

**Accelerated Reduction/Elimination of Toxics**

**ARET 2 PROGRAM**

**A Voluntary Program Initiative**

**July 24, 2002**

**Environment Canada**

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## OVERVIEW

### Program Objectives

The ARET 2 Program, the successor to the Accelerated Reduction/Elimination of Toxics (ARET) Program of 1995-2000, challenges firms to voluntarily prevent or reduce releases of selected substances.

The ARET 2 Program is part of the federal government's effort to complement existing environmental risk management programs with new approaches that encourage leadership and that provide opportunities to address environmental issues in ways that foster innovation. Environment Canada will recognize and support those firms playing leadership roles in preventing or reducing releases of selected substances.

The program builds on the initial ARET by:

- maintaining the challenge to industry to voluntarily prevent or reduce releases of selected substances;
- providing for an evolving list of candidate substances (to reflect the ongoing processes under the *Canadian Environmental Protection Act, 1999* (CEPA 1999), and elsewhere to identify risks from industrial releases); and
- enhancing the credibility of the program through integration of the criteria in Environment Canada's *Policy Framework for Environmental Performance Agreements*.

### Roles and Responsibilities

**Participants** will :

- formally commit to manage CEPA-toxics and other original ARET and National Pollution Release Inventory (NPRI) substances, as well as candidate substances for early action, and to give priority to pollution prevention;
- select substances on an industrial sectoral or individual facility basis on which to take action, in consultation with government and other interested stakeholders;
- establish targets and milestones in an appropriate action plan;
- obtain agreement from EC that the substances, targets, and milestones are appropriate;
- monitor and publicly report releases of identified substances through the National Pollution Release Inventory reporting system on an annual basis; and
- on an ongoing basis, identify new priorities as appropriate and revise action plans, targets and milestones accordingly.

For its part, **Environment Canada** will :

- provide a platform for taking early action to identify pollution prevention priorities and setting targets customized to a firm or a sector;
- help identify appropriate substances and targets;
- provide a manageable and workable list of substances around which action should be focused;
- provide the National Pollutant Registry Inventory as a mechanism for participants to report their results into Environment Canada;
- provide an annual public report on the program; and
- provide recognition and other incentives to encourage and support participation.

The **public**, including local communities, will play an important role, both in advising on local issues of concern and in monitoring results.

Participants will be expected to develop targets and action plans for those substances that are a priority for pollution prevention and release reduction in their circumstances from a list initially comprised of substances from:

- the original ARET list of substances,
- the Schedule 1 List of CEPA Toxics,
- other Candidates for Early Action as identified through various sources, and
- the NPRI list of substances.

A more detailed description of this list as well as a full list of ARET 2 substances has been compiled in appendices A and B.

Companies may participate on a facility-by-facility basis, as a multi-facility company, as a group of facilities or companies or as a sector. In all cases, participants will submit facility-specific reports.

### **The Benefits of Participating**

Through participation in the ARET 2 Program, sectors and firms will enjoy:

- a credible platform with which to meet public expectations, show leadership and proactively and effectively manage toxics and other pollutants;
- recognition by the public and government of verifiable achievements;
- more flexibility to customize targets and timelines to meet individual circumstances;
- cost effective environmental management tool;
- access to technical assistance;

- fora for peer exchange on best practices;
- links to CEPA 1999 Pollution Prevention planning requirements;
- links to compliance and enforcement activities;
- potential linkage with complementary provincial programs - incentive sharing; and
- effective risk management through ARET reduces priority for regulatory action.

### Core Elements

To ensure a credible program with demonstrable results, the ARET 2 Program incorporates each of the criteria in Environment Canada's *Policy for Environmental Performance Agreements*:

- **Clearly defined roles and responsibilities:** As described above, government, participating facilities and public stakeholders will each play clearly defined roles.
- **Clear objectives and measurable results:** Participants must establish targets, develop action plans and report on progress towards targets for significant reductions.
- **Provision for public consultation:** To help ensure that actions are relevant and engender public confidence, participants will use public consultation to inform their priority setting and ongoing actions under the program.
- **Public reporting:** On a facility-specific basis participants will report through the NPRI on their baseline performance and annual progress towards targets.
- **Incentives and consequences:** Environment Canada will offer incentives to participants. Through mutual recognition arrangements being negotiated by Environment Canada, participants will also have access to provincial incentives. Failure to fulfill commitments made under the program will lead to removal from the program and withdrawal of incentives.
- **Verification of results, regulatory backstop:** Senior officials from each participant will certify data validity, and participants will be subject to partial random third-party auditing. The ARET 2 auditing process will be as consistent as possible with that of NPRI.
- **Continual Improvement (Regular Re-assessments of Targeted Substances):** Participants will annually determine whether to add new substances for action, based on the outcomes of the ongoing assessment of substances in commerce under CEPA 1999 and any other recent developments. This process should be integrated into the participant's business planning process.

## PROGRAM DESCRIPTION

### 1. Program Objectives

The ARET 2 Program challenges firms to voluntarily prevent or reduce releases of selected substances. It is part of the federal government's effort to complement existing environmental programs with new approaches that encourage leadership and that provide opportunities to address environmental issues in ways that foster innovation. It will support this direction by recognizing firms playing leadership roles in implementing pollution prevention.

The ARET 2 Program builds on the initial ARET by:

- maintaining the pollution prevention challenge to voluntarily prevent or reduce releases of selected substances;
- providing for an evolving list of candidate substances (to reflect the ongoing processes under CEPA 1999 to identify risks from industrial releases and substances in commerce);
- incorporating the design criteria in Environment Canada's *Policy on Environmental Performance Agreements*.

The program involves a diversity of stakeholders who will participate in a variety of ways. Direct operational involvement will be by facilities representing corporations and/or industrial sector associations as well as government organizations, all of which will seek to reduce selected releases. Environment Canada will also take a direct and active part in the Program, both through the provision of incentives to participants and through the supporting ARET Secretariat. A multi-stakeholder Advisory Committee consisting of representatives of participating corporations and associations, environmental non-governmental organizations, and provincial environmental agencies will assist Environment Canada. The public, including local communities, will play an important role, both in advising on local issues of concern and in monitoring results.

### 2. Participation Requirements

Participants will:

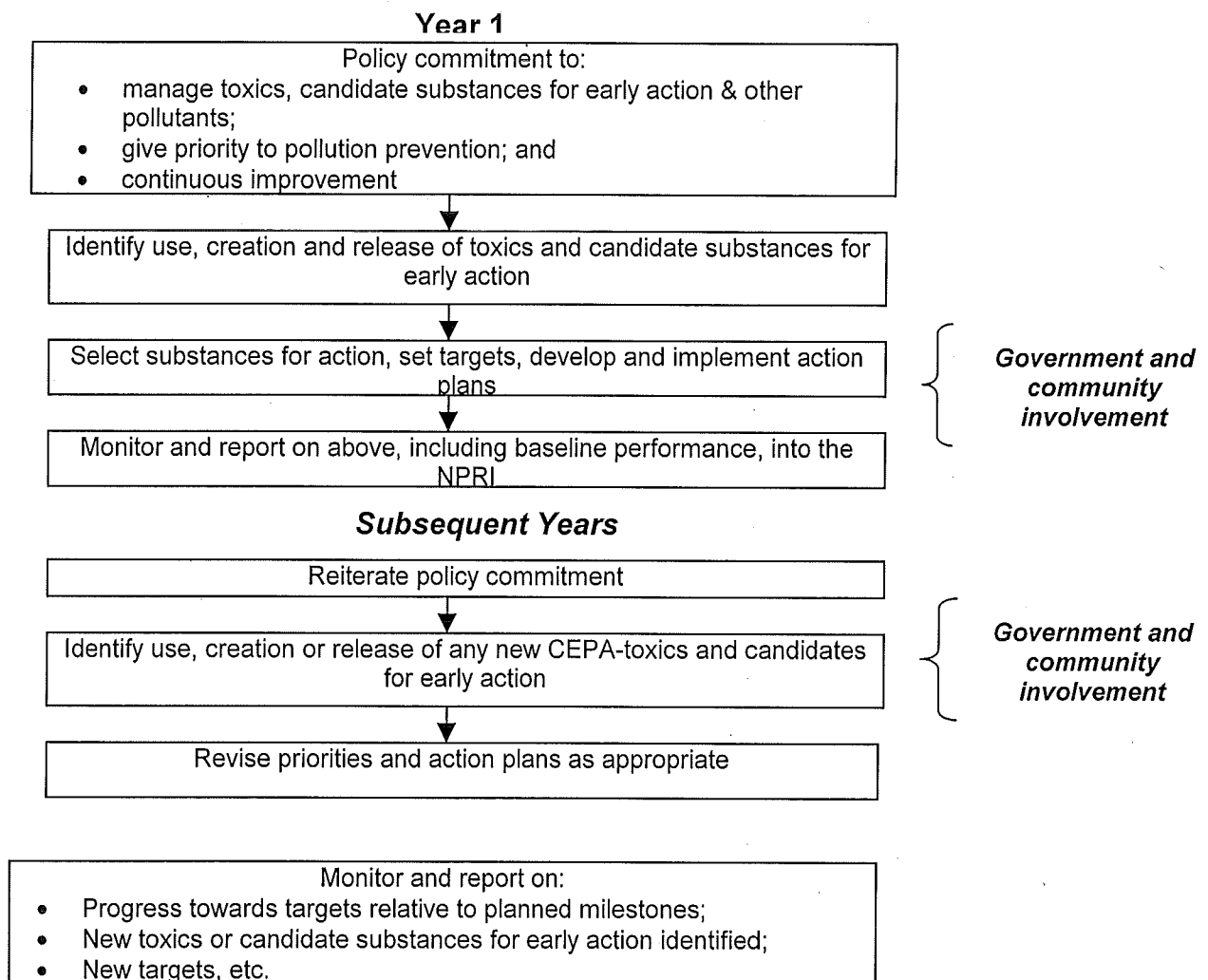
- formally commit to manage CEPA-toxics and other original ARET and National Pollution Release Inventory substances, as well as candidate substances for early action, and to give priority to pollution prevention;
- identify substances on an industry sectoral or individual facility basis on which to take action, in consultation with government and other interested stakeholders;
- establish targets for significant performance improvement relative to a base year of 2000 or more recent, including interim milestones, in an appropriate action plan;
- conduct public consultations on priorities and targets;

- obtain agreement from EC that the substances, targets, and milestones are appropriate;
- monitor and publicly report releases of identified substances through the National Pollution Release Inventory on an annual basis;
- self-certify the accuracy of reported data and may be selected for third party verification; and
- on an ongoing basis, identify new priorities as appropriate and revise action plans, targets and milestones accordingly.

Companies may participate on a facility-by-facility basis, as a multi-facility company, as a group of facilities or companies or as a sector. In all cases, participants will submit facility-specific reports

In addition, applicants will demonstrate that they have a good environmental performance record.

Figure 1 illustrates the flow of these activities. The following sections describe each participation element.



## **2.1 Senior Management Commitment to Pollution Prevention**

Participants will make a formal policy commitment at the senior executive level to pollution prevention.

## **2.2 Clear Objectives and Measurable Results: Selecting Substances for Action and Setting Targets**

Participants will establish, act on and report on progress towards targets for specific, measurable reductions.

### Selecting Substances for Action

Candidates may qualify for participation in ARET 2 by committing to reduce releases of one or more substance from any of the following lists of substances (elaborated in Appendix 1):

- the original list of ARET substances,
- the Schedule 1 List of CEPA Toxics,
- other Candidates for Early Action identified through various sources, including for example decisions of other jurisdictions and emerging research.; and
- the NPRI list of substances.

An important preliminary step in this selection process will be to develop baseline information that will support the selection of appropriate priorities for action. Although committing to the reduction of releases of a single substance will qualify candidates for participation in the program, the department will encourage candidates to consider any sector priority substances that have not already been addressed. Participants will negotiate with Environment Canada the selection of substances for which to establish targets.

### Setting Targets

Firms/sectors can prevent/reduce releases using the most cost effective and sustainable approach. In some cases, product substitution would be appropriate. In other cases, pollution control would be considered the most appropriate approach, but the ultimate objective is to prevent/reduce releases of the selected substances.

Pollution Prevention is the preferred approach. Pollution prevention is defined by Environment Canada as *'the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and waste, and reduce the overall risk to human health or the environment.'*



Unlike the original ARET program with preset release-reduction targets, ARET 2 calls for participants to select substances from the above lists and propose targets and timelines to the ARET Secretariat. It is clear that targets and timelines proposed by a participating facility will be realistic and achievable within the context of the pollution prevention plan developed and applied by that facility.

Since there are two modes of entry into the ARET 2 program, there are two processes through which targets are finalized. Individual firms may propose targets directly to the ARET Secretariat. Departmental authorities will review/discuss the proposed targets with candidate firms, and following integration of the results of a public consultative process (Section 2.3), individual candidate firms may finalize their targets and milestones into an ARET 2 action plan and declare their commitment to achieve the action plan goals through participation in ARET2.

Candidate sectors will follow a similar process, but must first negotiate an Environmental Performance Agreement (EPA) with the department. During that negotiation, a candidate sector will have an opportunity to get the input of departmental authorities on targets and timelines. It may also begin the public consultation process with respect to these targets, by engaging Environmental Non-Governmental Organization(s) and others in the process (Section 2.3). Once an EPA has been finalized, the candidate sector may apply to the ARET Secretariat to have its EPA rolled into ARET 2. At that time, finalized targets and milestones will be integrated into an ARET 2 action plan or plans defining the commitment of the participating firms to achieve the goals of the EPA.

Targets will be for significant improvement by (or before) the year 2010 relative to the selected base year (which must be 2000, or more recent) performance levels. Wherever possible, targets should include specific and measurable interim milestones.

Participants will negotiate their targets with Environment Canada, and will be expected to align their targets with:

- their unique significant aspects and impacts, as identified in their environmental management system, pollution prevention planning process or other business planning mechanism;
- the environmental or health concerns being addressed;
- applicable environmental quality guidelines;
- best available techniques economically achievable;
- applicable sectoral or industry codes of practice or standards;
- applicable legal requirements in other jurisdictions; and
- local community and other public expectations.

When selecting substances for action and setting targets, it will also be important to avoid transferring or creating equivalent risks; that is, overall risk should be reduced.

Finally, targets set for the program must be beyond those required by applicable federal, provincial or municipal law.

### **2.3 Public Consultation**

To help ensure that actions are relevant and engender public confidence, participants will use public consultation to inform their priorities, targets and ongoing actions under the ARET 2 Program.

The appropriate format and process for public consultations will vary facility-by-facility and issue-by-issue. In some cases, individual facilities will want to run their own program. In other cases, it may be more appropriate for groups of facilities sharing a similar watershed or airshed, or addressing a similar environmental issue to engage their common publics collectively.

Individual firms, groups of firms and sectors will be encouraged to employ public consultation methods established as effective within any given community. Nevertheless, the minimum public consultation will include posting agreed-upon targets on the Green Lane, the ARET 2 and potentially other relevant web-sites for a 30-day period for public comment period, and integrating these comments into the ARET action plan for a given facility or the EPA for a group of facilities, as the case may be.

### **2.4 Public Reporting**

Each participating facility will use the National Pollutant Release Inventory to report to Environment Canada:

- baseline performance levels; and
- annual progress (milestones) towards targets.

Where participants submit information on substances not subject to mandatory NPRI reporting, Environment Canada will keep that data separate from NPRI data.

Environment Canada will issue an annual ARET 2 Program report.

### **2.5 Verification of Results**

Participants will ensure data validity in two ways, consistent with the requirements of the NPRI:

- ARET 2 participants must include a Statement of Certification on the accuracy of their annual report; and
- reporting facilities will "keep copies of the information required, together with any calculations, measurements and other data on which the information is

based at the facility to which it relates or at that facility's parent company, located in Canada, for a period of three years" (Section 46(8), *Canadian Environmental Protection Act, 1999*).

In addition, ARET 2 requires that reported data be verifiable. At this time, the NPRI is developing its data verification requirements and procedures on the basis of partial random auditing, which may include 3<sup>rd</sup>-party audits as called for in ARET 2. ARET 2 will harmonize with NPRI on verification requirements and procedures to the extent possible.

## **2.6 Continual Improvement: Regular Re-assessments of Targeted Substances**

Participants will review existing targets and renew their commitments under the ARET 2 Program annually. In addition, every two years, it is expected that participants would determine whether to add new substances to their commitment for action, based on the results of the ongoing assessment of substances in commerce and industrial releases under CEPA, 1999 and any other recent developments. These new target commitments would be entirely voluntary and above and beyond the original commitment made to join the program. Participants will be encouraged to integrate the review process into their business planning process.

## **2.7 Good Record**

Entry into the ARET 2 Program will be at the discretion of Environment Canada, based on a demonstrated record of reasonable efforts to remain in compliance and to remedy problems as they arise.

Applicants must demonstrate that:

- all incidents of non-compliance have been resolved promptly, or that a satisfactory action plan is in progress; and
- all alleged violations identified during inspections have been resolved, or a satisfactory action plan is in progress.

## **3. Incentives For Participants**

Companies that combine pollution prevention activities with community outreach and public reporting can receive significant inherent benefits. Such credible environmental management ahead of regulation demonstrates leadership that will promote both tangible benefits (e.g., reduced operating costs, market recognition) and intangible benefits (e.g., enhanced public profile, and improved government, worker and community relations) benefits.

Environment Canada will offer participants access to the following direct incentives:

- a credible platform with which to meet public expectations, show leadership and proactively and effectively manage toxics and other pollutants;
- recognition of verifiable achievements by the public and government;
- greater flexibility (and thus cost effectiveness) to customize targets and timelines to meet individual circumstances;
- fora for information-sharing (peer exchange) on best practices;
- access to technical assistance;
- links to CEPA 1999 Pollution Prevention planning requirements;
- links to compliance and enforcement activities;
- potential linkage with complementary provincial programs - sharing recognition and other incentives.
- cost effective environmental management tool;
- effective risk management through ARET reduces priority for regulatory action; and

In addition, Environment Canada will provide direct support for the program through the following measures:

- provide a manageable and workable list of substances around which action should be focused;
- help to identify appropriate substances and to set targets customized to a sector or firm;
- provide the National Pollutant Release Inventory as a mechanism for participants to report their results into Environment Canada; and
- provide an annual public report on the program.

### **3.1 Public Recognition**

ARET 2 will demonstrate the environmental responsibility and leadership of participants through beyond compliance achievements within the program. The credibility of these publicly reported results will be clear through the adoption of the same QA/QC and certification requirements as the National Pollutant Release Inventory program, and including as well 3<sup>rd</sup>-party verification. In addition, ARET achievement will be enhanced by the requirement of public consultation in establishing program targets. Environment Canada will recognize the environmental responsibility and leadership of participants in various ways:

- Environment Canada will actively publicize the program and the accomplishments of each of the participants through departmental web-sites and the annual report, as well as through external media editorial and promotion;
- Participants will be given the right to use the program logo.<sup>1</sup>
- Participants will be invited to participate in an award ceremony upon receiving certification.

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<sup>1</sup> The logo shall not be used on products.

### **3.2 Information-Sharing Fora**

Environment Canada will invite participants to participate in peer exchanges, including special invitation workshops and networks, in which participants can share and discuss successful practices, advance the application of pollution prevention technology in Canada and receive peer recognition.

### **3.3 Links to Pollution Prevention Planning Under CEPA 1999**

When determining which parties will be required to prepare pollution prevention plans under Section 56 of CEPA, 1999, consideration will be given to the fact that ARET 2 participants will have prepared and implemented pollution prevention plans, and will be reporting performance under those plans (provided their program targets explicitly include the CEPA-toxic substance that is the subject of the S. 56 requirement).

### **3.4 Links to Compliance and Enforcement Activities**

Ongoing regulatory compliance is required as a condition of participation in ARET 2. A commitment by companies to participate in the ARET 2 Program does not remove obligations to comply with all regulatory requirements.

Participants will not be subject to additional scrutiny solely because they are participants.

Consistent with the *CEPA 1999 Compliance and Enforcement Policy*, Environment Canada will establish the following linkages between the ARET 2 Program and compliance and enforcement activities under CEPA 1999 and the provisions of the *Fisheries Act*:

- When determining priorities for inspections and compliance promotion, one of the factors that will be accounted for will be the fact that participants have demonstrated a good compliance history, committed to beyond-compliance targets and will be reporting to the public on their performance.
- In order to determine the appropriate response to an alleged violation of *CEPA 1999* or the *Fisheries Act*, enforcement personnel consider the nature of the violation, the compliance history of the alleged violator, the effectiveness of the response in securing compliance with no recurrence of violation, and consistency with responses for similar *CEPA 1999* or *Fisheries Act* violations. In their examination of these factors, enforcement personnel will take into account whether or not the alleged violator is a program participant.
- Where enforcement personnel determine that a suspected violation may have occurred due to the efforts of a participant to meet a commitment under the initiative to achieve results below regulated limits or beyond regulatory

requirements, enforcement personnel will consider that fact when examining the seriousness of the harm or potential harm to the environment, and will consider participation in the program as one component of the alleged violator's compliance history.

### **3.5 Technical Assistance**

Environment Canada will endeavor to help participants gain access to all existing and any new or expanded technical assistance and research and development assistance programs offered by Environment Canada and other federal departments.

### **3.6 CEPA Action**

CEPA 1999 provides the authority to take action on substances listed on Schedule 1 through a mandatory tool such as a regulation, should the ARET 2 Program fail to achieve the desired results. This authority may also serve to reduce the likelihood of "free riders" in the Program. CEPA1999 provides for a number of tools in the environmental management toolbox in addition to regulation..

ARET 2 can be considered as an alternative to new regulation, and the achievement of adequate reductions in the releases of an ARET 2 substance diminishes the risk of such regulation. Also, the ARET 2 approach allows industry to be innovative and demonstrate leadership in the selection of the most appropriate risk management technology for its specific needs.

### **3.7 Possible Provincial Recognition and Incentives**

British Columbia, Alberta and Ontario have developed or are developing voluntary initiatives programs with similar objectives to the ARET 2 program. While there are some differences in the participation criteria, they all seek to achieve environmental protection by promoting beyond compliance measures. Environment Canada is committed to work with its provincial partners to seek to achieve mutual recognition and access to some or all of the incentives offered under these provincial programs (and vice versa).

The nature of the provincial incentives may differ from province to province. Incentives that may be made available include:

- expedited approval processing;
- reduced inspections;
- reduced reporting;
- acceptance of reports prepared under this program;
- single provincial point of contact; and
- consolidated ("umbrella") approvals.

Environment Canada will also work in collaboration with its partners in the development of "leadership" and "small & medium enterprise" tracks within ARET 2.

### **3.8 Removal of Incentives**

Non-attainment of any requirement will be grounds for removal of incentives. This is required to maintain the effectiveness and credibility of the program. Environment Canada will provide sufficient notice of any problems and a reasonable opportunity for the party to self-correct the problem.

### **4.0 Advisory Committee**

Environment Canada will establish a multi-stakeholder Advisory Committee. This Committee will provide advice on a regular basis on: the process for identifying new candidate substances for the Program; ways to improve the Program; the ongoing management of the Program; the potential integration with similar or complementary provincial programs; and the preparation of the annual Program report. The Committee also may conduct market outreach on behalf of the ARET 2 Program.

## Appendix A

### Description of ARET 2 List of Substances

As a participant in ARET2 there are a number of substances on which early action can be taken. The ARET Secretariat has broken these down into 4 categories:

1. Category 1: Candidates for Early Action
2. Category 2: NPRI list of substances
3. Category 3: The Original ARET List
4. Category 4: Schedule 1 Substances

#### Category 1: Candidates for Early Action

These would be substances that are not currently assessed as CEPA toxic but for which assessors would have identified concerns upon which industry could take early voluntary action. This list will be initially developed in the coming months, and is expected to evolve with time.

#### Category 2: NPRI Substances

The NPRI substance list is not a static list, since 1993 the NPRI substances list has grown from 178 substances to almost 300 substances in 2000 and it will continue to expand. Substances that are considered for addition to the NPRI list are:

- ⇒ those that have been added to the U.S. Toxics Release Inventory list
- ⇒ those appearing on Canada's Priority Substances List, and
- ⇒ those on the CEPA Toxics List.

**For more information on the NPRI's consultation process please visit the consultation page on the NPRI web-site:**

[http://www.ec.gc.ca/pdb/npri/npri\\_consult\\_e.cfm](http://www.ec.gc.ca/pdb/npri/npri_consult_e.cfm)

#### Category 3: The original ARET Substance List

The 117 substances that made up the original ARET list were selected from a database of over 2,000 substances found in the Great Lakes basin. The substances were selected based on their inherent toxicity, bioaccumulativeness and their persistence in the environment. When compiling the list for ARET 2, a comparison was done to determine redundancies between the 117 ARET substances and the NPRI substance list. There are 42 substances listed on the original ARET substance list that are not listed under the NPRI.



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There are some inconsistencies in the names of substances on the original ARET list and the NPRI list (i.e. *Zinc -inorganic, inhalable or soluble* from the ARET 1 list vs. *Zinc and its compounds* on the NPRI list). Since the ARET 2 substance list includes both the original ARET list *and* the NPRI list the ARET 2 secretariat has adopted the NPRI names for these substances.

**Category 4: Schedule 1 Substances:**

Category 4 substances are those substances which are listed as toxic substances under the CEPA 1999 Schedule 1. Note that the majority of these substances have already been included in the above lists.

## Appendix B

### ARET 2 Substance List By Category

PLEASE NOTE: The ARET 2 substance list is not a static list. It will expand as substances are added to Schedule 1 list of CEPA toxics, or as substances are added to the NPRI. The list below is current as of July 24<sup>th</sup>, 2002. To receive the most current version of the ARET 2 substance list please contact:

ARET Secretariat  
351 St-Joseph Blvd - Hull, QC K1A 0H3  
Ph: (819) 997-8952  
Fax: (819) 994-5030  
email: aret@ec.gc.ca

#### Category 1: Candidates for Early Action

There are currently no substances in this category

#### Category 2: NPRI Substances:

	<i>Substance Name</i>	<i>CAS Registry Number<sup>†</sup></i>
1.	Acetaldehyde	75-07-0
2.	Acetonitrile	75-05-8
3.	Acetophenone	98-86-2
4.	Acrolein	107-02-8
5.	Acrylamide	79-06-1
6.	Acrylic acid <sup>1</sup>	79-10-7
7.	Acrylonitrile	107-13-1
8.	Alkanes, C <sub>6-18</sub> , chloro	68920-70-7
9.	Alkanes, C <sub>10-13</sub> , chloro	85535-84-8
10.	Allyl alcohol	107-18-6
11.	Allyl chloride	107-05-1
12.	Aluminum <sup>2</sup>	7429-90-5
13.	Aluminum oxide <sup>3</sup>	1344-28-1
14.	Ammonia (total) <sup>4</sup>	*
15.	Aniline <sup>1</sup>	62-53-3
16.	Anthracene	120-12-7
17.	Antimony <sup>5</sup>	*
18.	Asbestos <sup>6</sup>	1332-21-4

<sup>†</sup> The Chemical Abstracts Service (CAS) Registry Number is the property of the American Chemical Society and any use or redistribution, except as required in supporting regulatory requirements and/or for reports to the government when the information and the reports are required by law or administrative policy, is not permitted without the prior, written permission of the American Chemical Society.

<sup>1</sup> "and its salts" – The CAS No. corresponds to the weak acid or base. However, this substance includes the salts of these weak acids and bases.

<sup>2</sup> "fume or dust"

<sup>3</sup> "fibrous forms"

<sup>4</sup> "Ammonia (total)" means the total of both of ammonia (NH<sub>3</sub> – CAS No. 7664-41-7) and the ammonium ion (NH<sub>4</sub><sup>+</sup>) in solution.

<sup>5</sup> "and its compounds".

19.	Benzene	71-43-2
20.	Benzoyl chloride	98-88-4
21.	Benzoyl peroxide	94-36-0
22.	Benzyl chloride	100-44-7
23.	Biphenyl	92-52-4
24.	<i>Bis</i> (2-ethylhexyl) adipate	103-23-1
25.	<i>Bis</i> (2-ethylhexyl) phthalate	117-81-7
26.	Boron trifluoride	7637-07-2
27.	Bromine	7726-95-6
28.	1-Bromo-2-chloroethane	107-04-0
29.	Bromomethane	74-83-9
30.	1,3-Butadiene	106-99-0
31.	2-Butoxyethanol	111-76-2
32.	Butyl acrylate	141-32-2
33.	<i>i</i> -Butyl alcohol	78-83-1
34.	<i>n</i> -Butyl alcohol	71-36-3
35.	<i>sec</i> -Butyl alcohol	78-92-2
36.	<i>tert</i> -Butyl alcohol	75-65-0
37.	Butyl benzyl phthalate	85-68-7
38.	1,2-Butylene oxide	106-88-7
39.	Butyraldehyde	123-72-8
40.	C.I. Acid Green 3	4680-78-8
41.	C.I. Basic Green 4	569-64-2
42.	C.I. Basic Red 1	989-38-8
43.	C.I. Direct Blue 218	28407-37-6
44.	C.I. Disperse Yellow 3	2832-40-8
45.	C.I. Food Red 15	81-88-9
46.	C.I. Solvent Orange 7	3118-97-6
47.	C.I. Solvent Yellow 14	842-07-9
48.	Calcium cyanamide	156-62-7
49.	Calcium fluoride	7789-75-5
50.	Carbon disulphide	75-15-0
51.	Carbon tetrachloride	56-23-5
52.	Catechol	120-80-9
53.	CFC-11	75-69-4
54.	CFC-12	75-71-8
55.	CFC-13	75-72-9
56.	CFC-114	76-14-2
57.	CFC-115	76-15-3
58.	Chlorendic acid	115-28-6
59.	Chlorine	7782-50-5
60.	Chlorine dioxide	10049-04-4
61.	Chloroacetic acid <sup>1</sup>	79-11-8
62.	Chlorobenzene	108-90-7
63.	Chloroethane	75-00-3
64.	Chloroform	67-66-3
65.	Chloromethane	74-87-3
66.	3-Chloro-2-methyl-1-propene	563-47-3
67.	3-Chloropropionitrile	542-76-7
68.	Chromium <sup>7</sup>	*
69.	Cobalt <sup>5</sup>	*

<sup>6</sup> "friable form"

\* No single CAS No. applies to this substance.

<sup>1</sup> "and its salts" – The CAS No. corresponds to the weak acid or base. However, this substance includes the salts of these weak acids and bases.<sup>5</sup> "and its compounds"<sup>7</sup> "and its compounds" except hexavalent chromium compounds.

70.	Copper <sup>5</sup>	*
71.	Cresol <sup>1,8</sup>	1319-77-3
72.	Crotonaldehyde	4170-30-3
73.	Cumene	98-82-8
74.	Cumene hydroperoxide	80-15-9
75.	Cyanides <sup>9</sup>	*
76.	Cyclohexane	110-82-7
77.	Cyclohexanol	108-93-0
78.	Decabromodiphenyl oxide	1163-19-5
79.	2,4-Diaminotoluene <sup>1</sup>	95-80-7
80.	2,6-Di- <i>t</i> -butyl-4-methylphenol	128-37-0
81.	Dibutyl phthalate	84-74-2
82.	<i>o</i> -Dichlorobenzene	95-50-1
83.	<i>p</i> -Dichlorobenzene	106-46-7
84.	3,3'-Dichlorobenzidine dihydrochloride	612-83-9
85.	1,2-Dichloroethane	107-06-2
86.	Dichloromethane	75-09-2
87.	2,4-Dichlorophenol <sup>1</sup>	120-83-2
88.	1,2-Dichloropropane	78-87-5
89.	Dicyclopentadiene	77-73-6
90.	Diethanolamine <sup>1</sup>	111-42-2
91.	Diethyl phthalate	84-66-2
92.	Diethyl sulphate	64-67-5
93.	Dimethylamine	124-40-3
94.	<i>N,N</i> -Dimethylaniline <sup>1</sup>	121-69-7
95.	<i>N,N</i> -Dimethylformamide	68-12-2
96.	Dimethyl phenol	1300-71-6
97.	Dimethyl phthalate	131-11-3
98.	Dimethyl sulphate	77-78-1
99.	4,6-Dinitro- <i>o</i> -cresol <sup>1</sup>	534-52-1
100.	2,4-Dinitrotoluene	121-14-2
101.	2,6-Dinitrotoluene	606-20-2
102.	Dinitrotoluene <sup>10</sup>	25321-14-6
103.	Di- <i>n</i> -octyl phthalate	117-84-0
104.	1,4-Dioxane	123-91-1
105.	Diphenylamine	122-39-4
106.	Epichlorohydrin	106-89-8
107.	2-Ethoxyethanol	110-80-5
108.	2-Ethoxyethyl acetate	111-15-9
109.	Ethoxynonyl benzene	28679-13-2
110.	Ethyl acrylate	140-88-5
111.	Ethylbenzene	100-41-4
112.	Ethyl chloroformate	541-41-3
113.	Ethylene	74-85-1
114.	Ethylene glycol	107-21-1
115.	Ethylene oxide	75-21-8
116.	Ethylene thiourea	96-45-7
117.	Fluorine	7782-41-4
118.	Formaldehyde	50-00-0
119.	Formic acid	64-18-6

<sup>8</sup> "all isomers" including, but not limited to, the individual isomers of cresol: *m*-cresol (CAS No. 108-39-4), *o*-cresol (CAS No. 95-48-7) and *p*-cresol (CAS No. 106-44-5).

<sup>9</sup> "ionic"

\* No single CAS No. applies to this substance.

<sup>1</sup> "and its salts" – The CAS No. corresponds to the weak acid or base. However, this substance includes the salts of these weak acids and bases.

<sup>10</sup> "mixed isomers"

120.	Halon 1211	353-59-3
121.	Halon 1301	75-63-8
122.	HCFC-22	75-45-6
123.	HCFC-122 <sup>11</sup>	41834-16-6
124.	HCFC-123 <sup>12</sup>	34077-87-7
125.	HCFC-124 <sup>13</sup>	63938-10-3
126.	HCFC-141b	1717-00-6
127.	HCFC-142b	75-68-3
128.	Hexachlorocyclopentadiene	77-47-4
129.	Hexachloroethane	67-72-1
130.	Hexachlorophene	70-30-4
131.	<i>n</i> -Hexane	110-54-3
132.	Hydrazine <sup>1</sup>	302-01-2
133.	Hydrochloric acid	7647-01-0
134.	Hydrogen cyanide	74-90-8
135.	Hydrogen fluoride	7664-39-3
136.	Hydrogen sulphide	7783-06-4
137.	Hydroquinone <sup>1</sup>	123-31-9
138.	Iron pentacarbonyl	13463-40-6
139.	Isobutyraldehyde	78-84-2
140.	Isophorone diisocyanate	4098-71-9
141.	Isoprene	78-79-5
142.	Isopropyl alcohol	67-63-0
143.	<i>p,p'</i> -Isopropylidenediphenol	80-05-7
144.	Isosafrole	120-58-1
145.	Lithium carbonate	554-13-2
146.	Maleic anhydride	108-31-6
147.	Manganese <sup>5</sup>	*
148.	2-Mercaptobenzothiazole	149-30-4
149.	Methanol	67-56-1
150.	2-Methoxyethanol	109-86-4
151.	2-Methoxyethyl acetate	110-49-6
152.	Methyl acrylate	96-33-3
153.	Methyl <i>tert</i> -butyl ether	1634-04-4
154.	<i>p,p'</i> -Methylenebis(2-chloroaniline)	101-14-4
155.	1,1-Methylenebis(4-isocyanatocyclohexane)	5124-30-1
156.	Methylenebis(phenylisocyanate)	101-68-8
157.	<i>p,p'</i> -Methylenedianiline	101-77-9
158.	Methyl ethyl ketone	78-93-3
159.	Methyl iodide	74-88-4
160.	Methyl isobutyl ketone	108-10-1
161.	Methyl methacrylate	80-62-6
162.	N-Methylolacrylamide	924-42-5
163.	2-Methylpyridine	109-06-8
164.	N-Methyl-2-pyrrolidone	872-50-4
165.	Michler's ketone <sup>1</sup>	90-94-8
166.	Molybdenum trioxide	1313-27-5
167.	Naphthalene	91-20-3
168.	Nickel <sup>5</sup>	*
169.	Nitrate ion <sup>14</sup>	*

<sup>11</sup> "all isomers" including, but not limited to, HCFC-122 (CAS No. 354-21-2).

<sup>12</sup> "all isomers" including, but not limited to, HCFC-123 (CAS No. 306-83-2), and HCFC-123a (CAS No. 90454-18-5).

<sup>13</sup> "all isomers" including, but not limited to, HCFC-124 (CAS No. 2837-89-0), and HCFC-124a (CAS No. 354-25-6).

<sup>1</sup> "and its salts" – The CAS No. corresponds to the weak acid or base. However, this substance includes the salts of these weak acids and bases.

<sup>5</sup> "and its compounds"

<sup>14</sup> "in solution at a pH of 6.0 or greater"

170.	Nitric acid	7697-37-2
171.	Nitrilotriacetic acid <sup>1</sup>	139-13-9
172.	<i>p</i> -Nitroaniline	100-01-6
173.	Nitrobenzene	98-95-3
174.	Nitroglycerin	55-63-0
175.	<i>p</i> -Nitrophenol <sup>1</sup>	100-02-7
176.	2-Nitropropane	79-46-9
177.	N-Nitrosodiphenylamine	86-30-6
178.	Nonylphenol	104-40-5
179.	Nonylphenol hepta(oxyethylene) ethanol	27177-05-5
180.	Nonylphenol, industrial	84852-15-3
181.	Nonylphenol nona(oxyethylene) ethanol	27177-08-8
182.	<i>n</i> -Nonylphenol <sup>10</sup>	25154-52-3
183.	Nonylphenol polyethylene glycol ether	9016-45-9
184.	<i>p</i> -Nonylphenol polyethylene glycol ether	26027-38-3
185.	Nonylphenoxy ethanol	27986-36-3
186.	2-( <i>p</i> -Nonylphenoxy) ethanol	104-35-8
187.	2-(2-( <i>p</i> -Nonylphenoxy)ethoxy) ethanol	20427-84-3
188.	2-(2-(2-(2-( <i>p</i> -Nonylphenoxy)ethoxy)ethoxy)ethoxy) ethanol	7311-27-5
189.	4- <i>tert</i> -Octyl phenol	140-66-9
190.	Oxirane, methyl-, polymer with oxirane, mono(nonylphenyl)ether	37251-69-7
191.	Paraldehyde	123-63-7
192.	Pentachloroethane	76-01-7
193.	Peracetic acid <sup>1</sup>	79-21-0
194.	Phenol <sup>1</sup>	108-95-2
195.	<i>p</i> -Phenylenediamine <sup>1</sup>	106-50-3
196.	<i>o</i> -Phenylphenol <sup>1</sup>	90-43-7
197.	Phosgene	75-44-5
198.	Phosphorus <sup>15</sup>	7723-14-0
199.	Phthalic anhydride	85-44-9
200.	Polymeric diphenylmethane diisocyanate	9016-87-9
201.	Potassium bromate	7758-01-2
202.	Propargyl alcohol	107-19-7
203.	Propionaldehyde	123-38-6
204.	Propylene	115-07-1
205.	Propylene oxide	75-56-9
206.	Pyridine <sup>1</sup>	110-86-1
207.	Quinoline <sup>1</sup>	91-22-5
208.	<i>p</i> -Quinone	106-51-4
209.	Safrole	94-59-7
210.	Selenium <sup>5</sup>	*
211.	Silver <sup>5</sup>	*
212.	Sodium fluoride	7681-49-4
213.	Sodium nitrite	7632-00-0
214.	Styrene	100-42-5
215.	Styrene oxide	96-09-3
216.	Sulphur hexafluoride	2551-62-4
217.	Sulphuric acid	7664-93-9
218.	1,1,1,2-Tetrachloroethane	630-20-6
219.	1,1,2,2-Tetrachloroethane	79-34-5

\* No single CAS No. applies to this substance.

<sup>1</sup> "and its salts" – The CAS No. corresponds to the weak acid or base. However, this substance includes the salts of these weak acids and bases.

<sup>5</sup> "and its compounds"

<sup>10</sup> "mixed isomers"

<sup>15</sup> "yellow and white"

\* No single CAS No. applies to this substance.

220.	Tetrachloroethylene	127-18-4
221.	Tetracycline hydrochloride	64-75-5
222.	Thiourea	62-56-6
223.	Thorium dioxide	1314-20-1
224.	Titanium tetrachloride	7550-45-0
225.	Toluene	108-88-3
226.	Toluene-2,4-diisocyanate	584-84-9
227.	Toluene-2,6-diisocyanate	91-08-7
228.	Toluenediisocyanate <sup>10</sup>	26471-62-5
229.	1,2,4-Trichlorobenzene	120-82-1
230.	1,1,2-Trichloroethane	79-00-5
231.	Trichloroethylene	79-01-6
232.	Triethylamine	121-44-8
233.	1,2,4-Trimethylbenzene	95-63-6
234.	2,2,4-Trimethylhexamethylene diisocyanate	16938-22-0
235.	2,4,4-Trimethylhexamethylene diisocyanate	15646-96-5
236.	Vanadium <sup>16</sup>	7440-62-2
237.	Vinyl acetate	108-05-4
238.	Vinyl chloride	75-01-4
239.	Vinylidene chloride	75-35-4
240.	Xylene <sup>17</sup>	1330-20-7
241.	Zinc <sup>5</sup>	*
242.	Mercury <sup>5</sup>	*
243.	Cadmium <sup>5</sup>	*
244.	Arsenic <sup>5</sup>	*
245.	Hexavalent chromium compounds	*
246.	Lead <sup>18, 19</sup>	*
247.	Tetraethyl lead	78-00-2
248.	Benzo(a)anthracene	56-55-3
249.	Benzo(a)phenanthrene	218-01-9
250.	Benzo(a)pyrene	50-32-8
251.	Benzo(b)fluoranthene	205-99-2
252.	Benzo(e)pyrene	192-97-2
253.	Benzo(g,h,i)perylene	191-24-2
254.	Benzo(j)fluoranthene	205-82-3
255.	Benzo(k)fluoranthene	207-08-9
256.	Dibenz(a,j)acridine	224-42-0
257.	Dibenzo(a,h)anthracene	53-70-3
258.	Dibenzo(a,i)pyrene	189-55-9
259.	7H-Dibenzo(c,g)carbazole	194-59-2
260.	Fluoranthene	206-44-0
261.	Indeno(1,2,3-c,d)pyrene	193-39-5
262.	Perylene	198-55-0
263.	Phenanthrene	85-01-8
264.	Pyrene	129-00-0
265.	Hexachlorobenzene	118-74-1

<sup>5</sup> "and its compounds"

<sup>16</sup> "(except when in an alloy) and its compounds"

<sup>17</sup> "all isomers" including, but not limited to, the individual isomers of xylene: *m*-xylene (CAS No. 108-38-3), *o*-xylene (CAS No. 95-47-6) and *p*-xylene (CAS No. 106-42-3).

<sup>18</sup> "and its compounds", except tetraethyl lead (CAS No. 78-00-2).

<sup>19</sup> Does not include lead (and its compounds) contained in stainless steel, brass or bronze alloys.

\* No single CAS No. applies to this substance.

266.	Dioxins and furans <sup>20</sup>	*
267.	Carbon monoxide	630-08-0
268.	Oxides of nitrogen (expressed as NO <sub>2</sub> )	11104-93-1
269.	PM <sub>2.5</sub>	*
270.	PM <sub>10</sub>	*
271.	Sulphur dioxide	7446-09-5
272.	Total particulate matter	*
273.	Volatile organic compounds	*

“PM<sub>2.5</sub>” means any particulate matter with a diameter less than or equal to 2.5 microns. « PM<sub>2,5</sub> »

“PM<sub>10</sub>” means any particulate matter with a diameter less than or equal to 10 microns. « PM<sub>10</sub> »

“total particulate matter” means any particulate matter with a diameter less than 100 microns. « particules totales »

“volatile organic compounds” means volatile organic compounds as defined in the Annex to the *Notice of Intent to recommend that ozone and its precursors (nitrogen oxides [nitric oxide and nitrogen dioxide] and volatile organic compounds) be added to the List of Toxic Substances in Schedule 1 to the Canadian Environmental Protection Act, 1999 under subsection 90(1) of the Act*, published on June 9, 2001 in the *Canada Gazette Part 1*. « composés organiques volatils »

<sup>20</sup> This class of substances, known as polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans, is restricted to the following congeners:

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (CAS No. 1746-01-6); 1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin (CAS No. 40321-76-4); 1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin (CAS No. 39227-28-6); 1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin (CAS No. 19408-74-3); 1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin (CAS No. 57653-85-7); 1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (CAS No. 35822-46-9); Octachlorodibenzo-*p*-dioxin (CAS No. 3268-87-9); 2,3,7,8-Tetrachlorodibenzofuran (CAS No. 51207-31-9); 2,3,4,7,8-Pentachlorodibenzofuran (CAS No. 57117-31-4); 1,2,3,7,8-Pentachlorodibenzofuran (CAS No. 57117-41-6); 1,2,3,4,7,8-Hexachlorodibenzofuran (CAS No. 70648-26-9); 1,2,3,7,8,9-Hexachlorodibenzofuran (CAS No. 72918-21-9); 1,2,3,6,7,8-Hexachlorodibenzofuran (CAS No. 57117-44-9); 2,3,4,6,7,8-Hexachlorodibenzofuran (CAS No. 60851-34-5); 1,2,3,4,6,7,8-Heptachlorodibenzofuran (CAS No. 67562-39-4); 1,2,3,4,7,8,9-Heptachlorodibenzofuran (CAS No. 55673-89-7); and Octachlorodibenzofuran (CAS No. 39001-02-0).



**Category 3 ARET Substances (note this list does not includes substances already covered in the preceding categories):**

<i>Substance Name</i>	<i>CAS Registry Number<sup>†</sup></i>
1,6-dinitropyrene	42397-64-8
1,8-dinitropyrene	42397-65-9
alpha-hexachlorocyclohexane	319-84-6
gamma-hexachlorocyclohexane	58-89-9
Octachlorostyrene	29082-74-4
PCBs*	na
Pentachlorophenol	87-86-5
Tributyltin	688-73-3
2,4,6-trichlorophenol	88-06-2
3,3'-dichlorobenzidine	91-94-1
7,12-dimethylbenz(a)anthracene	57-97-6
Dimethylnaphthalene	28804-88-8
2,3,4,6-tetrachlorophenol	58-90-2
2-naphthylamine	91-59-8
Benzo(a)fluorene	238-84-6
Benzo(b)fluorene	30777-19-6
Beryllium	7440-41-7
bis(2-chloroethyl)ether	111-44-4
Chlorodibromomethane	124-48-1
Chromium (Cr6+)*	na
Dibenz(a,h)acridine	226-36-8
o-anisidine	90-04-0
Uranium (inorganic, inhalable, soluble)*	na
1,2-dibromo-3-chloropropane	96-12-8
1,2-dichlorobut-3-ene	760-23-6
1,2-diphenylhydrazine	122-66-7
1,3-dichloropropene	542-75-6
1-chloro-4-nitrobenzene	100-00-5
2,6-dimethylphenol	576-26-1
4-aminoazobenzene	60-09-3
4-aminobiphenyl	92-67-1
4-nitrosomorpholine	59-89-2
Acetamide	60-35-5
Benzidine	92-87-5
bis(chloromethyl) ether	542-88-1
Ethanol	64-17-5
Ethylene dibromide	106-93-4
n-dodecane	112-40-3
N-nitroso-di-n-propylamine	621-64-7
N-nitrosodimethylamine (NDMA)	62-75-9
Tetramethylthiuram disulphide	137-26-8
Vinyl bromide	593-60-2

\* No single CAS No. applies to this substance.

**Category 4: Substances Listed as CEPA toxic under Schedule 1 (note this list does not include any substances included in the preceding categories):**

<b>Substance</b>	<b>CAS Registry Number</b>
Chloromethyl Methyl Ether	107-30-2
Dibromotetrafluoroethane	124-73-2
Bis(chloromethyl)ether	542-88-1
1,1,1-trichloroethane	71-55-6
Bromochloromethane	74-97-5
Tributyltetradecylphosphonium	na
Refractory ceramic fibre	na
Inorganic fluorides	na
Effluents from pulp mills using bleaching	na
Chlorinated wastewater effluents	na
Creosote-impregnated waste materials from creosote-contaminated sites	na
(4-Chlorophenyl)cyclopropylmethanone,O-[(4-trophenyl)methyl]oxime	na
Fuel containing toxic substances that are dangerous goods within the meaning of section 2 of the Transportation of Dangerous Goods Act, 1992 and that are neither normal components of the fuel nor additives designed to improve the characteristics or the performance of the fuel; or are normal components of the fuel or additives designed to improve the characteristics or performance of the fuels, but are present in quantities or concentrations greater than those generally accepted by industry standards	na