	7,000,000	M	7,000,000	M	7,000,000	M
		fibers/L		fibers/L		fibers/L		fibers/L		fibers/L		fibers/L	
BARIUM AND COMPOUNDS	7440393	2000	M	2000	M	200000	M	200000	M	2000000	M	2000000	M
BERYLLIUM	7440417	4	M	4	M	400	M	400	M	4000	M	4000	M
BORON AND COMPOUNDS	7440428	600	H	600	H	60000	H	60000	H	600000	H	600000	H
CADMIUM	7440439	5	M	5	M	500	M	500	M	5000	M	5000	M
CHROMIUM (III)	16065831	100	M	100	M	10000	M	10000	M	100000	M	100000	M
CHROMIUM (VI)	18540299	[480] 100	[G] M	[510] 100	[G] M	[48000] 10000	[G] M	[51000] 10000	[G] M	[480000] 100000	[G] M	[510000] 100000	[G] M
COBALT	7440484	2200	G	6100	G	220000	G	610000	G	2200000	G	6100000	G
COPPER	7440508	1000	M	1000	M	100000	M	100000	M	1000000	M	1000000	M
CYANIDE, FREE	57125	200	M	200	M	20000	M	20000	M	200000	M	200000	M
LEAD	7439921	5	M	5	M	500	M	500	M	5000	M	5000	M
MERCURY	7439976	2	M	2	M	200	M	200	M	2000	M	2000	M
NICKEL	7440020	100	H	100	H	10000	H	10000	H	100000	H	100000	H
NITRATE NITROGEN	14797558	10000	M	10000	M	1000000	M	1000000	M	10000000	M	10000000	M
NITRITE NITROGEN	14797650	1000	M	1000	M	100000	M	100000	M	1000000	M	1000000	M
SELENIUM	7782492	50	M	50	M	5000	M	5000	M	50000	M	50000	M
SILVER	7440224	100	H	100	H	10000	H	10000	H	100000	H	100000	H
SULFATE		500000	M	500000	M	50000000	M	50000000	M	500000000	M	500000000	M

All concentrations in ug/L (except asbestos)
M = Maximum Contaminant Level
H = Lifetime Health Advisory Level
SMCL = Secondary Maximum Contaminant Level
G = Ingestion
N = Inhalation

APPENDIX A

Table 2 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Groundwater

REGULATED SUBSTANCE	CASRN	USED AQUIFERS						NON-USE AQUIFERS								
		TDS ≤ 2500			TDS > 2500			R		NR						
		R	NR		R	NR		R	NR		R	NR				
THALLIUM	7440280	2	M		2	M	200	M		200	M	2000	M		2000	M
TIN	7440315	22000	G		61000	G	2200000	G		6100000	G	22000000	G		61000000	G
VANADIUM	7440622	[2.4] 260	G		[5.8] 720	G	[240] 26000	G		[580] 72000	G	[2400] 260000	G		[5800] 720000	G
ZINC AND COMPOUNDS	7440666	2000	H		2000	H	200000	H		200000	H	2000000	H		2000000	H

Secondary Contaminants

REGULATED SUBSTANCE	SMCL
ALUMINUM	200
CHLORIDE	250,000
FLUORIDE	2,000
IRON	300
MANGANESE	50

All concentrations in ug/L (except asbestos)
M = Maximum Contaminant Level
H = Lifetime Health Advisory Level
SMCL = Secondary Maximum Contaminant Level
G = Ingestion
N = Inhalation

APPENDIX A
TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
		0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet
ACENAPHTHENE	83329	13000 G	170000 G	190000 C
ACENAPHTHYLENE	208968	13000 G	170000 G	190000 C
ACEPHATE	030560-19-1	880 G	9100 G	190000 C
ACETALDEHYDE	75070	140 N	[520] 480 N	[600] 560 N
ACETONE	67641	10000 C	10000 C	10000 C
ACETONITRILE	75058	[400] 1100 C	[4400] 3200 C	[4300] 3600 C
ACETOPHENONE	98862	10000 C	10000 C	10000 C
ACETYLAMINOFLUORENE, 2- (2AAF)	53963	4.7 G	21 G	190000 C
ACROLEIN	107028	0.38 N	1.1 N	1.2 N
ACRYLAMIDE	79061	4 G	18 G	190000 C
ACRYLIC ACID	79107	19 N	53 N	60 N
ACRYLONITRILE	107131	4.7 N	24 N	28 N
ALACHLOR	15972608	220 G	990 G	190000 C
ALDICARB	116063	220 G	2800 G	190000 C
ALDRIN	309002	1.1 G	4.7 G	190000 C
ALLYL ALCOHOL	107186	330 N	930 N	1100 N
AMINOBIIPHENYL, 4-	92671	0.85 G	3.8 G	190000 C
AMITROLE	61825	19 G	84 G	190000 C
AMMONIA	007664-41-7	1900 N	5300 N	6100 N
AMMONIUM SULFAMATE	007773-06-0	44000 G	190000 C	190000 C
ANILINE	62533	19 N	53 N	60 N
ANTHRACENE	120127	66000 G	190000 C	190000 C
ATRAZINE	1912249	81 G	360 G	190000 C
BAYGON (PROPOXUR)	000114-26-1	880 G	11000 G	190000 C
BENOMYL	017804-35-2	11000 G	140000 G	190000 C
BENTAZON	025057-89-0	6600 G	84000 G	190000 C
BENZENE	71432	[38] 41 N	[200] 210 N	[230] 240 N
BENZIDINE	000092-87-5	0.078 G	0.34 G	190000 C
BENZO[A]ANTHRACENE	56553	25 G	110 G	190000 C
BENZO[A]PYRENE	50328	2.5 G	11 G	190000 C
BENZO[B]FLUORANTHENE	205992	25 G	110 G	190000 C
BENZO[GHI]PERYLENE	191242	13000 G	170000 G	190000 C
BENZO[K]FLUORANTHENE	207089	250 G	1100 G	190000 C
BENZOIC ACID	65850	190000 C	190000 C	190000 C
BENZOTRICHLORIDE	000098-07-7	1.4 G	6.1 G	10000 C
BENZYL ALCOHOL	100516	10000 C	10000 C	10000 C
BENZYL CHLORIDE	100447	6.4 N	33 N	38 N
BHC, ALPHA	319846	2.8 G	13 G	190000 C
BHC, BETA-	319857	9.9 G	44 G	190000 C
BHC, DELTA-	319868	[66] 130 G	[840] 1700 G	190000 C
BHC, GAMMA (LINDANE)	58899	[46] 14 G	[72] 61 G	190000 C
BIPHENYL, 1,1-	000092-52-4	11000 G	140000 G	190000 C
BIS(2-CHLOROETHYL)ETHER	111444	0.96 N	5 N	5.7 N
BIS(2-CHLORO-ISOPROPYL)ETHER	108601	[2700] 32 N	[7400] 160 N	[8500] 190 N
BIS(CHLOROMETHYL)ETHER	542881	0.0051 N	0.027 N	0.031 N
BIS[2-ETHYLHEXYL] PHTHALATE	117817	1300 G	5700 G	10000 C
BISPHENOL A	000080-05-7	11000 G	140000 G	190000 C
BROMACIL	000314-40-9	29000 G	190000 C	190000 C
BROMOCHLOROMETHANE	000074-97-5	2900 G	10000 C	10000 C
BROMODICHLOROMETHANE	75274	8.6 N	45 N	51 N

All concentrations in mg/kg

G - Ingestion

H - Inhalation

C - Cap

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APPENDIX A
TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
		0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet
BROMOMETHANE	74839	95 N	270 N	300 N
BROMOXYNIL	001689-84-5	4400 G	56000 G	190000 C
BROMOXYNIL OCTANOATE	001689-99-2	4400 G	56000 G	190000 C
BUTADIENE, 1,3-	000106-99-0	5.3 G	23 G	190000 C
BUTYL ALCOHOL, N-	71363	6600 N	10000 C	10000 C
BUTYLATE	002008-41-5	10000 C	10000 C	10000 C
BUTYLBENZENE, N-	000104-51-8	2200 G	10000 C	10000 C
BUTYLBENZENE, SEC-	000135-98-8	2200 G	10000 C	10000 C
BUTYLBENZENE, TERT-	000098-06-6	2200 G	10000 C	10000 C
BUTYLBENZYL PHTHALATE	85687	10000 C	10000 C	10000 C
CAPTAN	133062	5100 G	23000 G	190000 C
CARBARYL	63252	22000 G	190000 C	190000 C
CARBAZOLE	000086-74-8	900 G	4000 G	190000 C
CARBOFURAN	1563662	1100 G	14000 G	190000 C
CARBON DISULFIDE	75150	10000 C	10000 C	10000 C
CARBON TETRACHLORIDE	56235	21 N	110 N	120 N
CARBOXIN	005234-68-4	22000 G	190000 C	190000 C
CHLORAMBEN	000133-90-4	3300 G	42000 G	190000 C
CHLORDANE	57749	[43] 51 G	[64] 230 G	190000 C
CHLORO-1,1-DIFLUOROETHANE, 1-	000075-68-3	190000 C	190000 C	190000 C
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107051	19 N	53 N	61 N
CHLOROACETOPHENONE, 2-	000532-27-4	1.9 G	24 G	190000 C
CHLOROANILINE, P-	106478	880 G	11000 G	190000 C
CHLOROBENZENE	108907	4400 G	10000 C	10000 C
CHLOROBENZILATE	510156	66 G	290 G	10000 C
CHLOROBUTANE, 1-	000109-69-3	10000 C	10000 C	10000 C
CHLORODIBROMOMETHANE	124481	12 N	61 N	70 N
CHLORODIFLUOROMETHANE	000075-45-6	190000 C	190000 C	190000 C
CHLOROETHANE	75003	[40000] [C] 6200 G	10000 C	10000 C
CHLOROETHYL VINYL ETHER, 2-	110758	1700 N	4700 N	5400 N
CHLOROFORM	67663	14 N	72 N	82 N
CHLORONAPHTHALENE, 2-	91587	18000 G	190000 C	190000 C
CHLORONITROBENZENE, P-	000100-00-5	990 G	4400 G	190000 C
CHLOROPHENOL, 2-	95578	330 N	920 N	1100 N
CHLOROPRENE	126998	130 N	370 N	430 N
CHLOROPROPANE, 2-	000075-29-6	1900 N	5400 N	6100 N
CHLOROTHALONIL	001897-45-6	1600 G	7200 G	190000 C
CHLOROTOLUENE, O-	000095-49-8	4400 G	10000 C	10000 C
CHLORPYRIFOS	2921882	660 G	8400 G	190000 C
CHLORSULFURON	064902-72-3	11000 G	140000 G	190000 C
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	001861-32-1	2200 G	28000 G	190000 C
CHRYSENE	218019	2500 G	11000 G	190000 C
CRESOL	1319773	330 N	920 N	1100 N
CRESOL, O- (METHYLPHENOL, 2-)	000095-48-7	10000 C	10000 C	10000 C
CRESOL, M (METHYLPHENOL, 3-)	000108-39-4	10000 C	10000 C	10000 C
CRESOL, P (METHYLPHENOL, 4-)	000106-44-5	1100 G	14000 G	190000 C
CRESOL, P-CHLORO-M-	59507	1100 G	14000 G	190000 C
CROTONALDEHYDE	4170303	9.4 G	42 G	10000 C

All concentrations in mg/kg

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TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
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REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
		0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet
CROTONALDEHYDE, TRANS-	000123-73-9	9.4 G	42 G	10000 C
CUMENE	98828	7300 N	10000 C	10000 C
CYCLOHEXANONE	108941	10000 C	10000 C	10000 C
CYFLUTHRIN	068359-37-5	5500 G	10000 C	10000 C
CYROMAZINE	066215-27-8	1700 G	21000 G	190000 C
DDD, 4,4'-	72548	75 G	330 G	190000 C
DDE, 4,4'-	72559	53 G	230 G	190000 C
DDT, 4,4'-	50293	53 G	230 G	190000 C
DI(2-ETHYLHEXYL)ADIPATE	000103-23-1	10000 C	10000 C	10000 C
DIALLATE	2303164	18 N	93 N	110 N
DIAMINOTOLUENE, 2,4-	000095-80-7	5.6 G	25 G	190000 C
DIAZINON	333415	200 G	2500 G	190000 C
DIBENZO[A,H]ANTHRACENE	53703	2.5 G	11 G	190000 C
DIBROMO-3-CHLOROPROPANE, 1,2-	96128	3.8 N	11 N	12 N
DIBROMOBENZENE, 1,4-	000106-37-6	2200 G	28000 G	190000 C
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106934	0.21 G	0.93 G	8.6 N
DIBROMOMETHANE	74953	670 N	1900 N	2100 N
DIBUTYL PHTHALATE, N-	84742	10000 C	10000 C	10000 C
DICHLORO-2-BUTENE, 1,4-	000764-41-0	91000 N	190000 C	190000 C
DICHLOROBENZENE, 1,2-	95501	3800 N	10000 C	10000 C
DICHLOROBENZENE, 1,3-	541731	[5900] 60 N	[40000] 170 [C] N	[40000] 190 [C] N
DICHLOROBENZENE, P-	106467	750 G	3300 G	190000 C
DICHLOROBENZIDINE, 3,3'-	91941	40 G	180 G	190000 C
DICHLORODIFLUOROMETHANE (FREON 12)	75718	3800 N	10000 N	10000 C
DICHLOROETHANE, 1,1-	75343	200 N	1000 N	1200 N
DICHLOROETHANE, 1,2-	107062	12 N	63 N	73 N
DICHLOROETHYLENE, 1,1-	75354	6.4 N	33 N	38 N
DICHLOROETHYLENE, CIS-1,2-	156592	670 N	1900 N	2100 N
DICHLOROETHYLENE, TRANS-1,2-	156605	1300 N	3700 N	4300 N
DICHLOROMETHANE (METHYLENE CHLORIDE)	75092	[670] 680 N	3500 N	4000 N
DICHLOROPHENOL, 2,4-	120832	660 G	8400 G	190000 C
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94757	2200 G	28000 G	190000 C
DICHLOROPROPANE, 1,2-	78875	[46] 18 N	[85] 91 N	[97] 100 N
DICHLOROPROPENE, 1,3-	000542-75-6	8.6 N	44 N	51 N
DICHLOROPROPIONIC ACID (DALAPON), 2,2-	75990	2000 N	5500 N	6300 N
DICHLORVOS	62737	62 G	270 G	190000 C
DICYCLOPENTADIENE	000077-73-6	6600 G	84000 G	190000 C
DIELDRIN	60571	1.1 G	5 G	10000 C
DIETHYL PHTHALATE	84662	10000 C	10000 C	10000 C
DIFLUBENZURON	035367-38-5	4400 G	56000 G	190000 C
DIMETHOATE	60515	44 G	560 G	190000 C
DIMETHOXYBENZIDINE, 3,3-	000119-90-4	1300 G	5700 G	190000 C
DIMETHYLAMINOAZOBENZENE, P-	60117	3.9 G	17 G	190000 C
DIMETHYLANILINE, N,N-	000121-69-7	440 G	5600 G	10000 C
DIMETHYLBENZIDINE, 3,3-	000119-93-7	1.9 G	8.6 G	10000 C
DIMETHYLHYDRAZINE, 1,1-	57147	0.64 N	3.3 N	3.8 N
DIMETHYLPHENOL, 2,4-	105679	4400 G	10000 C	10000 C
DINITROBENZENE, 1,3-	99650	22 G	280 G	190000 C
DINITROPHENOL, 2,4-	51285	440 G	5600 G	190000 C

All concentrations in mg/kg

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APPENDIX A
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A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential		
		0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet	
DINITROTOLUENE, 2,4-	121142	58 G	260 G	190000	C
DINITROTOLUENE, 2,6- (2,6-DNT)	606202	220 G	2800 G	190000	C
DINOSEB	88857	220 G	2800 G	190000	C
DIOXANE, 1,4-	123911	41 N	210 N	240	N
DIPHENAMID	000957-51-7	6600 G	84000 G	190000	C
DIPHENYLAMINE	122394	5500 G	70000 G	190000	C
DIPHENYLHYDRAZINE, 1,2-	122667	22 G	99 G	190000	C
DIQUAT	85007	480 G	6200 G	190000	C
DISULFOTON	298044	2.7 N	7.6 N	8.7	N
DIURON	330541	440 G	5600 G	190000	C
ENDOSULFAN	000115-29-7	1300 G	17000 G	190000	C
ENDOSULFAN I (ALPHA)	959988	1300 G	17000 G	190000	C
ENDOSULFAN II (BETA)	33213659	1300 G	17000 G	190000	C
ENDOSULFAN SULFATE	1031078	1300 G	17000 G	190000	C
ENDOTHALL	145733	4400 G	56000 G	190000	C
ENDRIN	72208	66 G	840 G	190000	C
EPICHLOROHYDRIN	106898	19 N	53 N	60	N
ETHEPHON	016672-87-0	1100 G	14000 G	190000	C
ETHION	563122	110 G	1400 G	10000	C
ETHOXYETHANOL, 2- (EGEE)	110805	[40000] (C) 3800 N	10000 C	10000	C
ETHYL ACETATE	141786	10000 C	10000 C	10000	C
ETHYL ACRYLATE	140885	23 N	120 N	140	N
ETHYL BENZENE	100414	10000 C	10000 C	10000	C
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	000759-94-4	5500 G	10000 C	10000	C
ETHYL ETHER	60297	10000 C	10000 C	10000	C
ETHYL METHACRYLATE	000097-63-2	20000 G	190000 C	190000	C
ETHYLENE GLYCOL	107211	10000 C	10000 C	10000	C
ETHYLENE THIOUREA (ETU)	000096-45-7	18 G	220 G	190000	C
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIOATE	002104-64-5	2.2 G	28 G	190000	C
FENAMIPHOS	22224926	55 G	700 G	190000	C
FENVALERATE (PYDRIN)	051630-58-1	5500 G	10000 G	10000	C
FLUOMETURON (FLUOMETRON IN EPA FEB 96)	002164-17-2	2900 G	36000 G	190000	C
FLUORANTHENE	206440	8800 G	110000 G	190000	C
FLUORENE	86737	8800 G	110000 G	190000	C
FLUOROTRICHLOROMETHANE (FREON 11)	75694	10000 C	10000 C	10000	C
FONOFOS	944229	140 N	380 N	440	N
FORMALDEHYDE	50000	24 N	130 N	150	N
FORMIC ACID	64186	10000 C	10000 C	10000	C
FOSETYL-AL	039148-24-8	190000 C	190000 C	190000	C
FURAN	000110-00-9	220 G	2800 G	10000	C
FURFURAL	98011	660 G	2600 N	3000	N
GLYPHOSATE	1071836	22000 G	190000 C	190000	C
HEPTACHLOR	76448	4 G	18 G	190000	C
HEPTACHLOR EPOXIDE	1024573	2 G	8.7 G	190000	C
HEXACHLOROBENZENE	118741	11 G	50 G	190000	C
HEXACHLOROBUTADIENE	87683	44 G	560 G	10000	C
HEXACHLOROCYCLOPENTADIENE	77474	1500 G	10000 C	10000	C
HEXACHLOROETHANE	67721	220 G	2800 G	190000	C

All concentrations in mg/kg
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APPENDIX A
TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
		0-15 feet	Surface Soil	Subsurface Soil
			0-2 feet	2-15 feet
HEXANE	110543	3800 N	10000 C	10000 C
HEXYTHIAZOX (SAVEY)	078587-05-0	5500 G	70000 G	190000 C
HYDRAZINE/HYDRAZINE SULFATE	000302-01-2	0.064 N	0.33 N	0.38 N
HYDROQUINONE	000123-31-9	8800 G	110000 G	190000 C
INDENO[1,2,3-CD]PYRENE	193395	25 G	110 G	190000 C
IPRODIONE	036734-19-7	8800 G	110000 G	190000 C
ISOBUTYL ALCOHOL	78831	10000 C	10000 C	10000 C
ISOPHORONE	78591	10000 C	10000 C	10000 C
KEPONE	143500	1.1 G	5 G	190000 C
MALATHION	121755	1400 N	4000 N	4600 N
MALEIC HYDRAZIDE	123331	110000 G	190000 C	190000 C
MANEB	012427-38-2	1100 G	14000 G	190000 C
MERPHOS OXIDE	000078-48-8	6.6 G	84 G	10000 C
METHACRYLONITRILE	126987	13 N	37 N	43 N
METHAMIDOPHOS	010265-92-6	11 G	140 G	190000 C
METHANOL	67561	10000 C	10000 C	10000 C
METHOMYL	16752775	5500 G	70000 G	190000 C
METHOXYCHLOR	72435	1100 G	14000 G	190000 C
METHOXYETHANOL, 2-	000109-86-4	220 G	1100 N	1200 N
METHYL ACETATE	000079-20-9	10000 C	10000 C	10000 C
METHYL ACRYLATE	000096-33-3	6600 G	10000 C	10000 C
METHYL CHLORIDE	74873	180 N	920 N	1000 N
METHYL ETHYL KETONE	78933	10000 C	10000 C	10000 C
METHYL ISOBUTYL KETONE	108101	1500 N	4300 N	4900 N
METHYL METHACRYLATE	80626	10000 C	10000 C	10000 C
METHYL METHANESULFONATE	66273	180 G	800 G	190000 C
METHYL PARATHION	298000	17 N	48 N	55 N
METHYL STYRENE (MIXED ISOMERS)	025013-15-4	1300 G	17000 G	190000 C
METHYL TERT-BUTYL ETHER (MTBE)	1634044	10000 C	10000 C	10000 C
METHYLENE BIS(2-CHLOROANILINE), 4,4'-	000101-14-4	140 G	610 G	190000 C
METHYLNAPHTHALENE, 2-	91576	[8800] 4400 G	10000 C	10000 C
METHYLSTYRENE, ALPHA	000098-83-9	15000 G	190000 C	190000 C
NAPHTHALENE	91203	[8800] 4400 G	56000 G	190000 C
NAPHTHYLAMINE, 1-	134327	9.9 G	44 G	190000 C
NAPHTHYLAMINE, 2-	91598	9.9 G	44 G	190000 C
NAPROPAMIDE	015299-99-7	22000 G	190000 C	190000 C
NITROANILINE, M-	99092	13 G	160 G	190000 C
NITROANILINE, O-	88744	13 G	160 G	190000 C
NITROANILINE, P-	100016	13 G	160 G	190000 C
NITROBENZENE	98953	110 G	1400 G	10000 C
NITROPHENOL, 2-	88755	[44000] G 1800	[470000] G 22000	190000 C
NITROPHENOL, 4-	100027	[44000] G 1800	[470000] G 22000	190000 C
NITROPROPANE, 2-	79469	0.12 N	0.61 N	0.70 N
NITROSODIETHYLAMINE, N-	55185	0.0073 N	0.038 N	0.044 N
NITROSODIMETHYLAMINE, N-	62759	0.023 N	0.12 N	0.13 N
NITROSO-DI-N-BUTYLAMINE, N-	000924-16-3	3.3 G	15 G	10000 C

All concentrations in mg/kg

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APPENDIX A

TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL

A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential		
		0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet	
NITROSODI-N-PROPYLAMINE, N-	621647	2.6 G	11 G	10000	C
NITROSODIPHENYLAMINE, N-	86306	3700 G	16000 G	190000	C
NITROSO-N-ETHYLUREA, N-	000759-73-9	0.13 G	0.57 G	190000	C
OCTYL PHTHALATE, DI-N-	117840	4400 G	10000 C	10000	C
OXAMYL (VYDATE)	23135220	5500 G	70000 G	190000	C
PARATHION	56382	1300 G	10000 C	10000	C
PCB-1016 (AROCLOR)	12674112	15 G	200 G	10000	C
PCB-1221 (AROCLOR)	11104282	36 G	160 G	10000	C
PCB-1232 (AROCLOR)	11141165	36 G	160 G	10000	C
PCB-1242 (AROCLOR)	53469219	36 G	160 G	10000	C
PCB-1248 (AROCLOR)	12672296	9.9 G	44 G	10000	C
PCB-1254 (AROCLOR)	11097691	4.4 G	44 G	10000	C
PCB-1260 (AROCLOR)	11096825	30 G	130 G	190000	C
PEBULATE	001114-71-2	10000 C	10000 C	10000	C
PENTACHLOROBENZENE	608935	180 G	2200 G	190000	C
PENTACHLORONITROBENZENE	82688	69 G	310 G	190000	C
PENTACHLOROPHENOL	87865	150 G	660 G	190000	C
PHENACETIN	62442	8100 G	36000 G	190000	C
PHENANTHRENE	85018	66000 G	190000 C	190000	C
PHENOL	108952	130000 G	190000 C	190000	C
PHENYLENEDIAMINE, M-	108452	1300 G	17000 G	190000	C
PHENYLPHENOL, 2-	000090-43-7	9200 G	41000 G	190000	C
PHORATE	298022	13 N	37 N	43 N	N
PHTHALIC ANHYDRIDE	85449	190000 C	190000 C	190000	C
PICLORAM	001918-02-1	15000 G	190000 C	190000	C
POLYCHLORINATED BIPHENYLS (AROCLORS) (PCBS)	001336-36-3	9 G	40 G	190000	C
PRONAMIDE	23950585	17000 G	190000 C	190000	C
PROPANIL	000709-98-8	1100 G	14000 G	190000	C
PROPHAM	000122-42-9	4400 G	56000 G	190000	C
PROPYLBENZENE, N-	000103-65-1	2200 G	10000 C	10000	C
PROPYLENE OXIDE	75569	75 G	330 G	500	N
PYRENE	129000	6600 G	84000 G	190000	C
PYRIDINE	110861	67 N	190 N	210	N
QUINOLINE	000091-22-5	1.5 G	6.6 G	10000	C
QUIZALOFOP (ASSURE)	076578-14-8	2000 G	25000 G	190000	C
RONNEL	000299-84-3	11000 G	140000 G	190000	C
SIMAZINE	122349	150 G	660 G	190000	C
STRYCHNINE	57249	66 G	840 G	190000	C
STYRENE	100425	10000 C	10000 C	10000	C
TEBUTHIURON	034014-18-1	15000 G	190000 C	190000	C
TERBACIL	005902-51-2	2900 G	36000 G	190000	C
TERBUFOS	13071799	1.7 N	4.6 N	5.3 N	N
TETRACHLOROBENZENE, 1,2,4,5-	000095-94-3	66 G	840 G	190000	C
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746016	0.00012 G	0.00053 G	190000	C
TETRACHLOROETHANE, 1,1,1,2-	000630-20-6	690 G	3100 G	190000	C
TETRACHLOROETHANE, 1,1,2,2-	79345	5.5 N	28 N	33 N	N
TETRACHLOROETHYLENE (PCE)	127184	340 G	1500 G	3300	N
TETRACHLOROPHENOL, 2,3,4,6-	58902	6600 G	84000 G	190000	C
TETRAETHYL LEAD	78002	0.022 G	0.28 G	10000	C

All concentrations in mg/kg

G - Ingestion

H - Inhalation

C - Cap

APPENDIX A
TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
A. Direct Contact Numeric Values

REGULATED SUBSTANCE	CASRN	Residential	Non-Residential	
		0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet
TETRAETHYLDITHIOPYROPHOSPHATE	003689-24-5	33 N	92 N	110 N
THIOFANOX	039196-18-4	66 G	840 G	190000 C
THIRAM	137268	1100 G	14000 G	190000 C
TOLUENE	108883	7600 N	10000 C	10000 C
TOLUIDINE, M-	108441	75 G	330 G	10000 C
TOLUIDINE, O-	95534	[99] 75 G	[440] 330 G	10000 C
TOLUIDINE, P-	106490	94 G	420 G	190000 C
TOXAPHENE	8001352	16 G	72 G	190000 C
TRIALATE	002303-17-5	2900 G	36000 G	190000 C
TRIBROMOMETHANE (BROMOFORM)	75252	290 N	1500 N	1700 N
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	000076-13-1	190000 C	190000 C	190000 C
TRICHLOROBENZENE, 1,2,4-	120821	2200 G	10000 C	10000 C
TRICHLOROBENZENE, 1,3,5-	108703	[2200] 1300 G	[28000] G 17000	190000 C
TRICHLOROETHANE, 1,1,1-	71556	[40000] G 4400	10000 C	10000 C
TRICHLOROETHANE, 1,1,2-	79005	20 N	100 N	120 N
TRICHLOROETHYLENE (TCE)	79016	190 N	970 N	1100 N
TRICHLOROPHENOL, 2,4,5-	95954	22000 G	190000 C	190000 C
TRICHLOROPHENOL, 2,4,6-	88062	1600 G	7200 G	190000 C
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93765	2200 G	28000 G	190000 C
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)(SILVEX)	93721	1800 G	22000 G	190000 C
TRICHLOROPROPANE, 1,1,2-	000598-77-6	1100 G	10000 C	10000 C
TRICHLOROPROPANE, 1,2,3-	96184	0.16 N	0.82 N	0.95 N
TRICHLOROPROPENE, 1,2,3-	000096-19-5	1100 G	10000 C	10000 C
TRIFLURALIN	001582-09-8	1700 G	10000 G	190000 C
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	000095-63-6	110 N	320 N	360 N
TRIMETHYLBENZENE, 1,3,5-	000108-67-8	110 N	320 N	360 N
TRINITROTOLUENE, 2,4,6-	000118-96-7	110 G	1400 G	190000 C
VINYL ACETATE	108054	3800 N	10000 C	10000 C
VINYL BROMIDE (BROMOETHENE)	000593-60-2	160 G	720 G	190000 C
VINYL CHLORIDE	75014	[3-8] 1.3 N	[20] 3.7 N	[22] 4.3 N
WARFARIN	81812	66 G	840 G	190000 C
XYLENES (TOTAL)	1330207	[40000] [C] 8300 N	10000 C	10000 C
ZINEB	012122-67-7	11000 G	140000 G	190000 C

All concentrations in mg/kg

G - Ingestion

H - Inhalation

C - Cap

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APPENDIX A
 TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
 B. Soil to Groundwater Numeric Values¹

REGULATED SUBSTANCE	CASRN	Used Aquifers												Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500				Non-Use Aquifers				
		Residential		Non-Residential		Residential		Non-Residential		Residential		Non-Residential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
ACENAPHTHENE	83329	220	2700 E	[360] 380	[4300] 4700 E	[360] 380	[4300] 4700 E	[360] 380	[4300] 4700 E	[360] 380	[4300] 4700 E	[360] 380	[4300] 4700 E	15
ACENAPHTHYLENE	208968	220	2500 E	[300] 610	[4400] 6900 E	[300] 1600	[4400] 18000 E	[300] 1800	[4400] 18000 E	[300] 1600	[4400] 18000 E	[300] 1600	[4400] 18000 E	15
ACEPHATE	030560-19-1	7.6	0.84 E	30	3.3 E	780	84 E	3,000	330 E	8	1 E	30	3 E	NA
ACETALDEHYDE	75070	1.9	0.23 E	[6.7] 5.2	[0.60] 0.63 E	190	23 E	[620] 520	[60] 63 E	1.9	0.23 E	[6.7] 5.2	[0.60] 0.63 E	NA
ACETONE	67641	370	41 E	1000	110 E	10,000	4,100 E	10,000	10,000 C	3,700	410 E	10,000	1,100 E	NA
ACETONITRILE	75058	[6.9] 170	[0.66] 19 E	[42] 350	[4.3] 39 E	[680] 10000	[66] 1900 E	[4200] 10000	[430] 3900 E	[68] 1700	[6.6] 190 E	[420] 3500	[43] 390 E	NA
ACETOPHENONE	98862	370	200 E	1000	550 E	10,000	10,000 C	10,000	10,000 C	370	200 E	1,000	550 E	NA
ACETYLAMINOFLUORENE, 2-(2AAF)	53963	0.017	0.069 E	0.068	0.28 E	1.7	6.9 E	6.8	28 E	17	69 E	68	280 E	20
ACROLEIN	107028	0.0055	0.0062 E	0.012	0.0014 E	0.55	0.062 E	1.2	0.14 E	0.055	0.0062 E	0.12	0.014 E	NA
ACRYLAMIDE	79061	0.0033	0.00057 E	0.014	0.0024 E	0.33	0.057 E	1.4	0.24 E	0.0033	0.00057 E	0.014	0.0024 E	NA
ACRYLIC ACID	79107	0.28	0.051 E	0.58	0.11 E	28	5.1 E	58	11 E	28	5.1 E	58	11 E	NA
ACRYLONITRILE	107131	0.063	0.0088 E	0.27	0.038 E	6.3	0.88 E	27	3.8 E	6.3	0.88 E	27	3.8 E	NA
ALACHLOR	15972608	0.2	0.077 E	0.2	0.077 E	20	7.7 E	20	7.7 E	0.2	0.077 E	0.2	0.077 E	NA
ALDICARB	116063	0.7	0.12 E	0.7	0.12 E	70	12 E	70	12 E	700	120 E	700	120 E	NA
ALDRIN	309002	0.00087	0.1 E	0.0037	0.44 E	0.087	10 E	0.37	44 E	0.087	10 E	0.37	44 E	10
ALLYL ALCOHOL	107186	4.9	0.58 E	10	1.2 E	490	58 E	1,000	120 E	490	58 E	1,000	120 E	NA
AMINOBIIPHENYL, 4-	92671	0.0031	0.0012 E	0.012	0.0045 E	0.31	0.12 E	1.2	0.45 E	3.1	1.2 E	12	4.5 E	NA
AMITROLE	61825	0.07	0.028 E	0.28	0.11 E	7	2.8 E	28	11 E	70	28 E	280	110 E	NA
AMMONIA	007664-41-7	3000	330 E	3000	330 E	10,000	10,000 C	10,000	10,000 C	3,000	330 E	3,000	330 E	NA
AMMONIUM SULFAMATE	007773-06-0	200	22 E	200	22 E	20000	2200 E	20000	2200 E	200	22 E	200	22 E	NA
ANILINE	62533	0.28	0.16 E	0.58	0.34 E	28	16 E	58	34 E	0.28	0.16 E	0.58	0.34 E	NA
ANTHRACENE	120127	[4.3] 6.6	[230] 350 E	[4.3] 6.6	[230] 350 E	[4.3] 6.6	[230] 350 E	[4.3] 6.6	[230] 350 E	[4.3] 6.6	[230] 350 E	[4.3] 6.6	[230] 350 E	10
ATRAZINE	1912249	0.3	0.13 E	0.3	0.13 E	30	13 E	30	13 E	0.3	0.13 E	0.3	0.13 E	NA
BAYGON (PROPOXUR)	000114-26-1	0.3	0.033 E	0.3	0.033 E	30	3 E	30	3 E	300	33 E	300	33 E	NA
BENOMYL	017804-35-2	180	20 E	200	22 E	200	22 E	200	22 E	180	20 E	200	22 E	20
BENTAZON	025057-69-0	110	12 E	310	34 E	11,000	1,200 E	31,000	3,400 E	110	12 E	310	34 E	NA
BENZENE	71432	0.5	0.13 E	0.5	0.13 E	50	13 E	50	13 E	50	13 E	50	13 E	NA
BENZIDINE	000092-67-5	0.00023	0.00032 E	0.0011	0.0012 E	0.023	0.0032 E	0.11	0.012 E	0.23	0.032 E	1.1	0.12 E	5
BENZO[A]ANTHRACENE	56553	0.09	80 E	0.36	320 E	[4.4] 1.1	[4200] 980 E	[4.4] 1.1	[4200] 980 E	[4.4] 1.1	[4200] 980 E	[4.4] 1.1	[4200] 980 E	5
BENZO[A]PYRENE	50328	0.02	46 E	0.02	46 E	0.36	870 E	0.36	870 E	0.02	46 E	0.02	46 E	5
BENZO[B]FLUORANTHENE	205992	0.09	120 E	0.12	160 E	0.12	160 E	0.12	160 E	0.12	160 E	0.12	160 E	5
BENZO[GHI]PERYLENE	191242	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	5
BENZO[K]FLUORANTHENE	207089	0.055	600 E	0.055	600 E	0.055	600 E	0.055	600 E	0.055	600 E	0.055	600 E	5
BENZOIC ACID	65850	15000	2900 E	41000	7900 E	190,000	[66000] 52000 E	190,000	[66000] 52000 E	15,000	2,900 E	41,000	7,900 E	NA
BENZOTRICHLORIDE	000098-07-7	0.0051	0.00057 E	0.02	0.0022 E	0.51	0.057 E	2	0.22 E	5.1	0.57 E	20	2.2 E	30
BENZYL ALCOHOL	100516	1100	400 E	3100	1100 E	10,000	10,000 C	10,000	10,000 C	1,100	400 E	3,100	1,100 E	NA
BENZYL CHLORIDE	100447	0.087	0.051 E	0.37	0.22 E	8.7	5.1 E	37	22 E	8.7	5.1 E	37	22 E	NA
BHC, ALPHA	319846	0.01	0.046 E	0.041	0.15 E	1	4.6 E	4.1	19 E	10	46 E	41	190 E	20
BHC, BETA-	319857	0.037	0.22 E	0.14	0.82 E	3.7	22 E	[44] 10	[82] 58 E	[37] 10	[220] 58 E	[44] 10	[820] 58 E	15
BHC, DELTA-	319868	[4.4] 2.2	[6.4] 11 E	[2.4] 9.1	[46] 30 E	[440] 220	[640] 1100 E	[340] 610	[4600] 3000 E	[4400] 800	[6400] 1100 E	[2400] 800	[46000] 3000 E	20
BHC, GAMMA (LINDANE)	58999	0.02	0.071 E	0.02	0.071 E	2	7.1 E	2	7.1 E	20	71 E	20	71 E	20
BIPHENYL, 1,1-	000092-52-4	180	20 E	510	57 E	720	80 E	720	80 E	720	80 E	720	80 E	20
BIS(2-CHLOROETHYL)ETHER	111444	0.013	0.0039 E	0.055	0.017 E	1.3	0.39 E	5.5	1.7 E	1.3	0.39 E	5.5	1.7 E	NA
BIS(2-CHLOROISOPROPYL)ETHER	108601	30	8 E	30	8 E	3,000	800 E	3,000	800 E	3,000	800 E	3,000	800 E	NA
BIS(CHLOROMETHYL)ETHER	542881	0.00069	0.00001 E	0.00029	0.000044 E	0.0069	0.001 E	0.029	0.0044 E	0.0069	0.001 E	0.029	0.0044 E	NA
BIS(2-ETHYLHEXYL) PHTHALATE	117817	0.6	130 E	0.6	130 E	[34] 29	[2400] 6300 E	[34] 29	[2400] 6300 E	[34] 29	[2400] 6300 E	[34] 29	[2400] 6300 E	10
BISPHENOL A	000080-05-7	180	20 E	510	57 E	12000	1300 E	12000	1300 E	12000	1300 E	12000	1300 E	20
BROMACIL	000314-40-9	8	0.89 E	8	0.89 E	800	89 E	800	89 E	8	0.89 E	8	0.89 E	NA

¹ For other options see Section 250.308

All concentrations in mg/kg

E - Number calculated by the soil to groundwater equation in Section 250.308

C - Cap

NA - The soil buffer distance option is not available for this substance

APPENDIX A
 TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
 B. Soil to Groundwater Numeric Values¹

REGULATED SUBSTANCE	CASRN	Used Aquifers												Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500				Non-Use Aquifers				
		Residential		Non-Residential		Residential		Non-Residential		Residential		Non-Residential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
BROMOCHLOROMETHANE	900074-97-5	9	1 E	9	1 E	900	100 E	900	100 E	9	1 E	9	1 E	NA
BROMODICHLOROMETHANE	75274	10	3.4 E	10	3.4 E	1,000	340 E	1,000	340 E	10	3.4 E	10	3.4 E	NA
BROMOMETHANE	74839	1	0.54 E	1	0.54 E	100	54 E	100	54 E	100	54 E	100	54 E	NA
BROMOXNYL	001689-84-5	73	8.1 E	200	22 E	7300	810 E	13000	1400 E	73	8.1 E	200	22 E	NA
BROMOXNYL OCTANOATE	001689-99-2	8	0.89 E	8	0.89 E	8	0.89 E	8	0.89 E	8	0.89 E	8	0.89 E	15
BUTADIENE, 1,3-	000106-99-0	0.015	0.0017 E	0.065	0.0072 E	1.5	0.17 E	6.5	0.72 E	1.5	0.17 E	6.5	0.72 E	NA
BUTYL ALCOHOL, N-	71363	97	12 E	200	24 E	9,700	1,200 E	10,000	2,400 E	970	120 E	2,000	240 E	NA
BUTYLATE	002008-41-5	35	3.9 E	35	3.9 E	3500	390 E	3500	390 E	35	3.9 E	35	3.9 E	30
BUTYLBENZENE, N-	000104-51-8	37	4.1 E	100	11 E	1500	170 E	1500	170 E	37	4.1 E	100	11 E	15
BUTYLBENZENE, SEC-	000135-98-8	37	4.1 E	100	11 E	1700	190 E	1700	190 E	37	4.1 E	100	11 E	30
BUTYLBENZENE, TERT-	000098-06-6	37	4.1 E	100	11 E	3000	330 E	3000	330 E	37	4.1 E	100	11 E	30
BUTYLBENZYL PHTHALATE	85687	270	10000 C	270	10000 C	270	10,000 C	270	10,000 C	270	10,000 C	270	10,000 C	10
CAPTAN	133062	19	12 E	[24] 50	[46] 30 E	[330] 50	[200] 30 E	[230] 50	[200] 30 E	[330] 50	[200] 30 E	[230] 50	[200] 30 E	NA
CARBARYL	63252	70	42 E	70	42 E	7,000	4,200 E	7,000	4,200 E	[8300] 12000	[6000] 7200	[8300] 12000	[6000] 7200	NA
CARBAZOLE	000086-74-8	33	0.37 E	13	1.4 E	120	13 E	120	13 E	120	13 E	120	13 E	15
CARBOFURAN	1563662	4	0.87 E	4	0.87 E	400	87 E	400	87 E	4	0.87 E	4	0.87 E	NA
CARBON DISULFIDE	75150	190	160 E	410	350 E	10,000	10,000 C	10,000	10,000 C	190	160 E	410	350 E	NA
CARBON TETRACHLORIDE	56235	0.5	0.26 E	0.5	0.26 E	50	26 E	50	26 E	5	2.6 E	5	2.6 E	NA
CARBOXIN	005234-68-4	70	7.8 E	70	7.8 E	7000	780 E	7000	780 E	70	8 E	70	8 E	NA
CHLORAM BEN	000133-90-4	10	1.1 E	10	1.1 E	1000	110 E	1000	110 E	10	1.1 E	10	1.1 E	NA
CHLORDANE	57749	0.2	49 E	0.2	49 E	5.6	1,400 E	5.6	1,400 E	5.6	1,400 E	5.6	1,400 E	10
CHLORO-1,1-DIFLUOROETHANE, 1-	000075-68-3	14000	1600 E	29000	3200 E	140000	16000 E	140000	16000 E	14000	1600 E	29000	3200 E	NA
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107051	0.28	0.065 E	0.58	0.13 E	28	6.5 E	58	13 E	28	6.5 E	58	13 E	NA
CHLOROACETOPHENONE, 2-	000532-27-4	0.031	0.0034 E	0.088	0.0098 E	3.1	0.34 E	8.8	0.98 E	31	3.4 E	88	9.8 E	NA
CHLOROANILINE, P-	106478	15	19 E	41	51 E	[300] 1500	[400] 1900 E	[300] 4100	[400] 5100 E	15	19 E	41	51 E	NA
CHLOROBENZENE	108907	10	6.2 E	10	6.2 E	1000	620 E	1,000	620 E	1,000	620 E	1,000	620 E	NA
CHLOROBENZILATE	510156	0.24	1.6 E	0.96	6.4 E	24	160 E	96	640 E	240	1600 E	960	6400 E	15
CHLOROBUTANE, 1-	000109-69-3	1500	170 E	4100	460 E	10000	7600 E	10000	7600 E	1500	170 E	4100	460 E	30
CHLORODIBROMOMETHANE	124481	10	3.2 E	10	3.2 E	1,000	320 E	1,000	320 E	1,000	320 E	1,000	320 E	NA
CHLORODIFLUOROMETHANE	000075-45-6	10	1.1 E	10	1.1 E	1,000	110 E	1,000	110 E	10	1 E	10	1 E	NA
CHLOROETHANE	75003	[2800] 23	[600] 5 E	[6800] 90	[1200] 19 [C]	[10000] 2300	[40000] 500 [C]	[10000] 9000	[40000] [C]	[10000] 2300	[40000] [C]	[10000] 9000	[40000] [C]	NA
CHLOROETHYL VINYL ETHER, 2-	110758	24	3.1 E	51	6.5 E	2,400	310 E	5100	650 E	24	3.1 E	51	6.5 E	NA
CHLOROFORM	67663	10	2.5 E	10	2.5 E	1,000	250 E	1,000	250 E	100	25 E	100	25 E	NA
CHLORONAPHTHALENE, 2-	91587	290	6,200 E	[670] 820	[44000] E	[670] 1200	[44000] E	[670] 1200	[44000] E	290	6,200 E	[670] 820	[44000] E	15
CHLORONITROBENZENE, P-	000100-00-5	3.7	0.41 E	14	1.6 E	370	41 E	1,400	160 E	4	0 E	14	2 E	NA
CHLOROPHENOL, 2-	95578	4	4.4 E	4	4.4 E	400	440 E	400	440 E	4	4.4 E	4	4.4 E	NA
CHLOROPRENE	126998	1.9	0.45 E	4.1	0.97 E	190	45 E	410	97 E	190	45 E	410	97 E	NA
CHLOROPROPANE, 2-	000075-29-6	28	3.1 E	58	6.4 E	2800	310 E	5800	640 E	28	3.1 E	58	6.4 E	NA
CHLOROTHALONIL	001897-45-6	6	0.67 E	24	2.7 E	60	6.7 E	60	6.7 E	6	0.67 E	24	2.7 E	30
CHLOROTOLUENE, O-	000095-49-8	10	1.1 E	10	1.1 E	1000	110 E	1000	110 E	10	1.1 E	10	1.1 E	30
CHLOROPYRIFOS	2921882	2	23 E	2	23 E	[430] 110	[4600] 1300 E	[430] 110	[4600] 1300 E	2	23 E	2	23 E	15
CHLORSULFURON	064902-72-3	180	20 E	510	57 E	13000	1400 E	13000	1400 E	180	20 E	510	57 E	NA
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	001861-32-1	40	4.4 E	40	4.4 E	50	5.6 E	50	5.6 E	50	5.6 E	50	5.6 E	15
CHRYSENE	218019	[0-18] 0.19	[220] 230 E	[0-18] 0.19	[220] 230 E	[0-18] 0.19	[220] 230 E	[0-18] 0.19	[220] 230 E	[0-18] 0.19	[220] 230 E	[0-18] 0.19	[220] 230 E	5
CRESOL(S)	1319773	4.9	0.85 E	10	1.7 E	490	85 E	1,000	170 E	490	85 E	1,000	170 E	NA
CRESOL, O- (METHYLPHENOL, 2-)	000095-48-7	180	20 E	510	57 E	10000	2000 E	10000	5700 E	10000	2000 E	10000	5700 E	NA
CRESOL, M (METHYLPHENOL, 3-)	000108-39-4	180	20 E	510	57 E	10000	2000 E	10000	5700 E	10000	10000 C	10000	10000 C	NA
CRESOL, P (METHYLPHENOL, 4-)	000106-44-5	18	2 E	51	5.7 E	1800	200 E	5100	570 E	18000	2000 E	51000	5700 E	NA
CRESOL, P-CHLORO-M-	59507	18	37 E	51	100 E	1,800	3,700 E	5,100	10,000 E	18	37 E	51	100 E	30

¹ For other options see Section 250.308
 All concentrations in mg/kg
 E - Number calculated by the soil to groundwater equation in Section 250.308
 C - Cap
 NA - The soil buffer distance option is not available for this substance

APPENDIX A
TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
B. Soil to Groundwater Numeric Values¹

REGULATED SUBSTANCE	CASRN	Used Aquifers								Non-Use Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500				Residential		Non-Residential		
		Residential		Non-Residential		Residential		Non-Residential		100 X	Generic	100 X	Generic	
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
CROTONALDEHYDE	4170303	0.0079	0.00099 E	0.034	0.0043 E	0.79	0.099 E	3.4	0.43 E	0.79	0.099 E	3.4	0.43 E	NA
CROTONALDEHYDE, TRANS-	000123-73-9	0.035	0.0039 E	0.14	0.016 E	4	0 E	14	2 E	4	0 E	14	2 E	NA
CUMENE	98828	[2.6] 110	[48] 790 E	[6.2] 230	[37] 1600 E	[260] 5000	[4800] [6] 10000 C	[620] 5000	[3700] [6] 10000 C	[260] 5000	[4800] [6] 10000 C	[620] 5000	[3700] C 10000	15
CYCLOHEXANONE	108941	4,900	1,400 E	10,000	2,800 E	10,000	10,000 C	10,000	10,000 C	4,900	1,400 E	10,000	2,800 E	NA
CYFLUTHRIN	068359-37-5	0.1	0.011 E	0.1	0.011 E	0.1	0.011 E	0.1	0.011 E	0.1	0.011 E	0.1	0.011 E	10
CYROMAZINE	066215-27-8	27	3 E	77	8.6 E	2700	300 E	7700	860 E	27	3 E	77	8.6 E	20
DDD, 4,4'-	72548	0.062	6.8 E	0.27	29 E	6.2	680 E	16	1,700 E	6.2	680 E	16	1,700 E	10
DDE, 4,4'-	72559	[0.43] 0.19	[28] 41 E	[0.43] 0.76	[28] 170 E	[0.43] 4	[28] 870 E	[0.43] 4	[28] 870 E	[0.43] 4	[28] 870 E	[0.43] 4	[28] 870 E	10
DDT, 4,4'-	50293	[0.43] 0.19	[400] 110 E	[0.43] 0.55	[400] 330 E	[0.43] 0.55	[400] 330 E	[0.43] 0.55	[400] 330 E	[0.43] 0.55	[400] 330 E	[0.43] 0.55	[400] 330 E	5
DI(2-ETHYLHEXYL)ADIPATE	000103-23-1	40	4.4 E	40	4.4 E	4000	440 E	4000	440 E	10000	2200 E	10000	2200 E	5
DIALATE	2303164	0.25	0.15 E	1	0.59 E	25	15 E	100	59 E	25	15 E	100	59 E	NA
DIAMINOTOLUENE, 2,4-	000095-80-7	0.021	0.0023 E	0.081	0.009 E	2	0.23 E	8	0.9 E	21	2.3 E	81	9 E	NA
DIAZINON	333415	0.06	0.082 E	0.06	0.082 E	6	8.2 E	6	8.2 E	0.06	0.082 E	0.06	0.082 E	30
DIBENZO[A,H]ANTHRACENE	53703	0.009	41 E	0.036	160 E	[0.06] 0.06	[230] 270 E	[0.06] 0.06	[230] 270 E	[0.06] 0.06	[230] 270 E	[0.06] 0.06	[230] 270 E	5
DIBROMO-3-CHLOROPROPANE, 1,2-	96128	0.02	0.0091 E	0.02	0.0091 E	2	0.91 E	2	0.91 E	2	0.91 E	2	0.91 E	NA
DIBROMOBENZENE, 1,4-	000108-37-6	37	4.1 E	100	11 E	2000	220 E	2000	220 E	37	4.1 E	100	11 E	20
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106934	0.009	0.0012 E	0.005	0.0012 E	0.5	0.12 E	0.5	0.12 E	0.5	0.12 E	0.5	0.12 E	NA
DIBROMOMETHANE	74953	9.7	3.7 E	20	7.7 E	970	370 E	2,000	770 E	970	370 E	2,000	770 E	NA
DIBUTYL PHTHALATE, N-	84742	370	1500 E	1000	4100 E	[4300] 10000	[6300] [6] 10000 C	[4300] 10000	[6300] [6] 10000 C	[4300] 10000	[6300] [6] 10000 C	[4300] 10000	[6300] [6] 10000 C	20
DICHLORO-2-BUTENE, 1,4-	000764-41-0	0.0018	0.00018 E	0.0069	0.00077 E	0	0 E	1	0 E	0.0018	0.00018 E	0	0.00077 E	NA
DICHLOROBENZENE, 1,2-	95501	60	60 E	60	60 E	6,000	6,000 E	6,000	6,000 E	6,000	6,000 E	6,000	6,000 E	NA
DICHLOROBENZENE, 1,3-	541731	60	61 E	60	61 E	6,000	6,100 E	6,000	6,100 E	6,000	6,100 E	6,000	6,100 E	NA
DICHLOROBENZENE, P-	106467	7.5	10 E	7.5	10 E	750	1,000 E	750	1,000 E	750	1,000 E	750	1,000 E	30
DICHLOROBENZIDINE, 3,3'-	91941	0.19	8.4 E	0.58	33 E	15	840 E	58	3,300 E	150	8,400 E	[680] 310	[33000] E 17000	10
DICHLOROFLUOROMETHANE (FREON 12)	75718	100	100 E	100	100 E	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	NA
DICHLOROETHANE, 1,1-	75343	2.7	0.65 E	11	2.7 E	270	65 E	1,100	270 E	27	6.5 E	110	27 E	NA
DICHLOROETHANE, 1,2-	107062	0.5	0.1 E	0.5	0.1 E	50	10 E	50	10 E	5	1 E	5	1 E	NA
DICHLOROETHYLENE, 1,1-	75354	0.7	0.19 E	0.7	0.19 E	70	19 E	70	19 E	7	1.9 E	7	1.9 E	NA
DICHLOROETHYLENE, CIS-1,2-	156592	7	1.6 E	7	1.6 E	700	160 E	700	160 E	70	16 E	70	16 E	NA
DICHLOROETHYLENE, TRANS-1,2-	156605	10	2.3 E	10	2.3 E	1,000	230 E	1,000	230 E	100	23 E	100	23 E	NA
DICHLOROMETHANE (METHYLENE CHLORIDE)	75092	0.5	0.075 E	0.5	0.075 E	50	7.5 E	50	7.5 E	50	7.5 E	50	7.5 E	NA
DICHLOROPHENOL, 2,4-	120832	2	1 E	2	1 E	200	100 E	200	100 E	2,000	1000 E	2,000	1,000 E	NA
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94757	7	1.8 E	7	1.8 E	700	180 E	700	180 E	700	180 E	700	180 E	NA
DICHLOROPROPANE, 1,2-	78875	0.5	0.11 E	0.5	0.11 E	50	11 E	50	11 E	5	1.1 E	5	1.1 E	NA
DICHLOROPROPENE, 1,3-	000542-75-6	0.12	0.013 E	0.49	0.054 E	12	1 E	49	5 E	12	1 E	49	5 E	NA
DICHLOROPROPIONIC ACID (DALAPON), 2,2-	75990	20	5.3 E	20	5.3 E	2,000	530 E	2,000	530 E	2,000	530 E	2,000	530 E	NA
DICHLORVOS	62737	0.052	0.012 E	0.22	0.052 E	5.2	1.2 E	22	5.2 E	0.052	0.012 E	0.22	0.052 E	NA
DICYCLOPENTADIENE	000077-73-6	0.055	0.0061 E	0.12	0.013 E	6	1 E	12	1 E	0	0 E	0	0 E	30
DIELDRIN	60571	0.0041	0.11 E	0.016	0.44 E	0.41	11 E	1.6	44 E	4.1	110 E	16	440 E	15
DIETHYL PHTHALATE	84662	500	160 E	500	160 E	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	NA
DIFLUBENZURON	035367-38-5	20	2.2 E	20	2.2 E	20	2 E	20	2 E	20	2 E	20	2 E	20
DIMETHOATE	60515	0.73	0.28 E	2	0.77 E	73	28 E	200	77 E	730	280 E	2,000	770 E	NA
DIMETHOXYBENZIDINE, 3,3-	000119-90-4	4.7	0.52 E	19	2.1 E	470	52 E	1900	210 E	4700	520 E	6000	670 E	20
DIMETHYLAMINOAZOBENZENE, P-	60117	0.014	0.037 E	0.057	0.15 E	1.4	3.7 E	5.7	15 E	14	37 E	[22] 57	[60] 150 E	20
DIMETHYLANILINE, N,N-	000121-69-7	7.3	0.81 E	20	2.2 E	730	81 E	2,000	220 E	730	81 E	2,000	220 E	NA
DIMETHYLBENZIDINE, 3,3-	000119-93-7	0.072	0.0008 E	0.028	0.0031 E	0.72	0.08 E	2.8	0.31 E	7.2	0.8 E	28	3.1 E	10
DIMETHYLHYDRAZINE, 1,1-	57147	0.0087	0.00097 E	0.037	0.0041 E	0.87	0.097 E	3.7	0.41 E	0.087	0.0097 E	0.37	0.041 E	NA
DIMETHYLPHENOL, 2,4-	105679	73	31 E	200	85 E	7,300	3,100 E	10,000	8,500 E	10,000	10,000 C	10,000	10,000 C	NA
DINITROBENZENE, 1,3-	99650	0.1	0.049 E	0.1	0.049 E	10	4.9 E	10	4.9 E	100	49 E	100	49 E	NA
DINITROPHENOL, 2,4-	51285	1.9	0.21 E	4.1	0.46 E	190	21 E	410	46 E	19	2.1 E	41	4.6 E	NA

¹ For other options see Section 250.308

All concentrations in mg/kg

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		Residential		Non-Residential			Residential		Non-Residential			100 X	Generic	100 X	Generic	
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
DINITROTOLUENE, 2,4-	121142	0.21	0.05 E	0.84	0.2 E	21	5 E	84	20 E	210	50 E	840	200 E	NA		
DINITROTOLUENE, 2,6- (2,6-DNT)	606202	3.7	1.1 E	10	3 E	370	110 E	1,000	300 E	3,700	1,100 E	10,000	3,000 E	NA		
DINOSEB	88857	0.7	0.29 E	0.7	0.29 E	70	29 E	70	29 E	70	29 E	70	29 E	NA		
DIOXANE, 1,4-	123911	0.56	0.073 E	2.4	0.31 E	56	7.3 E	240	31 E	5.6	0.73 E	24	3.1 E	NA		
DIPHENAMID	000957-51-7	20	2.2 E	20	2.2 E	2000	220 E	2000	220 E	20	2 E	20	2 E	NA		
DIPHENYLAMINE	122394	20	12 E	20	12 E	2,000	1,200 E	2,000	1,200 E	20,000	12,000 E	20,000	12,000 E	NA		
DIPHENYLHYDRAZINE, 1,2-	122667	0.083	0.15 E	0.33	0.58 E	8.3	15 E	[23] 25	[68] 44 E	[83] 25	[450] 44 E	[330] 25	[680] 44 E	30		
DIQUAT	85007	2	0.24 E	2	0.24 E	200	24 E	200	24 E	2	0.24 E	2	0.24 E	NA		
DISULFOTON	298044	0.03	0.08 E	0.03	0.08 E	3	8 E	3	8 E	3	8 E	3	8 E	20		
DIURON	330541	1	0.87 E	1	0.87 E	100	87 E	100	87 E	1	0.87 E	1	0.87 E	NA		
ENDOSULFAN	000115-29-7	5.8	0.64 E	12	1.3 E	48	5.3 E	48	5.3 E	48	5.3 E	48	5.3 E	15		
ENDOSULFAN I (ALPHA)	959988	22	110 E	[63] 50	[240] 260 E	[63] 50	[240] 260 E	[63] 50	[240] 260 E	22	110 E	[63] 50	[240] 260 E	15		
ENDOSULFAN II (BETA)	33213659	22	130 E	[28] 45	[470] 270 E	[28] 45	[470] 270 E	[28] 45	[470] 270 E	22	130 E	[28] 45	[470] 270 E	15		
ENDOSULFAN SULFATE	1031078	12	72 E	12	72 E	12	72 E	12	72 E	12	72 E	12	72 E	15		
ENDOTHALL	145733	10	4.2 E	10	4.2 E	1,000	420 E	1,000	420 E	10	4.2 E	10	4.2 E	NA		
ENDRIN	72208	0.2	5.4 E	0.2	5.4 E	20	540 E	20	540 E	0.2	5.4 E	0.2	5.4 E	15		
EPICHLOROHYDRIN	106898	0.28	0.056 E	0.58	0.12 E	28	5.6 E	58	12 E	28	5.6 E	58	12 E	NA		
ETHEPHON	016672-87-0	18	2 E	51	5.7 E	1800	200 E	5100	570 E	18	2 E	51	5.7 E	NA		
ETHION	563122	1.8	39 E	5.1	110 E	[60] 85	[4300] 1900 E	[60] 85	[4300] 1900 E	1.8	39 E	5.1	110 E	15		
ETHOXYETHANOL, 2- (EGEE)	110805	[300] 55	[66] 7.8 E	[820] 120	[420] 17 E	[40000] 5500	[6600] 780 E	10,000	[40000] 5500	[6600] 780 E	10,000	[40000] 5500	[6600] 780 E	NA		
ETHYL ACETATE	141786	870	220 E	1,800	460 E	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	NA		
ETHYL ACRYLATE	140885	0.31	0.12 E	1.3	0.49 E	31	12 E	130	49 E	31	12 E	130	49 E	NA		
ETHYL BENZENE	100414	70	46 E	70	46 E	7,000	4,600 E	7,000	4,600 E	7,000	4,600 E	7,000	4,600 E	NA		
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	000759-94-4	91	10 E	260	29 E	9100	1,000 E	10,000	2,900 E	91	10 E	260	29 E	NA		
ETHYL ETHER	60297	190	53 E	410	110 E	10,000	5,300 E	10,000	10,000 C	190	53 E	410	110 E	NA		
ETHYL METHACRYLATE	000097-63-2	87	9.7 E	180	20 E	8700	970 E	18000	200 E	87	9.7 E	180	20 E	NA		
ETHYLENE GLYCOL	107211	700	85 E	700	85 E	10,000	8,500 E	10,000	8,500 E	10,000	8,500 E	10,000	8,500 E	NA		
ETHYLENE THIOUREA (ETU)	000096-45-7	0.3	0.033 E	0.3	0.033 E	30	3 E	30	3 E	300	33 E	300	33 E	NA		
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIATE	002104-64-5	0.037	0.0041 E	0.1	0.011 E	4	0 E	10	1 E	0	0 E	0	0 E	20		
FENAMIPHOS	2224926	0.2	0.17 E	0.2	0.17 E	20	17 E	20	17 E	0.2	0.17 E	0.2	0.17 E	NA		
FENVALERATE (PYDRIN)	051630-58-1	8.5	0.94 E	8.5	0.94 E	9	0.94 E	8.5	0.94 E	8.5	0.94 E	8.5	0.94 E	15		
FLUOMETURON (FLUOMETRON IN EPA FEB 96)	002164-17-2	9	1 E	9	1 E	900	100 E	900	100 E	9	1 E	9	1 E	NA		
FLUORANTHENE	206440	[27] 26	[3300] 3200 E	[27] 26	[3300] 3200 E	[27] 26	[3300] 3200 E	[27] 26	[3300] 3200 E	[27] 26	[3300] 3200 E	[27] 26	[3300] 3200 E	10		
FLUORENE	86737	[49] 150	[380] 3800 E	[49] 190	[380] 3800 E	[49] 190	[380] 3800 E	[49] 190	[380] 3800 E	[49] 190	[380] 3800 E	[49] 190	[380] 3800 E	15		
FLUOROTRICHLOROMETHANE (FREON 11)	75694	200	90 E	200	90 E	10,000	9,000 E	10,000	9,000 E	10,000	9,000 E	10,000	9,000 E	NA		
FONOFOS	944229	1	2.8 E	1	2.8 E	100	280 E	100	280 E	1	2.8 E	1	2.8 E	20		
FORMALDEHYDE	50000	100	12 E	100	12 E	10,000	1,200 E	10,000	1,200 E	10,000	1,200 E	10,000	1,200 E	NA		
FORMIC ACID	64186	1,900	210 E	4,100	460 E	10,000	10,000 C	10,000	10,000 C	10,000	2,100 E	10,000	4,600 E	NA		
FOSETYL-AL	039148-24-8	11000	1,200 E	31000	3,400 E	190,000	120,000 E	190,000	190,000 C	11,000	1,200 E	31,000	3,400 E	NA		
FURAN	000110-00-9	0.97	0.11 E	2	0.22 E	97	11 E	200	22 E	97	11 E	200	22 E	NA		
FURFURAL	98011	[44] 9.7	[4.4] 1.2 E	[20] 20	[2.2] 2.5 E	[4400] 970	[440] 120 E	[2000] 2000	[370] 250 E	[44] 9.7	[4.4] 1.2 E	[20] 20	[2.2] 2.5 E	NA		
GLYPHOSATE	1071836	70	630 E	70	630 E	7,000	63,000 E	7,000	63,000 E	70	630 E	70	630 E	15		
HEPTACHLOR	76448	0.04	0.68 E	0.04	0.68 E	4	68 E	4	68 E	18	310 E	18	310 E	15		
HEPTACHLOR EPOXIDE	1024573	0.02	1 E	0.02	1 E	2	100 E	2	100 E	20	1,000 E	20	1,000 E	10		
HEXACHLORO BENZENE	118741	0.1	0.96 E	0.1	0.96 E	[0.62] 0.6	[6] 5.8 E	[0.62] 0.6	[6] 5.8 E	[0.62] 0.6	[6] 5.8 E	[0.62] 0.6	[6] 5.8 E	15		
HEXACHLORO BUTADIENE	87683	0.1	1.2 E	0.1	1.2 E	10	120 E	10	120 E	100	1,200 E	100	1,200 E	15		
HEXACHLORO CYCLOPENTADIENE	77474	5	91 E	5	91 E	[340] 180	[6200] 3300 E	[340] 180	[6200] 3300 E	[340] 180	[6200] 3300 E	[340] 180	[6200] 3300 E	15		
HEXACHLOROETHANE	67721	0.1	0.56 E	0.1	0.56 E	10	56 E	10	56 E	10	56 E	10	56 E	15		
HEXANE	110543	55	510 E	120	1100 E	950	8,700 E	950	8,700 E	55	510 E	120	1,100 E	15		

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		Residential		Non-Residential			Residential		Non-Residential			Residential		Non-Residential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
HEXYTHIAZOX (SAVEY)	078987-05-0	50	5.6 E	50	5.6 E	50	5.6 E	50	5.6 E	50	5.6 E	50	5.6 E	50	5.6 E	15
HYDRAZINE/HYDRAZINE SULFATE	000302-01-2	0.00087	0.000097 E	0.0037	0.00041 E	0.097	0.0097 E	0.37	0 E	0.0087	0.00097 E	0.037	0.0041 E	NA	NA	
HYDROQUINONE	000123-31-9	150	17 E	410	46 E	15000	1700 E	41000	4600 E	150000	17000 E	410000	46000 E	NA	NA	
INDENO[1,2,3-CD]PYRENE	193395	0.09	7000 E	0.36	28000 E	6.2	190,000 C	6.2	190,000 C	6.2	190,000 C	6.2	190,000 C	5	5	
IPRODIONE	036734-19-7	150	17 E	410	46 E	1300	140 E	1,300	140 E	150	17 E	410	46 E	20	20	
ISOBUTYL ALCOHOL	78831	290	76 E	610	160 E	10,000	7,600 E	10,000	10,000 C	10,000	7,600 E	10,000	10,000 C	NA	NA	
ISOPHORONE	78591	10	1.9 E	10	1.9 E	1,000	190 E	1,000	190 E	10,000	1,900 E	10,000	1,900 E	NA	NA	
KEPONE	143500	0.0041	0.56 E	0.016	2.2 E	0.41	56 E	1.6	220 E	4.1	560 E	16	2200 E	10	10	
MALATHION	121755	20	67 E	20	67 E	2,000	6,700 E	2,000	6,700 E	2,000	6,700 E	2,000	6,700 E	20	20	
MALIC HYDRAZIDE	123331	400	47 E	400	47 E	40,000	4,700 E	40,000	4,700 E	400	47 E	400	47 E	NA	NA	
MANEB	012427-38-2	18	2 E	51	5.7 E	1,800	200 E	2,300	260 E	18	2 E	51	6 E	NA	NA	
MERPHOS OXIDE	000078-48-8	0.11	0.012 E	0.31	0.034 E	11	1.2 E	31	3.4 E	0.11	0.012 E	0.31	0.034 E	10	10	
METHACRYLONITRILE	126987	0.19	0.031 E	0.41	0.067 E	19	3.1 E	41	6.7 E	0.19	0.031 E	0.41	0.067 E	NA	NA	
METHAMIDOPHOS	010265-92-6	0.18	0.02 E	0.51	0.057 E	18	2 E	51	6 E	0	0 E	1	0 E	NA	NA	
METHANOL	67561	490	58 E	1,000	120 E	10,000	5,800 E	10,000	10,000 C	10,000	5,800 E	10,000	10,000 C	NA	NA	
METHOMYL	16752775	20	3.2 E	20	3.2 E	2,000	320 E	2000	320 E	20	3.2 E	20	3.2 E	NA	NA	
METHOXYCHLOR	72435	4	630 E	4	630 E	[40] 4.5	[4600] 710 E	[40] 4.5	[4600] 710 E	[40] 4.5	[4600] 710 E	[40] 4.5	[4600] 710 E	10	10	
METHOXYETHANOL, 2-	000109-86-4	4	0 E	10	1 E	370	41 E	1,000	110 E	4	0 E	10	1 E	NA	NA	
METHYL ACETATE	000079-20-9	3700	410 E	10000	1100 E	10000	1000 C	10000	10,000 C	3700	410 E	10000	1,100 E	NA	NA	
METHYL ACRYLATE	000096-33-3	110	12 E	310	31 E	10000	1200 E	10000	3400 E	10000	1200 E	10000	3400 E	NA	NA	
METHYL CHLORIDE	74873	0.3	0.038 E	0.3	0.038 E	30	3.8 E	30	3.8 E	30	3.8 E	30	3.8 E	NA	NA	
METHYL ETHYL KETONE	78933	280	53 E	580	110 E	10,000	5,300 E	10,000	10,000 C	10,000	5,300 E	10,000	10,000 C	NA	NA	
METHYL ISOBUTYL KETONE	108101	[22] 19	[3-4] 2.9 E	[42] 41	[7-8] 6.3 E	[2200] 1900	[340] 290 E	[4200] 4100	[730] 630 E	[2200] 1900	[340] 290 E	[4200] 4100	[730] 630 E	NA	NA	
METHYL METHACRYLATE	80626	[78] 190	[44] 26 E	[460] 410	[22] 56 E	[7800] 10000	[4400] 2600 E	10,000	[2200] 5600 E	[7800] 10000	[4400] 2600 E	10,000	[2200] 5600 E	NA	NA	
METHYL METHANESULFONATE	66273	0.67	0.083 E	2.6	0.32 E	67	8.3 E	260	32 E	0.67	0.083 E	2.6	0.32 E	NA	NA	
METHYL PARATHION	298000	0.2	0.42 E	0.2	0.42 E	20	42 E	20	42 E	20	42 E	20	42 E	30	30	
METHYL STYRENE (MIXED ISOMERS)	025013-15-4	22	2.4 E	61	6.8 E	2200	240 E	6100	680 E	22	2.4 E	61	6.8 E	15	15	
METHYL TERT-BUTYL ETHER (MTBE)	1634044	2	0.28 E	2	0.28 E	200	28 E	200	28 E	20	2.8 E	20	2.8 E	NA	NA	
METHYLENE BIS(2-CHLOROANILINE), 4,4'	000101-14-4	0.51	0.057 E	2	0.22 E	51	5.7 E	200	22 E	0.51	0.057 E	2	0.22 E	15	15	
METHYLNAPHTHALENE, 2-	91576	[460] 73	[6000] 2900 E	[440] 200	[40000] [C] 7900 E	2,500	10,000 C	2,500	10,000 C	[460] 73	[6000] 2900 E	[440] 200	[40000] [C] 7900 E	15	15	
METHYLSTYRENE, ALPHA	000098-83-9	68	7.6 E	140	16 E	6800	760 E	14000	1600 E	68	7.6 E	140	16 E	30	30	
NAPHTHALENE	91203	2	5 E	2	5 E	200	500 E	200	500 E	2,000	5,000 E	2,000	5,000 E	30	30	
NAPHTHYLAMINE, 1-	134327	0.037	0.3 E	0.14	1.1 E	3.7	30 E	14	110 E	37	300 E	140	1100 E	15	15	
NAPHTHYLAMINE, 2-	91598	0.037	0.012 E	0.14	0.046 E	3.7	1.2 E	14	4.6 E	37	12 E	140	46 E	NA	NA	
NAPROPAMIDE	015299-99-7	370	41 E	1000	110 E	7000	780 E	7000	780 E	370	41 E	1000	110 E	30	30	
NITROANILINE, M-	99092	0.21	0.033 E	0.58	0.091 E	21	3.3 E	58	9.1 E	0.21	0.033 E	0.58	0.091 E	NA	NA	
NITROANILINE, O-	88744	0.21	0.037 E	0.58	0.1 E	21	3.7 E	58	10 E	0.21	0.037 E	0.58	0.1 E	NA	NA	
NITROANILINE, P-	100016	0.21	0.031 E	0.58	0.086 E	21	3.1 E	58	8.6 E	0.21	0.031 E	0.58	0.086 E	NA	NA	
NITROBENZENE	98953	1.8	0.79 E	5.1	2.2 E	180	79 E	510	220 E	1.800	790 E	5.100	2.200 E	NA	NA	
NITROPHENOL, 2-	88755	[220] 29	[47] 5.9 E	[630] 82	[130] 17 E	[22000] 2900	[4700] 590 E	[63000] 8200	[13000] 1700 E	[22000] 2900	[47000] 5900 E	[63000] 8200	[130000] 17000 E	NA	NA	
NITROPHENOL, 4-	100027	6	4.2 E	6	4.2 E	600	420 E	600	420 E	6,000	4,200 E	6,000	4,200 E	NA	NA	
NITROPROPANE, 2-	79469	0.0016	0.00026 E	0.0068	0.0011 E	0.16	0.026 E	0.68	0.11 E	0.016	0.0026 E	0.068	0.011 E	NA	NA	
NITROSODIETHYLAMINE, N-	55185	0.0001	0.000018 E	0.00043	0.000075 E	0.01	0.0018 E	0.043	0.0075 E	0.001	0.00018 E	0.0043	0.00075 E	NA	NA	
NITROSODIMETHYLAMINE, N-	62759	0.00031	0.000041 E	0.0013	0.00017 E	0.031	0.0041 E	0.13	0.017 E	0.0031	0.00041 E	0.013	0.0017 E	NA	NA	
NITROSO-DI-N-BUTYLAMINE, N-	000924-16-3	0.0027	0.0003 E	0.011	0.0012 E	0.27	0.03 E	1.1	0.12 E	0.27	0.03 E	1.1	0.12 E	NA	NA	
NITROSO-DI-N-PROPYLAMINE, N-	621647	0.0094	0.0013 E	0.037	0.0051 E	0.94	0.13 E	3.7	0.51 E	9.4	1.3 E	37	5.1 E	NA	NA	
NITROSODIPHENYLAMINE, N-	86306	13	20 E	53	82 E	1,300	2,000 E	3,500	5,400 E	3,500	5,400 E	3,500	5,400 E	30	30	
NITROSO-N-ETHYLUREA, N-	000759-73-9	0.00047	0.000052 E	0.0019	0.00021 E	0.047	0.0052 E	0.19	0.021 E	0.047	0.0052 E	0.19	0.021 E	NA	NA	
OCTYL PHTHALATE, DI-N-	117840	73	10,000 C	200	10,000 C	300	10,000 C	300	10,000 C	300	10,000 C	300	10,000 C	5	5	
OXAMYL (VYDATE)	23135220	20	2.6 E	20	2.6 E	2,000	260 E	2,000	260 E	20	2.6 E	20	2.6 E	NA	NA	
PARATHION	56382	22	130 E	61	360 E	2,000	10,000 C	2,000	10,000 C	22	130 E	61	360 E	15	15	

¹ For other options see Section 250.308

All concentrations in mg/kg

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C - Cap

NA - The soil buffer distance option is not available for this substance

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TABLE 3 - MEDIUM-SPECIFIC CONCENTRATIONS (MSCs) FOR ORGANIC REGULATED SUBSTANCES IN SOIL
B. Soil to Groundwater Numeric Values¹

REGULATED SUBSTANCE	CASRN	Used Aquifers								Non-Use Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500				Residential		Non-Residential		
		Residential		Non-Residential		Residential		Non-Residential		Residential		Non-Residential		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
PCB-1016 (AROCOLOR)	12674112	0.26	70 E	0.72	190 E	[4.0] 25	[4200] 6700 E	[4.0] 25	[4200] 6700 E	0.26	70 E	0.72	190 E	10
PCB-1221 (AROCOLOR)	11104282	0.13	0.62 E	0.52	2.5 E	13	62 E	[20] 52	[96] 250 E	0.13	0.62 E	0.52	2.5 E	20
PCB-1232 (AROCOLOR)	11141165	0.13	0.52 E	0.52	2.1 E	13	52 E	52	210 E	0.13	0.52 E	0.52	2.1 E	20
PCB-1242 (AROCOLOR)	53469219	0.13	16 E	0.52	62 E	[42] 10	[4600] 1200 E	[24] 10	[2000] 1200 E	0.13	16 E	0.52	62 E	10
PCB-1248 (AROCOLOR)	12672296	0.037	18 E	0.14	67 E	[0.6] 3.7	[200] 1800 E	[0.6] 5.4	[200] 2600 E	0.037	18 E	0.14	67 E	10
PCB-1254 (AROCOLOR)	11097691	0.037	75 E	0.14	280 E	[1.2] 3.7	[2400] 7500 E	[1.2] 5.7	[2400] 6000 E	0.037	75 E	0.14	280 E	5
PCB-1260 (AROCOLOR)	11096825	0.025	110 E	0.11	500 E	2.5	11,000 E	8	36,000 E	0.025	110 E	0.11	500 E	5
PEBULATE	001114-71-2	180	20 E	510	57 E	9,200	1,000 E	9,200	1,000 E	180	20 E	510	57 E	30
PENTACHLOROBENZENE	608935	2.9	230 E	8.2	660 E	[24] 74	[4000] 6000 E	[24] 74	[4000] 6000 E	[24] 74	[4000] E	[24] 74	[4000] E	10
PENTACHLORONITROBENZENE	82688	0.25	5 E	1	20 E	25	500 E	44	880 E	44	880 E	44	880 E	15
PENTACHLOROPHENOL	87865	0.1	5 E	0.1	5 E	10	500 E	10	500 E	100	5,000 E	100	5,000 E	10
PHENACETIN	62442	30	12 E	120	47 E	3,000	1,200 E	12,000	4,700 E	30,000	12,000 E	76,000	30,000 E	NA
PHENANTHRENE	85018	[420] 110	[44000] E	[420] 110	[44000] E	[420] 110	[44000] E	[420] 110	[44000] E	[420] 110	[44000] E	[420] 110	[44000] E	10
PHENOL	108952	400	66 E	400	66 E	40,000	6,600 E	40,000	6,600 E	40,000	6,600 E	40,000	6,600 E	NA
PHENYLENEDIAMINE, M-	108452	22	3.1 E	61	8.6 E	2,200	310 E	6,100	860 E	22,000	3,100 E	61,000	8,600 E	NA
PHENYLPHENOL, 2-	000090-43-7	34	3.8 E	130	14 E	3,400	380 E	13,000	1,400 E	34,000	3,800 E	70,000	7,800 E	15
PHORATE	298022	0.19	0.41 E	0.41	0.88 E	19	41 E	41	88 E	0.19	0.41 E	0.41	0.88 E	30
PHTHALIC ANHYDRIDE	85449	7,300	2,300 E	20,000	6,200 E	190,000	190,000 C	190,000	190,000 C	190,000	190,000 C	190,000	190,000 C	NA
PICLORAM	001918-02-1	50	5.6 E	50	5.6 E	5,000	580 E	5,000	580 E	50	6 E	50	6 E	NA
POLYCHLORINATED BIPHENYLS (AROCOLORS) (PCBS)	001338-36-3	0.05	0.0056 E	0.05	0.0056 E	5	1 E	5	1 E	0	0 E	0	0 E	NA
PRONAMIDE	23950585	5	3 E	5	3 E	500	300 E	500	300 E	5	3 E	5	3 E	NA
PROPANIL	000709-98-8	18	2 E	51	5.7 E	1,800	200 E	5,100	570 E	18	2 E	51	6 E	NA
PROPHAM	000122-42-9	73	8.1 E	200	22 E	7,300	810 E	20,000	2,200 E	73	8 E	200	22 E	NA
PROPYLBENZENE, N-	000103-65-1	37	4.1 E	100	11 E	3700	410 E	5,200	580 E	37	4.1 E	100	11 E	30
PROPYLENE OXIDE	75569	0.28	0.048 E	1.1	0.19 E	28	4.8 E	110	19 E	0.28	0.048 E	1.1	0.19 E	NA
PYRENE	129000	[4.2] 13	[220] 2200 E	[4.2] 13	[220] 2200 E	[4.2] 13	[220] 2200 E	[4.2] 13	[220] 2200 E	[4.2] 13	[220] 2200 E	[4.2] 13	[220] 2200 E	10
PYRIDINE	110861	0.97	0.11 E	2	0.22 E	97	11 E	200	22 E	9.7	1.1 E	20	2.2 E	NA
QUINOLINE	000091-22-5	0.0056	0.0061 E	0.022	0.0024 E	0.55	0.061 E	2.2	0.24 E	5.6	0.61 E	22	2.4 E	20
QUIZALOFOP (ASSURE)	076578-14-8	30	3.3 E	30	3.3 E	30	3.3 E	30	3.3 E	30	3.3 E	30	3.3 E	30
RONNEL	000299-84-3	180	20 E	510	57 E	4000	440 E	4900	440 E	180	20 E	510	57 E	30
SIMAZINE	122349	0.4	0.16 E	0.4	0.16 E	40	16 E	40	16 E	0.4	0.16 E	0.4	0.16 E	NA
STRYCHNINE	57249	1.1	0.9 E	3.1	2.5 E	110	90 E	310	250 E	1,100	900 E	3,100	2,500 E	NA
STYRENE	100425	10	24 E	10	24 E	1,000	2,400 E	1,000	2,400 E	1,000	2,400 E	1,000	2,400 E	30
TEBUTHIURON	034014-18-1	50	5.6 E	50	5.6 E	5,000	560 E	5,000	560 E	50	6 E	50	6 E	30
TERBACIL	005902-51-2	9	1 E	9	1 E	900	100 E	900	100 E	9	1 E	9	1 E	NA
TERBUFOS	13071799	0.09	0.13 E	0.09	0.13 E	9	13 E	9	13 E	0.09	0.13 E	0.09	0.13 E	30
TETRACHLOROBENZENE, 1,2,4,5-	000095-94-3	1.1	0.12 E	3.1	0.34 E	58	6.4 E	58	6.4 E	58	6.4 E	58	6.4 E	20
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746016	0.000003	0.032 E	0.000003	0.032 E	0.0003	3.2 E	0.0003	3.2 E	0.0019	20 E	0.0019	20 E	5
TETRACHLOROETHANE, 1,1,1,2-	000630-20-6	7	0.78 E	7	0.78 E	700	78 E	700	78 E	700	78 E	700	78 E	30
TETRACHLOROETHANE, 1,1,1,2,2-	79345	0.074	0.023 E	0.32	0.099 E	7.4	2.3 E	32	9.9 E	7.4	2.3 E	32	9.9 E	NA
TETRACHLOROETHYLENE (PCE)	127184	0.5	0.43 E	0.5	0.43 E	50	43 E	50	43 E	5	4.3 E	5	4.3 E	NA
TETRACHLOROPHENOL, 2,3,4,6-	58902	29	450 E	61	950 E	2,900	45,000 E	6,100	95,000 E	2,900	45,000 E	6,100	95,000 E	15
TETRAETHYL LEAD	78002	0.00037	0.0048 E	0.001	0.012 E	0.037	0.46 E	0.1	1.2 E	0.37	4.6 E	1	12 E	15
TETRAETHYLDIHQPYROPHOSPHATE	003689-24-5	0.49	0.054 E	1	0.11 E	49	5.4 E	100	11 E	0.49	0.054 E	1	0.11 E	30
THIOFANOX	039198-18-4	1.1	0.12 E	3.1	0.34 E	110	12 E	310	34 E	1	0 E	3	0 E	NA
THIRAM	137268	18	47 E	51	130 E	1,800	4,700 E	3,000	7,800 E	18	47 E	51	130 E	20
TOLUENE	108883	100	44 E	100	44 E	10,000	4,400 E	10,000	4,400 E	10,000	4,400 E	10,000	4,400 E	NA
TOLUIDINE, M-	108441	0.28	0.13 E	1.1	0.5 E	28	13 E	110	50 E	0.28	0.13 E	1.1	0.5 E	NA
TOLUIDINE, O-	95534	[0.37] 0.28	[0.42] 0.32 E	[1.4] 1.1	[1.6] 1.2 E	[37] 28	[42] 32 E	[140] 110	[160] 120 E	[370] 280	[420] 320 E	[1400] 1100	[1600] E	NA
TOLUIDINE, P-	106490	0.35	0.32 E	1.4	1.3 E	35	32 E	140	130 E	0.35	0.32 E	1.4	1.3 E	NA
TOXAPHENE	8001352	0.3	1.2 E	0.3	1.2 E	30	120 E	30	120 E	0.3	1.2 E	0.3	1.2 E	20
TRIALATE	002303-17-5	47	5.2 E	130	14 E	400	44 E	400	44 E	47	5.2 E	130	14 E	15

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		TDS ≤ 2500					TDS > 2500					Residential		Non-Residential		
		Residential		Non-Residential			Residential		Non-Residential			100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
TRIBROMOMETHANE (BROMOFORM)	75252	10	4.3 E	10	4.3 E	1,000	430 E	1,000	430 E	1,000	430 E	1,000	430 E	1,000	430 E	NA
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	000076-13-1	8300	920 E	17000	1900 E	17000	1900 E	17000	1900 E	17000	1900 E	17000	1900 E	17000	1900 E	20
TRICHLOROBENZENE, 1,2,4-	120821	7	28 E	7	28 E	700	2,800 E	700	2,800 E	700	2,800 E	[4900] 4400	10,000 C	[4900] 4400	10,000 C	20
TRICHLOROBENZENE, 1,3,5-	108703	4	31 E	4	31 E	400	3,100 E	400	3,100 E	4	31 E	4	31 E	4	31 E	15
TRICHLOROETHANE, 1,1,1-	71556	20	7.2 E	20	7.2 E	2,000	720 E	2,000	720 E	200	72 E	200	72 E	200	72 E	NA
TRICHLOROETHANE, 1,1,2-	79005	0.5	0.15 E	0.5	0.15 E	50	15 E	50	15 E	5	1.5 E	5	1.5 E	5	1.5 E	NA
TRICHLOROETHYLENE (TCE)	79016	0.5	0.17 E	0.5	0.17 E	50	17 E	50	17 E	5	1.7 E	5	1.7 E	5	1.7 E	NA
TRICHLOROPHENOL, 2,4,5-	95954	370	2,300 E	1,000	6,100 E	37,000	190,000 C	100,000	190,000 C	100,000	190,000 C	100,000	190,000 C	100,000	190,000 C	15
TRICHLOROPHENOL, 2,4,6-	88062	6	17 E	24	67 E	600	1,700 E	2,400	6,700 E	6,000	17,000 E	24,000	67,000 E	24,000	67,000 E	20
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93785	7	1.5 E	7	1.5 E	700	150 E	700	150 E	7,000	1,500 E	7,000	1,500 E	7,000	1,500 E	NA
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)(SILVEX)	93721	5	22 E	5	22 E	500	2,200 E	500	2,200 E	5	22 E	5	22 E	5	22 E	20
TRICHLOROPROPANE, 1,1,2-	000598-77-6	18	2 E	51	5.7 E	1,800	200 E	5,100	570 E	18	2 E	51	5.7 E	18	5.7 E	NA
TRICHLOROPROPANE, 1,2,3-	96184	4	3.3 E	4	3.3 E	400	330 E	400	330 E	400	330 E	400	330 E	400	330 E	NA
TRICHLOROPROPENE, 1,2,3-	000096-19-5	18	2 E	51	5.7 E	1,800	200 E	5,100	570 E	18	2 E	51	5.7 E	18	5.7 E	NA
TRIFLURALIN	001582-09-9	0.5	0.056 E	0.5	0.056 E	50	5.6 E	50	5.6 E	0.5	0.056 E	0.5	0.056 E	0.5	0.056 E	30
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	000095-83-8	1.6	0.18 E	3.5	0.39 E	160	18 E	350	39 E	160	18 E	350	39 E	160	39 E	15
TRIMETHYLBENZENE, 1,3,5-	000108-67-8	1.6	0.18 E	3.5	0.39 E	160	18 E	350	39 E	2	0 E	4	0 E	4	0 E	30
TRINITROTOLUENE, 2,4,6-	000118-96-7	0.2	0.022 E	0.2	0.022 E	20	2.2 E	20	2.2 E	0.2	0.022 E	0.2	0.022 E	0.2	0.022 E	NA
VINYL ACETATE	108054	55	6.5 E	120	14 E	5,500	650 E	10,000	1,400 E	55	6.5 E	120	14 E	120	14 E	NA
VINYL BROMIDE (BROMOETHENE)	000583-60-2	0.14	0.016 E	0.58	0.064 E	14	1.6 E	58	6.4 E	1.4	0.16 E	5.8	0.64 E	1.4	0.64 E	NA
VINYL CHLORIDE	75014	0.2	0.027 E	0.2	0.027 E	20	2.7 E	20	2.7 E	2	0.27 E	2	0.27 E	2	0.27 E	NA
WARFARIN	81812	[0.000000004 2] 1.1	[0.000000004 12.6	[0.000000004 2] 3.1	[0.000000004 17.4	[0.000000004 2] 110	[0.000000004 1260	[0.000000004 2] 310	[0.000000004 1740	[0.000000004 2] 1100	[0.000000004 2] 2600	[0.000000004 2] 1700	[0.000000004 2] 4100	[0.000000004 2] 1700	[0.000000004 2] 4100	30
XYLENES (TOTAL)	1330207	1,000	850 E	1,000	850 E	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	10,000	10,000 C	NA
ZINEB	012122-67-7	180	20 E	510	57 E	1000	110 E	1000	110 E	180	20 E	510	57 E	180	20 E	NA

¹ For other options see Section 250.308

All concentrations in mg/kg

E - Number calculated by the soil to groundwater equation in Section 250.308

C - Cap

NA - The soil buffer distance option is not available for this substance

APPENDIX A

**Table 4 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil
A. Direct Contact Numeric Values**

REGULATED SUBSTANCE	CASRN	Residential MSC 0-15 feet		Non-Residential MSCs			
				Surface Soil 0-2 feet		Subsurface Soil 2-15 feet	
ALUMINUM	7429905	190000	C	190000	C	190000	C
ANTIMONY	7440360	88	G	1100	G	190000	C
ARSENIC	7440382	12	G	53	G	190000	C
[ASBESTOS]	[12001295]	[1100]	[N]	[5500]	[N]	[190000]	[N]
BARIUM AND COMPOUNDS	7440393	15000	G	190000	C	190000	C
BERYLLIUM	7440417	[4.2] 440	G	[48] 5600	G	190000	C
BORON AND COMPOUNDS	7440428	20000	G	190000	C	190000	C
CADMIUM	7440439	110	G	1400	G	190000	C
CHROMIUM III	16065831	190000	C	190000	C	190000	C
CHROMIUM VI	18540299	[1100] 660	G	[14000] 8400	G	190000	C
COBALT	7440484	13000	G	170000	G	190000	C
COPPER	7440508	[190000] 8200	[C] G	[190000] 100000	[C] G	190000	C
CYANIDE, FREE	57125	4400	G	56000	G	190000	C
IRON	7439896	66000	G	190000	C	190000	C
LEAD	7439921	500	U	1000	S	190000	C
MANGANESE	7439965	10000	G	130000	G	190000	C
MERCURY	7439976	[19] 66	G	[240] 840	G	190000	C
NICKEL	7440020	4400	G	56000	G	190000	C
SELENIUM	7782492	1100	G	14000	G	190000	C
SILVER	7440224	1100	G	14000	G	190000	C
THALLIUM	7440280	[18] 15	G	[220] 200	G	190000	C
TIN	7440315	130000	G	190000	C	190000	C
VANADIUM	7440622	[13] 1500	G	[160] 20000	G	190000	C
ZINC	7440666	66000	G	190000	C	190000	C

All concentrations in mg/kg [except asbestos, which is in fibers/kg]

- R - Residential
- NR - Non-Residential
- G - Ingestion
- H - Inhalation
- C - Cap
- U - UBK Model
- S - SEGH Model
- NA - Not Applicable

APPENDIX A

Table 4 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil
B. Soil to Groundwater Numeric Values¹

REGULATED SUBSTANCE	CASRN	Used Aquifers								Non-use Aquifers				Soil Buffer Distance (feet)
		TDS ≤ 2500				TDS > 2500				R		NR		
		R		NR		R		NR		R		NR		
		100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	
ALUMINUM	7429905	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANTIMONY	7440360	0.6	27	0.6	27	60	2700	60	2700	600	27000	600	27000	15
ARSENIC	7440382	5	150	5.0	150	500	15000	500	15000	5000	150000	5000	150000	15
[ASBESTOS]	[42001206]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]	[NA]
BARIUM AND COMPOUNDS	7440393	200	8200	200.0	8200	20000	190000	20000	190000	190000	190000	190000	190000	15
BERYLLIUM	7440417	0.4	320	0.4	320	40	32000	40	32000	400	190000	400	190000	10
BORON AND COMPOUNDS	7440428	[6.0] 60	6.7	60	6.7	6000	670	6000	670	60000	6700	60000	6700	NA
CADMIUM	7440439	0.5	38	0.5	38	50	3800	50	3800	500	38000	500	38000	15
CHROMIUM III	16065831	10	190000	10	190000	1000	190000	1000	190000	10000	190000	10000	190000	5
CHROMIUM VI	18540299	[48] 10	[340] 190	[54] 10	[970] 190	[4800] 1000	[34000] 19000	[5400] 1000	[97000] 19000	[48000] 190000	190000	[54000] 190000	190000	15
COBALT	7440484	220	24	610	68	22000	2400	61000	6800	190000	24000	190000	68000	NA
COPPER	7440508	100	36000	100	36000	10000	190000	10000	190000	100000	190000	100000	190000	10
CYANIDE, FREE	57125	20	200	20	200	2000	20000	2000	20000	20000	190000	20000	190000	20
IRON	7439896	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LEAD	7439921	0.5	450	0.5	450	50	45000	50	45000	500	190000	500	190000	10
MANGANESE	7439965	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MERCURY	7439976	0.2	10	0.2	10	20	1000	20	1000	200	10000	200	10000	15
NICKEL	7440020	10	650	10	650	1000	65000	1000	65000	10000	190000	10000	190000	15
SELENIUM	7782492	5	26	5	26	500	2600	500	2600	5000	26000	5000	26000	20
SILVER	7440224	10	84	10	84	1000	8400	1000	8400	10000	84000	10000	84000	20
THALLIUM	7440280	0.2	14	0.20	14	20	1400	20	1400	200	14000	200	14000	15
TIN	7440315	2200	240	6100	680	190000	24000	190000	68000	190000	190000	190000	190000	NA
VANADIUM	7440622	[0.24] 26	[240] 26000	[0.58] 72	[580] 72000	[24] 26000	[24000] 190000	[58] 7200	[58000] 190000	[240] 26000	190000	[580] 72000	190000	5
ZINC	7440666	200	12000	200	12000	20000	190000	20000	190000	190000	190000	190000	190000	15

¹ For other options see Section 250.308

All concentrations in mg/kg

R - Residential

NR - Non-Residential

G - Ingestion

H - Inhalation

C - Cap

U - UBK Model

S - SEGH Model

NA - Not Applicable

Appendix A
Table 5 - Physical and Toxicological Properties
A. Organic Regulated Substances

Regulated Substance	CAS	RfDo (mg/kg-d)	CSFo (mg/kg-d)-1	RfDi (mg/kg-d)	CSFi (mg/kg-d)-1	Koc	VOC?	Aqueous Sol (mg/L)	Aqueous Sol Reference	TF Vol from Surface Soil	TF Vol from SubSurface Soil	Organic Liquid	Bolling Point (degrees C)	Degradation Coefficient (K)
ACENAPHTHENE	83329	0.06		0.06		4900		[3-47] 3.8	1.5,6				279	1.24
ACENAPHTHYLENE	208968	0.06		0.06		4500		[3-93] 16.1	5,6,7				280	2.11
ACETALDEHYDE	75070	[0.0022] 0.0026	0.0077	[0.0028] 0.0026	0.0077	4.1	X	1000000	[44] 1	13100	15100	X	20	
ACETONE	67641	0.1		8.86		0.31	X	1000000	[44] 1	13100	15000	X	56	18.07
ACEPHATE	30560-19-1	0.004	0.0087			3		818000	6					
ACETONITRILE	75058	[0.006]		[0.006] 0.017		0.5	X	[74000] 1000000	[44] 1	13100	15000	X	82	4.50
ACETOPHENONE	98862	0.1		0.1		170		5500	[42] 1			X	203	
ACETYLAMINOFLUORENE, 2- (2AAF)	53963		3.8		3.8	1600		[5-29] 10.13	[44] 7				303	0.69
ACROLEIN	107028	0.02		5.71429E-06		0.56	X	[242500] 208000	[44] 1,2,4	13100	15100	X	53	4.50
ACRYLAMIDE	79061	0.0002	4.5	0.0002	4.55	25	X	[640000] 2151000	[44] 4			X	192.6	
ACRYLIC ACID	79107	0.5		0.000285714		29	X	1000000	[44] 2	13000	14900	X	141	1.39
ACRYLONITRILE	107131	0.001	0.54	0.000571429	0.238	11	X	[74500] 73500	[44] 1	13100	15100	X	77	5.50
ALACHLOR	15972608	0.01	0.08	0.01	0.08	110		140	[4] 2				100	
ALDICARB	116063	0.001		0.001		22		6000	[9] 2				287	0.40
ALDRIN	309002	0.00003	17	0.00003	17.15	48000		[0-48] 0.02	[44] 4,5,6				145	0.22
ALLYL ALCOHOL	107186	0.005		0.005		3.2	X	[320000] 1000000	[46] 2	13100	15000	X	97	18.07
AMINOBIIPHENYL, 4-	92671		21		21	110		[344] 1200	[44] 5				302	18.07
AMITROLE	61825		0.94		0.945	120		280000	[2] 4				200	0.69
AMMONIA	7664-41-7	0.97		0.028571429		3	X	310000	2.5,7	13100	15000	X	-33.3	
AMMONIUM SULFAMATE	7773-06-0	0.2		0.2		3		2160000	10				200	
ANILINE	62533	[0.0016] 0.00029	0.0057	0.000285714	0.0056	190	X	[36000] 33800	[44] 1	13000	14900	X	184	
ANTHRACENE	120127	0.3		0.3		21000		[0.0434] 0.066	[44] 1,5,6,7,8,9				340	0.28
ATRAZINE	1912249	0.035	0.222	0.035	0.222	130		70	[8] 2,4,5				200	
BAYGON (PROPOXUR)	114-26-1	0.004		0.004		31		2000	2,4,5				decomp.	4.50
BENOMYL	17804-35-2	0.05				1,900		2	5					
BENTAZON	25057-89-0	0.03				13		500	2					
BENZENE	71432	0.003	0.029	0.0017	[0.02905] 0.027	58	X	[4790] 1780.5	[44] 1,2,3,4	13100	15000	X	81	0.35
BENZIDINE	92-87-5	0.003	230	0.003	234.5	530,000		520	1,2,4				400	15.81
BENZO(A)ANTHRACENE	56553		0.73		0.385	350000		[0.034] 1.5,6					438	0.19
BENZO(A)PYRENE	50328		7.3		3.85	910000		0.0038	1,5,6				495	0.24
BENZO(B)FLUORANTHENE	205992		0.73		0.385	550000		0.0012	5,6,7				357	0.21
BENZO(GH)PERYLENE	191242	0.06		0.06		2800000		0.00026	1,5,6				500	0.19
BENZO(K)FLUORANTHENE	207089		0.073		0.0385	4400000		0.00055	5,6,7				480	0.06
BENZOIC ACID	65850	4		4		32		[3400] 2700	2,3,4,5				249	
BENZOTRICHLORIDE	98-07-7		13			920		53	1.5,13			X	220.8	121413.60
BENZYL ALCOHOL	100516	0.3		0.3		100		[42000] 40000	[5] 1,2,3			X	205	
BENZYL CHLORIDE	100447		0.17		0.1715	190	X	[525] 493	[44] 1	13000	15000	X	179	20.90
BHC, ALPHA	319846	[0.0003] 0.0006	6.3	[0.0003] 0.0006	6.3	1800		[2] 1.7	4.5,6,7				288	0.94
BHC, BETA-	319857	[0.0003] 0.0006	1.8	[0.0003] 0.0006	1.855	2300		[6] 0.1	[6] 6				60	1.02
BHC, DELTA-	319868	[0.0003] 0.0006		[0.0003] 0.0006		1900		[24.3] 8	[42] 6				60	1.26
BHC, GAMMA (LINDANE)	58899	0.0003	[4.4] 1.3	0.0003	1.085	1400		7.3	[44] 4,5,6				323	1.05
BIPHENYL, 1,1-	92-52-4	0.05		0.05		1,700		7.2	1				255	18.07
BIS(2-CHLOROETHYL)ETHER	111444		1.1		1.155	76	X	[42200] 10200	[44] 1,4,5	13000	14900	X	179	0.69
BIS(2-CHLORO-ISOPROPYL)ETHER	108601	0.04	0.07	0.04	0.035	62	X	1700	[42] 5	13000	14900	X	189	0.69
BIS(CHLOROMETHYL)ETHER	542881		220		217	16	X	22000	[2] 6	13100	15100	X	105	57270.57

1 Aqueous solubility references are keyed to the numbered list found at 250.304(f). Where there are multiple sources cited the table value is the median of the values in the individual references.

Appendix A
Table 5 - Physical and Toxicological Properties
A. Organic Regulated Substances

Regulated Substance	CAS	RfDo (mg/kg-d)	CSFo (mg/kg-d)-1	RfDI (mg/kg-d)	CSFI (mg/kg-d)-1	Koc	VOC?	Aqueous Sol (mg/L)	Aqueous Sol Reference	TF Vol from Surface Soil	TF Vol from SubSurface Soil	Organic Liquid	Boiling Point (degrees C)	Degradation Coefficient (K)
BIS[2-ETHYLHEXYL] PHTHALATE	117817	0.02	0.014	0.02	0.014	87000		[0.34] 0.285	[44] 4,5,6			X	384	0.65
BISPHENOL A	80-05-7	0.05				1,500		120	4				220	0.69
BROMACIL	314-40-9	0.13				58		815	2					
BROMOCHLOROMETHANE	74-97-5	0.013				27	X	16700	4	13100	15000	X	68	
BROMODICHLOROMETHANE	75274	0.02	0.062	0.02	0.1295	93	X	[6735] 4500	[44] 6	13100	15000	X	87	
BROMOMETHANE	74839	0.0014		0.0014285		170	X	[45220] 17500	[44] 2	13100	15000	X	4	6.66
BROMOXYNIL	1689-84-5	0.02				300		130	2					
BROMOXYNIL OCTANOATE	1689-99-2	0.02				18,000		0.08	12					5.75
BUTADIENE, 1,3-	106-99-0		3.4		0.98	120		735	1				-4.5	4.50
BUTYL ALCOHOL, N-	71363	0.1		0.1		3.2	X	[63200] 74000	[44] 1	13000	14900	X	118	4.68
BUTYLATE	2008-41-5	0.05				540	X	45	2	13200	15200	X	138	
BUTYL BENZENE, N-	104-51-8	0.01				2,500	X	15	1,6,7	13100	15100	X	183.1	
BUTYL BENZENE, SEC-	135-98-8	0.01				890	X	17	1,6,7	13100	15000	X	173.5	
BUTYL BENZENE, TERT-	98-06-6	0.01				880	X	30	1,6,7	13100	15000	X	169	
BUTYLBENZYL PHTHALATE	85687	0.2		0.2		34000		2.69	[44] 4,5,6			X	370	1.39
CAPTAN	133062	0.13	0.0035	0.13	0.00231	200		[3.3] 0.5	[44] 4				259	589.39
CARBARYL	63252	0.1		0.1		190		[82.6] 120	[44] 2,4,5				315	4.22
CARBAZOLE	86-74-8		0.02			2,500		1.2	1,5,6				355	
CARBOFURAN	1563662	0.005		0.005		43		700	[43] 2				200	
CARBON DISULFIDE	75150	0.1		0.19999		300	X	[1485] 2100	[44] 1,2,3	13100	15100	X	46	
CARBON TETRACHLORIDE	56235	0.0007	0.13	0.000571	0.0525	160	X	[804.8] 795	[44] 1,2,3	13100	15000	X	77	0.07
CARBOXIN	5234-68-4	0.1				260		170	5,6,8					
CHLORAMBEN	133-90-4	0.015		0.015		20		700	2				210	
CHLORDANE	57749	[0.00006] 0.0005	[4.3] 0.35	[0.00006] 0.0002	[4.3] 0.35	98000		0.056	[44] 4,5,7				175	0.091
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3			14.28571429		22		1400	4				-9.2	
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107051	0.000285714	0.021	0.0002857	0.021	48	X	[3370] 3300	[44] 1,3,5,7,10	13100	15000	X	45	18.07
CHLOROACETOPHENONE, 2-	532-27-4	0.00000857		8.57143E-06		76		1100	3				247	4.50
CHLOROANILINE, P-	106478	0.004		0.004		460		[3.9] 3900	[2] 1				232	
CHLORO BENZENE	108907	0.02		0.005714		200	X	[497] 490	[44] 3			X	132	0.84
CHLOROBENZILATE	510156	0.02	0.27	0.02	0.273	2600		13	[44] 4			X	415	3.60
CHLOROBUTANE, 1-	109-69-3	0.4				580	X	680	1,2,3,4	13200	15000	X	78.5	
CHLORODIBROMOMETHANE	124481	0.02	0.084	0.02	0.0945	83	X	[4000] 4200	[2] 4,6,7,9	13100	15100	X	116	1.39
CHLORODIFLUOROMETHANE	75-45-6			14.28571429		59	X	2899	4	13200	15000		-40.8	
CHLOROETHANE	75003	2.86	0.0029	2.857		42	X	[5678] 5700	[44] 1	13100	15000	X	12	4.50
CHLOROETHYL VINYL ETHER, 2-	110758	0.025		0.025		6.6	X	15000	[2] 4,6,7	13100	15100	X	108	
CHLOROFORM	67663	0.01	0.0061	0.01	0.0805	56	X	[2950] 8000	[44] 1,2,3	13100	15000	X	61	0.01
CHLORONAPHTHALENE, 2-	91587	0.08		0.08		8500		[6.74] 11.7	[5] 1				256	
CHLORONITROBENZENE, P-	100-00-5		0.018			480		220	1				242	
CHLOROPHENOL, 2-	95578	0.005		0.005		400	X	[28500] 24000	[5] 1,3,4	12900	14900	X	175	
CHLOROPRENE	126998	0.02		0.0019999		50	X	[2115] 1736	[44] 9	13100	15000	X	59	0.69
CHLOROPROPANE, 2-	75-29-6			0.028571429		260	X	3100	1,3,5	13200	15000	X	47.2	
CHLOROTHALONIL	1897-45-6	0.015	0.011		0.0031	980		0.6	2				350	
CHLOROTOLUENE, O-	95-49-6	0.02				760	X	422	14,15	13100	15000	X	158.97	
CHLORPYRIFOS	2921882	0.003		0.003		4600		[1.3] 1.12	[3] 2,4,6,7				200	
CHLORSULFURON	64902-72-3	0.05				11		192	2,5,6,8,9				152	
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	1861-32-1	0.01				6,500		0.5	2,5,7				360	1.37
CHRYSENE	218019		0.0073		0.00385	490000		[0.0048] 0.0019	[5] 1				448	0.126
CRESOL, O- (METHYLPHENOL, 2-)	95-48-7	0.05				97	X	2500	3,5,6	12900	14800	X	191	18.07
CRESOL, M (METHYLPHENOL, 3-)	108-39-4	0.05				35		2500	2			X	202	5.16
CRESOL, P (METHYLPHENOL, 4-)	106-44-5	0.005				49		22000	6				202	9.03
CRESOL, P-CHLORO-M-	59507	0.005		0.005		780		[3850] 3846	[5] 2				235	
CRESOLS	1319773	0.005		0.005		25	X	[49320] 20000	[44] 2	13000	14900	X	139	5.16

1 Aqueous solubility references are keyed to the numbered list found at 250.304(f). Where there are multiple sources cited, the table value is the median of the values in the individual references.

Appendix A
Table 5 - Physical and Toxicological Properties
A. Organic Regulated Substances

Regulated Substance	CAS	RfDo (mg/kg-d)	CSF ₀ (mg/kg-d) ⁻¹	RfDI (mg/kg-d)	CSF _I (mg/kg-d) ⁻¹	Koc	VOC?	Aqueous Sol (mg/L)	Aqueous Sol Reference	TF Vol from Surface Soil	TF Vol from SubSurface Soil	Organic Liquid	Boiling Point (degrees C)	Degradation Coefficient (K)
CROTONALDEHYDE	4170303		1.9		1.9	5.6	X	(181000) 180000	(48) 3			X	104	18.07
CROTONALDEHYDE, TRANS-CUMENE	123-73-9 98828	[0.04] 0.1	1.9	0.0025713 0.11		2800	X	156000 (49.9) 50	1 (44) 1,5,6	13100	15100	X	104 152	18.07 15.81
CYCLOHEXANONE	108941	5		5		66	X	(5000) 36500	(45) 1,2,4,5	13000	14900	X	157	
CYFLUTHRIN	68359-37-5	0.025				130,000	X	0.001	2	13000	15000	X		
CYROMAZINE	66215-27-8	0.0075				1,200		11000	12				222	
DDO, 4,4'	72548		0.24		0.2415	44000		0.16	5,6,7				193	0.02
DDE, 4,4'	72559		0.34		0.3395	87000		(0.0013) 0.04	5				348	0.02
DDT, 4,4'	50293	0.0005	0.34	0.0005	0.3395	240000		(0.0017) 0.0055	5,6,7				260	0.02
DI(2-ETHYLHEXYL)ADIPATE	103-23-1	0.6	0.0012			47,000,000		200	5	13000	14900	X	214	4.50
DIALATE	2303164		0.061		0.061	190	X	(44) 40	(44) 2,4,6,8	12900	14900	X	150	1.39
DIAMINOTOLUENE, 2,4-	95-80-7		3.2		4	36		7470	4				292	0.69
DIAZINON	333415	0.0009		0.0009		500		(40) 50	(45) 2,4,6,8				306	
DIBENZO[A,H]ANTHRACENE	53703		7.3		4.2	1800000		(0.0005) 0.0006	1,5,6				524	0.13
DIBROMO-3-CHLOROPROPANE, 1,2-	96128	5.71429E-05	1.4	0.00005714	0.002415	140	X	(1230) 1000	(44) 4	13000	15000	X	196	0.69
DIBROMOBENZENE, 1,4-	106-37-6	0.01				1,600		20	1				220.4	
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106934	5.71429E-05	85	0.00005714	0.77	54	X	(4452) 4150	(44) 1,2,3,5	13100	15100	X	131	2.11
DIBROMOMETHANE	74953	0.01		0.01		110	X	(11930) 11400	(44) 1	13100	15100	X	96	4.50
DIBUTYL PHTHALATE, N-	84742	0.1		0.1		1600		(43) 400	(44) 1,2,3			X	340	11.00
DICHLORO-2-BUTENE, 1,4-	764-41-0				9.3	180		850	9				156	
DICHLOROBENZENE, 1,2-	95501	0.09		0.0571		350	X	(83.96) 147	(44) 1,4,5,6,7	13100	15100	X	180	0.69
DICHLOROBENZENE, 1,3-	541731	(0.089) 0.0009		(0.089) 0.0009		360	X	(126) 106	(44) 1	13100	15100	X	173	0.69
DICHLOROBENZENE, P-	106467	0.229	0.024	0.229	(0.0385) 0.04	510		(81.3) 82.9	(44) 1				174	0.69
DICHLOROBENZIDINE, 3,3'	91941		0.45		1.19	22000		(12.3) 3.11	(44) 4,5,6				368	0.69
DICHLORODIFLUOROMETHANE (FREON 12)	75718	0.2		0.0571		360	X	280	(5) 1	13200	15000	X	-30	0.69
DICHLOROETHANE, 1,1-	75343	0.1	0.0057	0.143	0.0056	52	X	(5060) 5000	(5) 2	13100	15000	X	57	0.16
DICHLOROETHANE, 1,2-	107062	0.03	0.091	0.23	0.091	38	X	(8608) 8412	(44) 1,2,3,4	13100	15000	X	83	0.69
DICHLOROETHYLENE, 1,1-	75354	0.009	0.6	0.009	0.175	65	X	(2260) 2500	(44) 1,4,5	13100	15000	X	32	0.19
DICHLOROETHYLENE, CIS-1,2-	156592	0.01		0.01		49	X	(800) 3500	(42) 1	13100	15000	X	60	0.01
DICHLOROETHYLENE, TRANS-1,2-	156605	0.02		0.02		47	X	6300	(6) 1	13100	15000	X	48	0.01
DICHLOROMETHANE (METHYLENE CHLORIDE)	75092	0.06	0.0075	0.8571	0.001645	16	X	(13090) 20000	(44) 1,2,3	13100	15000	X	40	4.50
DICHLOROPHENOL, 2,4-	120832	0.003		0.003		160		4500	(44) 1				210	5.88
DICHLOROPHOXYACETIC ACID, 2,4- (2,4-D)	94757	0.01		0.01		59		677	(44) 4,5,6,7,10				(160) 215	1.39
DICHLOROPROPANE, 1,2-	78875	(0.00124) 0.09	0.068	(0.00124) 0.0011	(0.068) 0.063	47	X	2700	(44) 1,3,4	13100	15000	X	96	0.10
DICHLOROPROPENE, 1,3-	542-75-6	0.0003	0.18	0.005714286	0.13	27	X	2700	6	13100	15000	X	108	22.38
DICHLOROPROPIONIC ACID (DALAPON), 2,2-	75990	0.03		0.03		62	X	(602000) 500000	(46) 5	13000	14900	X	190	2.11
DICHLORVOS	62737	0.0005	0.29	0.00014285	0.2905	50		10000	(44) 2,4,5				140	
DICYCLOPENTADIENE	77-73-6	0.03		5.71429E-05		810	X	40	5			X	167	
DIELDRIN	60571	0.00005	16	0.00005	16.1	11000		(0.2) 0.17	4,5,6			X	385	0.12
DIETHYL PHTHALATE	84662	0.8		0.8		81		(896) 1080	(44) 4,5,6			X	298	2.25
DIFLUBENZURON	35367-38-6	0.02				1,000		0.2	2				201	
DIMETHOATE	60515	0.0002		0.0002		110		25000	(43) 4				200	2.26
DIMETHOXYBENZIDINE, 3,3-	119-90-4		0.014			1,300		60	9				331	0.69
DIMETHYLAMINOAZOBENZENE, P-	60117		4.6		4.55	1000		(0.22) 13.6	(44) 7				200	4.50
DIMETHYLANILINE, N,N-	121-69-7	0.002				180	X	1200	5,6,7,9	13000	14900	X	192	0.69
DIMETHYLBENZIDINE, 3,3-	119-93-7		9.2		9.2	22,000		1300	10			X	300	18.07
DIMETHYLHYDRAZINE, 1,1-	57147		1.715		1.715	0.2	X	1000000	(44) 2	13000	15000	X	63	5.75

1 Aqueous solubility references are keyed to the numbered list found at 250.304(f). Where there are multiple sources cited, the table value is the median of the values in the individual references.

Appendix A
Table 5 - Physical and Toxicological Properties
A. Organic Regulated Substances

Regulated Substance	CAS	RfDo (mg/kg-d)	CSFo (mg/kg-d)-1	RfDI (mg/kg-d)	CSFI (mg/kg-d)-1	Koc	VOC?	Aqueous Sol (mg/L)	Aqueous Sol Reference	TF Vol from Surface Soil	TF Vol from SubSurface Soil	Organic Liquid	Boiling Point (degrees C)	Degradation Coefficient (K)
DIMETHYLPHENOL, 2,4-	105679	0.02		0.02		130		[2870] 7869	[44] 1,4,6,7			X	211	18.07
DINITROBENZENE, 1,3-	99650	0.0001		0.0001		150		[460] 523	3,5,6,7				300	0.69
DINITROPHENOL, 2,4-	51285	0.002		0.002		0.79		[2787] 5600	[44] 2,4,5,6,7				[443]	0.48
DINITROTOLUENE, 2,4-	121142	0.002	0.31	0.002	0.31	51		270	[44] 4,5,6				300	0.69
DINITROTOLUENE, 2,6- (2,6-DNT)	606202	0.001		0.001		74		[482] 200	[44] 6				300	0.69
DINOSEB	88857	0.001		0.001		120		[52] 50	[4] 5				[42] 223	1.03
DIOXANE, 1,4-	123911		0.011		0.02695	7.8	X	1000000	[44] 5	13000	14900	X	101	0.69
DIPHENAMID	957-51-7	0.03				200		260	5				210	
DIPHENYLAMINE	122394	0.025		0.025		190		300	[42] 3				302	4.50
DIPHENYLHYDRAZINE, 1,2-	122667		0.8		0.77	660		[68] 0.252	[44] 6				309	0.69
DIQUAT	85007	0.0022		0.0022		2.6		700000	[7] 5				355	
DISULFOTON	298044	0.00004		0.00004		1000	X	25	[9] 4,5,6	13400	15400	X	133	6.02
DIURON	330541	0.002		0.002		300		42	[3] 2,4,5				[455]	
ENDOSULFAN	115-29-7	0.006		0.006		2,000		0.48	4				106	2.78
ENDOSULFAN I (ALPHA)	959988	0.006		0.006		2000		[0.53] 0.5	[5] 6				200	
ENDOSULFAN II (BETA)	33213659	0.006		0.006		2300		[0.28] 0.45	[5] 6				390	
ENDOSULFAN SULFATE	1031078	0.006		0.006		2300		0.117	[6] 7,9				200	
ENDOTHALL	145733	0.02		0.02		120		100000	[4] 2				200	
ENDRIN	72208	0.0003		0.0003		11000		[0.26] 0.23	[5] 4,6,7,9				245	
EPICHLOROHYDRIN	106898	0.002	0.0099	0.0002857	0.0042	35	X	[65000] 65800	[44] 1,3,4	13000	14900	X	116	4.50
ETHEPHON	16672-97-0	0.005				2		1240000	12				201	
ETHION	563122	0.0005		0.0005		8700		[0.6] 0.85	[45] 4,6,9,10			X	200	
ETHOXYETHANOL, 2- (EGEE)	110805	0.4		[0.4] 0.057		12	X	1000000	[46] 2	13200	15000	X	136	4.50
ETHYL ACETATE	141786	0.9		0.9		59	X	[80000] 80800	1,2,3,4,5,6	13100	15000	X	77	18.07
ETHYL ACRYLATE	140885		0.048		0.048	110	X	15000	[44] 1,2,6	13100	15100	X	100	18.07
ETHYL BENZENE	100414	0.1		0.2857		220	X	[206] 161	[44] 1,3,4	13100	15000	X	136	1.11
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	759-94-4	0.025				240	X	365	2	12900	14900	X	127	
ETHYL ETHER	60297	0.2		0.2		68	X	[60000] 60400	[3] 1	13100	15100	X	35	
ETHYL METHACRYLATE	97-63-2	0.09		0.09		22		4635.5	9,10				117	
ETHYLENE GLYCOL	107211	2		2		4.4	X	1000000	[44] 2	13100	15100	X	198	10.54
ETHYLENE THIOUREA (ETU)	96-45-7	0.00008	0.11	0.00008	0.045	0.23		20000	2				4	4.50
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIOATE	2104-64-5	0.00001				1,200		3.1	4				215	
FENAMIPHOS	22224926	0.00025		0.00025		300		[700] 329	[9] 2				200	
FENVALERATE (PYDRIN)	51630-58-1	0.025				4,400		0.085	5	20500	25800	X	300	
FLUOMETURON (FLUOMETRON IN EPA FEB 96)	2164-17-2	0.013				68		97.5	2,5,6,8					
FLUORANTHENE	206440	0.04		0.04		49000		[0.265] 0.26	1,5,6				375	0.29
FLUORENE	86737	0.04		0.04		7900		[0.49] 1.9	[5] 1				298	2.11
FLUOROTRICHLOROMETHANE (FREON 11)	75694	0.3		0.19999		130	X	[4240] 1090	1,4,5,6	13100	15000	X	24	0.35
FONOFOS	944229	0.002		0.002		1100	X	13	[9] 5,6,8	13400	15500	X	130	
FORMALDEHYDE	50000	0.2	0.0455	[0.2] 0.0011	0.0455	3.6	X	[60000] 55000	[44] 1	13100	15100	X	-21	18.07
FORMIC ACID	64186	2		2		0.54	X	1000000	[45] 2	13000	14900	X	101	18.07
FOSETYL-AL	39148-24-8	3				310		120000	2					
FURAN	110-00-9	0.001				130	X	10000	1	13100	15000	X	31.36	2.25
FURFURAL	98011	0.003		0.0143		6.3	X	[83000] 91000	1,2,3	13000	14900	X	162	
GLYPHOSATE	1071836	0.1		0.1		3500		12000	[4] 1,5,6				186	
HEPTACHLOR	76448	0.0005	4.5	0.0005	4.55	6800		0.18	[44] 4,6,7				310	46.84
HEPTACHLOR EPOXIDE	1024573	0.000013	9.1	0.000013	9.1	21000		[0.275]	[5] 4,6,7,9				200	0.23
HEXACHLOROBENZENE	118741	0.0008	1.6	0.0008	1.61	3800		[0.0062] 0.006	[44] 1,4,5				319	0.06
HEXACHLOROBUTADIENE	87683	0.0002	0.078	0.0002	0.077	4700		[3.2] 2.89	[44] 4,5,6,7			X	215	0.69
HEXACHLOROCYCLOPENTADIENE	77474	0.007		0.000019999		7200		[3.4] 1.8	[44] 5,6,7			X	239	4.50
HEXACHLOROETHANE	67721	0.001	0.014	0.001	0.014	2200		50	[44] 1				187	0.69
HEXANE	110543	0.06		0.05714		3600	X	[0.47] 9.5	[3] 1,5,6	13100	15000	X	69	
HEXYTHIAZOX (SAVEY)	78587-05-0	0.025				6,500		0.5	2					

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Appendix A
Table 5 - Physical and Toxicological Properties
A. Organic Regulated Substances

Regulated Substance	CAS	RfDo (mg/kg-d)	CSF _o (mg/kg-d)-1	RfDi (mg/kg-d)	CSF _i (mg/kg-d)-1	Koc	VOC?	Aqueous Sol (mg/L)	Aqueous Sol Reference	TF Vol from Surface Soil	TF Vol from SubSurface Soil	Organic Liquid	Boiling Point (degrees C)	Degradation Coefficient (K)	
HYDRAZINE/HYDRAZINE SULFATE	302-01-2		3		17.15	0.0053	X	1000000		2	13000	15000	X	113.5	18.07
HYDROQUINONE	123-31-9	0.04		0.04		10		70000		2,3,5				285	18.07
INDENO(1,2,3-CD)PYRENE	193395		0.73		0.385	31000000		0.062		5				536	0.17
IPRODIONE	36734-19-7	0.04				1,100				13					
ISOBUTYL ALCOHOL	78831	0.3		0.3		60	X	[65000] 81000		1,2,3,4,5	13000	14900	X	108	17.57
ISOPHORONE	78591	0.2	0.00095	0.2	0.00095	31		12000		2,4,5			X	215	4.50
KEPONE	143500	0.0005	16		16.1	55000		7.6		[3] 4				350	0.17
MALATHION	121755	0.02	[0.00095]	0.02	[0.00095]	1300	X	[446] 143		[2] 4	14000	16300	X	157	2.46
MALEIC HYDRAZIDE	123331	0.5		0.5		2.8		6000		[45] 4				280	
MANEB	12427-38-2	0.005				1		23		9,13					
MERPHOS OXIDE	78-48-8	0.00003				53,000	X	2.3		8,10,12	13100	15100	X	150	
METHACRYLONITRILE	126987	0.0001		0.00019999		21	X	[25000] 25700		[42] 1	13100	15100	X	90	
METHAMIDOPHOS	10265-92-6	0.00005				5		2000000		5					
METHANOL	67561	0.5		0.5		2.8	X	1000000		[44] 2	13100	15100	X	85	36.14
METHOMYL	16752775	0.025		0.025		20		58000		[9] 2				144	
METHOXYCHLOR	72435	0.005	[0.00095]	0.005	[0.00095]	63000		[0.4] 0.045		[44] 4,5,6				346	0.69
METHOXYETHANOL, 2-	109-86-4	0.001		0.005714286			X	1000000		2	13100	15000	X	124.3	4.50
METHYL ACETATE	79-20-9	1				30	X	243500		4,5,6	13100	15100	X	56.9	
METHYL ACRYLATE	96-33-3	0.03				55	X	52000		1,2,5	13100	15100	X	70	18.07
METHYL CHLORIDE	74873	0.004	0.013	0.029	0.0063	6	X	[5325] 6180		[44] 1,2,3,4	13200	15000	X	-24	4.50
METHYL ETHYL KETONE	78933	0.6		0.2857		32	X	[22000] 275000		[44]	13100	15100	X	80	2.57
METHYL ISOBUTYL KETONE	108101	0.08		[0.0228] 0.023		17	X	[19000] 19550		[44] 1,2,4,5	13100	15100	X	117	18.07
METHYL METHACRYLATE	80626	[0.08] 1.4		[0.08] 0.2		10	X	[45000] 15600		[44] 1	13100	15100	X	100	4.5045
METHYL METHANESULFONATE	66273		0.099		0.098	5.2		200000		[42] 2				203	
METHYL PARATHION	298000	0.00025		0.00025		790	X	[60] 25		[9] 4,5,6	13500	15600	X	133	3.61

1 Aqueous solubility references are keyed to the numbered list found at 250.304(f). Where there are multiple sources cited, the table value is the median of the values in the individual references.

APENDIX A
Table 5 - Physical and Toxicological Properties
B. Inorganic Regulated Substances

Regulated Substance	CAS	RfDo (mg/kg-d)	CSFo (mg/kg-d)-1	RfDi (mg/m3)	CSFi	Kd
ALUMINUM	7429905	1		1		
ANTIMONY	7440360	0.0004		0.0004		45
ARSENIC	7440382	0.0003	1.5	0.0003	15.05	29
[ASBESTOS]	[42001295]				[805]	
BARIUM AND COMPOUNDS	7440393	0.07		[0.000143] 0.0001		41
BERYLLIUM	7440417	[0.005] 0.002	4.3	[0.005] 0.00000571	8.4	790
BORON AND COMPOUNDS	7440428	0.09		0.005714		
CADMIUM	7440439	0.0005		0.0005	6.3	75
CHROMIUM III	16065831	[4] 1.5		[0.00000571]		1800000
CHROMIUM VI	18540299	[0.005] 0.003		[0.005] 0.0000286	42	19
COBALT	7440484	0.06		0.000008571		
COPPER	7440508	[2600] 0.0371				360
CYANIDE, TOTAL	57125	0.02		0.02		9.9
IRON	7439896	0.3		0.3		
LEAD	7439921					890
MANGANESE	7439965	0.047		0.0000143		
MERCURY	7439976	[0.0000857] 0.0003		0.00008571		52
NICKEL	7440020	0.02		[0.02] 0.0000571	0.84	65
SELENIUM	7782492	0.005		0.005		5
SILVER	7440224	0.005		0.005		8.3
THALLIUM	7440280	[0.00008] 0.00007		[0.00008] 0.00007		71
TIN	7440315	0.6		0.6		
VANADIUM	7440622	[0.0000571] 0.007		0.00005714		1000
ZINC	7440666	0.3		0.3		62

APPENDIX A
Table 6 - Threshold of Regulation Compounds

REGULATED SUBSTANCE	CASRN	ALL AQUIFER GROUNDWATER MSC (µg/L)	Residential Soil MSC (mg/kg) 0-15 feet	Non-Residential Soil MSCs		Soil to Groundwater ¹ (mg/kg)
				Surface Soil (mg/kg) 0-2 feet	Subsurface Soil (mg/kg) 2-15 feet	
ACETIC ACID	64197	5	100	100	100	0.5
ACETIC ANHYDRIDE	108247	5	100	100	100	0.5
AMYL ACETATE, N-	628637	5	100	100	100	0.5
AMYL ACETATE, SEC-	626380	5	100	100	100	0.5
ANTU (ALPHA-NAPHTHYLTHIOUREA)	96884	5	100	100	100	0.5
AZINPHOS-METHYL (GUTHION)	86500	5	100	100	100	0.5
BETA PROPIOLACTONE	57578	5	100	100	100	0.5
[BIS(2-CHLORO-1-METHYLETHYL)ETHER]	[408604]	[5]	[100]	[100]	[100]	[0.5]
BIS(2-CHLOROETHOXY)METHANE	111911	5	100	100	100	0.5
BROMOPHENYL PHENYL ETHER, 4-	101553	5	100	100	100	0.5
BUTYL ACETATE, N-	123864	5	100	100	100	0.5
BUTYL ACETATE, SEC-	105464	5	100	100	100	0.5
BUTYL ACETATE, TERT-	540885	5	100	100	100	0.5
BUTYLAMINE, N-	109739	5	100	100	100	0.5
CALCIUM CHROMATE	13765190	5	100	100	100	0.5
CALCIUM CYANAMIDE	156627	5	100	100	100	0.5
CARBONYL FLUORIDE	353504	5	100	100	100	0.5
CATECHOL	120809	5	100	100	100	0.5
CHLOROACETALDEHYDE	107200	5	100	100	100	0.5
CHLOROPHENYL PHENYL ETHER, 4-	7005723	5	100	100	100	0.5
CYCLOHEXANE	110827	5	100	100	100	0.5
DECABORANE	17702419	5	100	100	100	0.5
DIBENZOFURAN	132649	5	100	100	100	0.5
DICHLORO-2-BUTENE, TRANS-1,3-	110576	5	100	100	100	0.5
DIETHANOLAMINE	111422	5	100	100	100	0.5
DIETHYLAMINE	109897	5	100	100	100	0.5
DIGLYCIDYL ETHER (DGE)	2238075	5	100	100	100	0.5
DIMETHYL PHTHALATE	131113	5	100	100	100	0.5
DIMETHYL SULFATE	77781	5	100	100	100	0.5
DIMETHYLPHENETHYLAMINE, ALPHA, ALPHA-	122098	5	100	100	100	0.5
DINITRO-O-CRESOL, 4,6-	534521	5	100	100	100	0.5
DIOXATHION	78342	5	100	100	100	0.5
ETHYL METHANESULFONATE	62500	5	100	100	100	0.5
ETHYLAMINE	75047	5	100	100	100	0.5
ETHYLENE CHLORHYDRIN	107073	5	100	100	100	0.5
FAMPHUR	52857	5	100	100	100	0.5
FENSULFOTHION	115902	5	100	100	100	0.5
HEXACHLOROPROPENE	1888717	5	100	100	100	0.5
HEXANONE, 2- (METHYL N-BUTYL KETONE)	591786	5	100	100	100	0.5
IODOMETHANE	74884	5	100	100	100	0.5
ISOAMYL ACETATE	123922	5	100	100	100	0.5
ISOBUTYL ACETATE	110190	5	100	100	100	0.5
ISODRIN	465736	5	100	100	100	0.5
ISOPHORONE DIISOCYANATE	4098719	5	100	100	100	0.5
ISOSAFROLE	120581	5	100	100	100	0.5
LITHIUM	7439932	5	100	100	100	0.5
LITHIUM HYDRIDE	7580678	5	100	100	100	0.5
MANGANESE CYCLOPENTADIENYL TRICARBONYL	12079651	5	100	100	100	0.5
METHYL HYDRAZINE	60344	5	100	100	100	0.5
METHYL ISOAMYL KETONE	110123	5	100	100	100	0.5
METHYL ISOCYANATE	624839	5	100	100	100	0.5
METHYL MERCAPTAN	74931	5	100	100	100	0.5
METHYLAMINE	74895	5	100	100	100	0.5
METHYLCHLOROPHENOXYACETIC ACID (MCPA)	94749	5	100	100	100	0.5
MEVINPHOS	7786347	5	100	100	100	0.5
MONOCROTOPHOS	6923224	5	100	100	100	0.5
NAPHTHOQUINONE, 1,4-	130154	5	100	100	100	0.5
NITRIC ACID	7697372	5	100	100	100	0.5
NITROQUINOLINE-1-OXIDE, 4-	56575	5	100	100	100	0.5
OSMIUM TETROXIDE	20816120	5	100	100	100	0.5
PENTABORANE	19624227	5	100	100	100	0.5
PENTACHLOROETHANE	76017	5	100	100	100	0.5
PERCHLOROMETHYL MERCAPTAN	594423	5	100	100	100	0.5

¹ The value in the table is 100 times the groundwater MSC.

The option to use the SPLP is also available to calculate the soil to groundwater numeric value (See Section 250.310)

APPENDIX A
Table 6 - Threshold of Regulation Compounds

REGULATED SUBSTANCE	CASRN	ALL AQUIFER GROUNDWATER MSC (µg/L)	Residential Soil MSC (mg/kg) 0-15 feet	Non-Residential Soil MSCs		Soil to Groundwater ¹ (mg/kg)
				Surface Soil (mg/kg) 0-2 feet	Subsurface Soil (mg/kg) 2-15 feet	
PHENYL MERCAPTAN	108985	5	100	100	100	0.5
PICOLINE, 2-	109068	5	100	100	100	0.5
PROPANOL, 1-	71238	5	100	100	100	0.5
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67630	5	100	100	100	0.5
PROPIONIC ACID	79094	5	100	100	100	0.5
PROPIONITRILE (ETHYL CYANIDE)	107120	5	100	100	100	0.5
PROPYLENE IMINE	75558	5	100	100	100	0.5
PYRETHRUM	8003347	5	100	100	100	0.5
QUINONE (p-BENZOQUINONE)	106514	5	100	100	100	0.5
RESORCINOL	108463	5	100	100	100	0.5
SELENIUM HEXAFLUORIDE	7783791	5	100	100	100	0.5
SODIUM BISULFITE	7631905	5	100	100	100	0.5
SULFIDE	18496258	5	100	100	100	0.5
SULFUR MONOCHLORIDE	10025679	5	100	100	100	0.5
SULFURIC ACID	7664939	5	100	100	100	0.5
TELLURIUM	13494809	5	100	100	100	0.5
TELLURIUM HEXAFLUORIDE	7783804	5	100	100	100	0.5
TEPP (TETRAETHYL PYROPHOSPHATE)	107493	5	100	100	100	0.5
TETRAHYDROFURAN	109999	5	100	100	100	0.5
TETRANITROMETHANE	509148	5	100	100	100	0.5
THIONAZIN	297972	5	100	100	100	0.5
TRIETHYLAMINE	121448	5	100	100	100	0.5
TRIETHYLPHOSPHOROTHIOATE, O,O,O-	126681	5	100	100	100	0.5
TRINITROGLYCEROL (NITROGLYCERIN)	55630	5	100	100	100	0.5

¹ The value in the table is 100 times the groundwater MSC.

The option to use the SPLP is also available to calculate the soil to groundwater numeric value (See Section 250.310)



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063
July 11, 2000

The Secretary

717-787-2814

Mr. Robert E. Nyce
Executive Director
Independent Regulatory Review Commission
14th Floor, Harrisstown II
Harrisburg, PA 17101

RE: Proposed Rulemaking: Land Recycling Program Amendments, Chapter 250 (#7-356)

Dear Bob:

Enclosed is a copy of a proposed regulation for review and comment by the Commission pursuant to Section 5(a) of the Regulatory Review Act. This proposal is scheduled for publication as a proposed rulemaking in the *Pennsylvania Bulletin* on July 29, 2000. This proposal was approved by the Environmental Quality Board (EQB) on June 20, 2000.

This proposal amends Chapter 250 (Administration of the Land Recycling Program) which became effective on August 17, 1997. The revisions provide clear direction to those undertaking the cleanup of contaminated sites and the cleanup standards that must be met. A new definition is proposed for "agricultural purposes." The term will not only apply to crop irrigation and livestock watering, but also to food processing, packaging, and handling activities. Some toxicity values are updated to reflect current science and, when necessary, new medium specific concentrations (MSC) are proposed to be developed for newly added regulated substances. Section 250.303 adds a process for municipalities and municipal authorities to request "pre-certification" from DEP that a specific geographic area meets the requirements of the non-use aquifer criteria. Additional public participation is provided under this section. The proposal also includes changes for demonstrating attainment of a Land Recycling and Environmental Remediation Standards Act (Act 2) standard in a small excavation cleanup. An additional option is added for attainment demonstration for soils with a non-exceedance rule. The option is a variation of the 75%/10X rule. The non-exceedance rule would be required in cases where no site characterization has been performed. The 75%/10X rule would still be allowed if full site characterization had been performed at the site.

DEP worked with the Cleanup Standards Scientific Advisory Board (CSSAB) in developing this proposal. The CSSAB endorsed a draft of the proposal on February 3, 2000.

The Department will provide the Commission with any assistance required to facilitate a thorough review of this proposal. Section 5(g) of the Act provides that the Commission may, within ten days after the expiration of the Committee review period, notify the agency of any



Mr. Robert E. Nyce

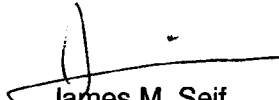
- 2 -

July 11, 2000

objections to the proposed regulation. The Department will consider any comments or suggestions received by the Commission, together with Committee and other public comments prior to final adoption.

For additional information, please contact Sharon Freeman, Regulatory Coordinator, at 783-1303.

Sincerely,



James M. Seif
Secretary

Enclosures

TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE
REGULATORY REVIEW ACT

RECEIVED

I.D. NUMBER: 7-356

SUBJECT: Administration of Land Recycling Program

2000 JUL 11 AM 10:37

AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

INDEPENDENT REGULATORY
REVIEW COMMISSION

TYPE OF REGULATION

X Proposed Regulation

Final Regulation

Final Regulation with Notice of Proposed Rulemaking Omitted

120-day Emergency Certification of the Attorney General

120-day Emergency Certification of the Governor

Delivery of Tolled Regulation

a. With Revisions

b.

Without Revisions

FILING OF REGULATION

DATE

SIGNATURE

DESIGNATION

7-11-00

Andy Zinn

HOUSE COMMITTEE ON ENVIRONMENTAL
RESOURCES & ENERGY

7-11-00

Bob Astelle

SENATE COMMITTEE ON ENVIRONMENTAL
RESOURCES & ENERGY

7/11/00

J. Vaillancourt

INDEPENDENT REGULATORY REVIEW COMMISSION

ATTORNEY GENERAL

7/11/00

Mary Garcia

LEGISLATIVE REFERENCE BUREAU

July 3, 2000