# Approach for a Subset of Substances Prioritized during Categorization That Have Already Been Addressed

Canada

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# 1. Introduction

As a part of the Chemicals Management Plan (CMP), the Government of Canada announced plans to assess and manage, where appropriate, the potential health and ecological risks associated with approximately 4300 substances under the *Canadian Environmental Protection Act, 1999* (CEPA 1999). These substances were identified as priorities for further action during the categorization exercise that was completed in 2006. The current status of each of these substances is available at the Status of Prioritized Substances List.

This exercise identifies those categorized substances for which risk assessment activities can be considered as having already taken place under CEPA 1999. This exercise looked at individual substances as well as classes, moieties or groups of substances. As a result, some of the individual substances on the *Domestic Substances List* (DSL) that have been identified through categorization fall within the breadth of those previously addressed classes or groups.

Based on the applicability of past assessment activities and risk management actions, 248 substances of the approximately 4300 DSL that were identified as priorities through categorization can be considered to be within the scope of other initiatives under CEPA 1999. As such, it is concluded that these substances do not require further risk assessment at this time. This approach will enable Environment Canada and Health Canada to focus risk assessment activities on categorized substances that have not yet been addressed.

If new information comes to our attention on these substances as a result of:

- identification of new hazard or exposure information which may impact previous analyses of risk;
- international activities;
- further information gathering
- inclusion in future substances grouping or other assessment initiatives; or
- as may be obtained in support risk management activities including performance evaluation and subsequent changes to risk management;
- additional risk assessment or risk management activities may be undertaken.

# 2. Analysis

An analysis was undertaken to determine which substances that were previously identified as priorities during categorization are associated with other risk assessment or risk management initiatives under CEPA 1999. The scope of the analysis included substances that were previously addressed by the first Priority Substances List (PSL), the second PSL, as well as substances on Schedule 1 of CEPA 1999. Substances already being considered as part of other CMP initiatives, such as assessments already planned or underway, rapid screening and the Substance Groupings Initiative were excluded from the scope of the analysis. In addition, substances containing more than one categorized moiety were excluded from the scope of the analysis when at least one of the categorized moieties would be anticipated to be subject to future risk assessment activity.

Where substances are found to have been addressed under past or current risk assessment or risk management activities, it is concluded that no further risk assessment activity is required at this time.

# 2.1 Substances from the first Priority Substances List

The first Priority Substances List (PSL1) was published in 1989 and included 44 substances or groups of substances. Ecological and human health risk assessments were completed as part of the Priority Substances Assessment Program by early 1994.

## 2.1.1 Discrete substances

The 46 discrete substances listed in Table 1 are deemed to be within the scope of the PSL1 assessments. As such, these 46 substances do not require further risk assessment at this time.

Table 1: PSL1 substances for which no further assessment is proposed at this time

| CAS RN[1] | Name | PSL Report |
|---|---|---|
| 50-32-8 | Benzo[a]pyrene | Polycyclic aromatic hydrocarbons |
| 56-35-9 | Distannoxane, hexabutyl- | Non-pesticidal organotin compounds |
| 87-61-6 | Benzene, 1,2,3-trichloro- | Trichlorobenzenes |
| 95-50-1 | Benzene, 1,2-dichloro- | 1,2-Dichlorobenzene |
| 95-94-3 | Benzene, 1,2,4,5-tetrachloro- | Tetrachlorobenzenes |
| 106-46-7 | Benzene, 1,4-dichloro- | 1,4-Dichlorobenzene |
| 108-70-3 | Benzene, 1,3,5-trichloro- | Trichlorobenzenes |
| 108-88-3 | Benzene, methyl- | Toluene |
| 108-90-7 | Benzene, chloro- | Chlorobenzene |
| 118-74-1 | Benzene, hexachloro- | Hexachlorobenzene |
| 120-82-1 | Benzene, 1,2,4-trichloro- | Trichlorobenzenes |
| 129-00-0 | Pyrene | Polycyclic aromatic hydrocarbons |
| 218-01-9 | Chrysene | Polycyclic aromatic hydrocarbons |
| 379-52-2 | Stannane, fluorotriphenyl- | Non-pesticidal organotin compounds |
| 595-90-4 | Stannane, tetraphenyl- | Non-pesticidal organotin compounds |
| 608-93-5 | Benzene, pentachloro- | Pentachlorobenzene |
| 634-66-2 | Benzene, 1,2,3,4-tetrachloro- | Tetrachlorobenzenes |
| 688-73-3 | Stannane, tributyl- | Non-pesticidal organotin compounds |
| 993-16-8 | Stannane, trichloromethyl- | Non-pesticidal organotin compounds |
| 1461-22-9 | Stannane, tributylchloro- | Non-pesticidal organotin compounds |
| 1983-10-4 | Stannane, tributylfluoro- | Non-pesticidal organotin compounds |
| 2155-70-6 | Stannane, tributyl[(2-methyl-1-oxo-2-propenyl)oxy]- | Non-pesticidal organotin compounds |
| 3648-18-8 | Stannane, dioctylbis[(1-oxododecyl)oxy]- | Non-pesticidal organotin compounds |
| 4027-18-3 | 4-Oxo-4-[(tributylstannyl)oxy]-2-butenoic acid | Non-pesticidal organotin compounds |
| 4342-30-7 | Phenol, 2-[[(tributylstannyl)oxy]carbonyl]- | Non-pesticidal organotin compounds |
| 10039-33-5 | 5,7,12-Trioxa-6-stannaoctadeca-2,9-dienoic acid, 14-ethyl-6,6-dioctyl-4,8,11-trioxo-, 2-ethylhexyl ester | Non-pesticidal organotin compounds |
| 12408-10-5 | Benzene, tetrachloro- | Tetrachlorobenzenes |
| 13269-74-4 | Stannane, dimethylthioxo- | Non-pesticidal organotin compounds |
| 15571-58-1 | 8-Oxa-3,5-dithia-4-stannatetradecanoic acid, 10-ethyl-4,4-dioctyl-7-oxo-, 2-ethylhexyl ester | Non-pesticidal organotin compounds |
| 16091-18-2 | 1,3,2-Dioxastannepin-4,7-dione, 2,2-dioctyl- | Non-pesticidal organotin compounds |
| 22205-30-7 | Stannane, bis(dodecylthio)dioctyl- | Non-pesticidal organotin compounds |
| 26401-97-8 | Acetic acid, 2,2'-[(dioctylstannylene)bis(thio)]bis-, diisooctyl ester | Non-pesticidal organotin compounds |

| | | |
|---|---|---|
| 33397-79-4 | Distannathiane, dimethyldithioxo- | Non-pesticidal organotin compounds |
| 61788-7-69 | Alkanes, chloro | Chlorinated paraffins |
| 63449-39-8 | Paraffin waxes and Hydrocarbon waxes, chloro | Chlorinated paraffins |
| 67701-37-5 | Stannane, [(2-octyl-1,4-dioxo-1,4-butanediyl)bis(oxy)]bis[tributyl- | Non-pesticidal organotin compounds |
| 68299-15-0 | Stannane, dioctylbis[(1-oxoneodecyl)oxy]- | Non-pesticidal organotin compounds |
| 68920-70-7 | Alkanes, C6-18, chloro | Chlorinated paraffins |
| 84082-38-2 | Alkanes, C10-21, chloro | Chlorinated paraffins |
| 85422-92-0 | Paraffin oils, chloro | Chlorinated paraffins |
| 85535-84-8 | Alkanes, C10-13, chloro | Chlorinated paraffins |
| 85535-85-9 | Alkanes, C14-17, chloro | Chlorinated paraffins |
| 85535-86-0 | Alkanes, C18-28, chloro | Chlorinated paraffins |
| 104948-36-9 | Alkanes, C10-22, chloro | Chlorinated paraffins |
| 106232-85-3 | Alkanes, C18-20, chloro | Chlorinated paraffins |
| 108537-06-0 | 5,7,12-Trioxa-6-stannaeicosa-2,9-dienoic acid, 13-methyl-6,6-dioctyl-4,8,11-trioxo-, 1-methyloctyl ester, (Z,Z)- | Non-pesticidal organotin compounds |

## 2.1.2 Moiety-based assessments

For the purpose of this document, “moiety” signifies a part of a molecule which forms the basis of an assessment.

### Arsenic

The PSL1 assessment of "arsenic and its compounds" focused on arsenic and its inorganic compounds.

The 14 inorganic arsenic compounds listed in Table 2 are considered within the scope of the PSL1 assessment of "arsenic and its compounds". As such, these 14 inorganic arsenic substances do not require further risk assessment at this time.

Table 2: Inorganic arsenic compounds for which no further assessment is proposed at this time

| CAS RN | Name |
|---|---|
| 1303-00-0 | Gallium arsenide (GaAs) |
| 1303-28-2 | Arsenic oxide (As2O5) |
| 1303-33-9 | Arsenic sulfide (As2S3) |
| 1327-53-3 | Arsenic oxide (As2O3) |
| 7631-89-2 | Arsenic acid (H3AsO4), sodium salt |
| 7778-39-4 | Arsenic acid (H3AsO4) |
| 7778-43-0 | Arsenic acid (H3AsO4), disodium salt |
| 7778-44-1 | Arsenic acid (H3AsO4), calcium salt (2:3) |
| 7784-34-1 | Arsenous trichloride |
| 7784-42-1 | Arsine |
| 7784-46-5 | Arsenenous acid, sodium salt |
| 10102-49-5 | Arsenic acid (H3AsO4), iron(3++) salt (1:1) |
| 13464-58-9 | Arsenic trioxide |
| 13702-38-0 | Arsenic acid (H3ASO4), bismuth salt (1:1) |

### Cadmium

The PSL1 assessment of "cadmium and its compounds" focused on inorganic cadmium compounds.

The 10 inorganic cadmium compounds listed in Table 3 are considered within the scope of the PSL1 assessment of "cadmium and its compounds". As such, these 10 inorganic cadmium compounds do not require further risk assessment at this time.

Table 3: Inorganic cadmium compounds for which no further assessment is proposed at this time

| CAS RN | Name |
|---|---|
| 513-78-0 | Carbonic acid, cadmium salt (1:1) |
| 1306-19-0 | Cadmium oxide (CdO) |
| 1306-23-6 | Cadmium sulfide (CdS) |
| 1345-09-1 | Cadmium mercury sulfide |
| 7789-42-6 | Cadmium bromide (CdBr2) |
| 10108-64-2 | Cadmium chloride (CdCl2) |
| 10124-36-4 | Sulfuric acid, cadmium salt (1:1) |
| 10325-94-7 | Nitric acid, cadmium salt |
| 14017-36-8 | Sulfamic acid, cadmium salt (2:1) |
| 14486-19-2 | Borate(1-), tetrafluoro-, cadmium (2:1) |

## Chromium

The PSL1 assessment of "chromium and it compounds" includes the inorganic form, salts and organometallic species of chromium.

The 62 chromium compounds listed in Table 4 are considered within the scope of the PSL1 assessment of "chromium and it compounds". As such, these 62 chromium compounds do not require further risk assessment at this time.

Table 4: Chromium compounds for which no further assessment is proposed at this time.

| CAS RN | Name |
|---|---|
| 1066-30-4 | Acetic acid, chromium(3++) salt |
| 1271-24-5 | Chromocene |
| 1308-14-1 | Chromium hydroxide (Cr(OH)3) |
| 1308-38-9 | Chromium oxide (Cr2O3) |
| 1333-82-0 | Chromium oxide (CrO3) |
| 1624-02-8 | Chromic acid (H2CrO4), bis(triphenylsilyl) ester |
| 3444-17-5 | Hexanoic acid, 2-ethyl-, chromium(3++) salt |
| 7329-33-1 | Hexanoic acid, 2-ethyl-, chromium salt |
| 7440-47-3 | Chromium |
| 7738-94-5 | Chromic acid (H2CrO4) |
| 7758-97-6 | Chromic acid (H2CrO4), lead(2++) salt (1:1) |
| 7775-11-3 | Chromic acid (H2CrO4), disodium salt |
| 7778-50-9 | Chromic acid (H2Cr2O7), dipotassium salt |
| 7788-97-8 | Chromium fluoride (CrF3) |
| 7789-00-6 | Chromic acid (H2CrO4), dipotassium salt |
| 7789-04-0 | Phosphoric acid, chromium(3++) salt (1:1) |
| 7789-06-2 | Chromic acid (H2CrO4), strontium salt (1:1) |
| 7789-09-5 | Chromic acid (H2Cr2O7), diammonium salt |
| 8075-74-9 | Lignosulfonic acid, chromium iron salt |
| 9066-50-6 | Lignosulfonic acid, chromium salt |
| 10025-73-7 | Chromium chloride (CrCl3) |
| 10101-53-8 | Sulfuric acid, chromium(3++) salt (3:2) |

| | |
|---|---|
| 10141-00-1 | Sulfuric acid, chromium(3++) potassium salt (2:1:1) |
| 10279-63-7 | Sulfuric acid, chromium potassium salt |
| 10294-40-3 | Chromic acid (H2CrO4), barium salt (1:1) |
| 10588-01-9 | Chromic acid (H2Cr2O7), disodium salt |
| 11118-57-3 | Chromium oxide |
| 12053-26-8 | Chromate (CrO21-), magnesium (2:1) |
| 12190-87-3 | Chromium titanium oxide (Cr2TiO5) |
| 12336-95-7 | Chromium hydroxide sulfate (Cr(OH)(SO4)) |
| 13423-61-5 | Chromic acid (H2CrO4), magnesium salt (1:1) |
| 13530-68-2 | Chromic acid (H2Cr2O7) |
| 13548-38-4 | Nitric acid, chromium(3++) salt |
| 13765-19-0 | Chromic acid (H2CrO4), calcium salt (1:1) |
| 14307-33-6 | Chromic acid (H2Cr2O7), calcium salt (1:1) |
| 15242-96-3 | Chromium, tetrachloro-μ-hydroxy[μ-(octadecanoato-O:O')]di- |
| 15659-56-0 | Chromium, tetrachloro-μ-hydroxy[μ-(tetradecanoato-O:O')]di- |
| 16432-36-3 | Chromium, tris(1-phenyl-1,3-butanedionato-O,O')- |
| 18454-12-1 | Lead chromate oxide (Pb2(CrO4)O) |
| 20039-37-6 | Chromic acid (H2Cr2O7), compd. with pyridine (1:2) |
| 20195-23-7 | Octanoic acid, chromium salt |
| 24613-89-6 | Chromic acid (H2CrO4), chromium(3++) salt (3:2) |
| 50925-66-1 | Chromium chloride, basic |
| 61788-69-0 | Naphthenic acids, chromium salts |
| 61931-84-8 | Chromium, [2-hydroxy-3-[[(2-hydroxyphenyl)methylene]amino]-5-nitrobenzenesulfonato(3-)-N3,O2,O3]- |
| 68239-51-0 | Silicate(2-), hexafluoro-, chromium(3++) (3:2) |
| 68784-60-1 | Chromic acid (H2Cr2O7), disodium salt, reaction products with [1R-[1α(R),2β,4aβ,8aα]]-α-ethenyldecahydro-2-hydroxy-α,2,5,5,8a-pentamethyl-1-naphthalenepropanol, hydrogenated |
| 68921-68-6 | Spinels, aluminum chromium magnesium, mixed with periclase |
| 70984-09-7 | Spinel-group minerals, aluminum-chromium-iron-magnesium |
| 72869-85-3 | Chromate(1-), bis[3,5-bis(1,1-dimethylethyl)-2-hydroxybenzoato(2-)-O1,O2]-, hydrogen |
| 73246-98-7 | Formic acid, chromium(3++) salt, basic |
| 75718-03-5 | Chromate(1-), (formato-O)[2-hydroxy-3-[[(2-hydroxy-5-nitrophenyl)methylene]amino]-5-nitrobenzenesulfonato(3-)]-, hydrogen, compd. with 2-ethyl-1-hexanamine (1:1) |
| 85455-32-9 | Chromate(1-), hydroxy[2-hydroxy-3-[[(2-hydroxy-3-nitrophenyl)methylene]amino]-5-nitrobenzenesulfonato(3-)]-, hydrogen, compd. with 3-[(2-ethylhexyl)oxy]-1-propanamine (1:1) |
| 85958-85-6 | Chromate(1-), [3-[[[4,5-dihydro-3-methyl-5-oxo-1-(3-sulfophenyl)-1H-pyrazol-4-yl]methylene]amino]-2-hydroxy-5-nitrobenzenesulfonato(4-)]-, sodium |
| 86014-63-3 | Sulfuric acid, chromium sodium salt, basic |
| 86014-66-6 | Chromium, formate sulfate sodium complexes, basic |
| 65229-24-5 | Chromium, pentahydroxy(tetradecanoato)di- |
| 68478-55-7 | Chromium, 2-ethylhexanoate heptanoate complexes |
| 83846-44-0 | Chromium, hydroxybis(2-hydroxybenzoato-O1,O2)-, ar,ar'-di-C>13-alkyl derivs. |
| 111031-82-4 | Chromium, aqua chloro hydroxy methacrylate complexes |
| 114959-48-7 | Chromium, hydroxybis(2-hydroxybenzoato-O1,O2)-, ar,ar'-di-C14-18-alkyl derivs. |
| 116565-74-3 | Chromium lead oxide sulfate, silica-modified |

## Nickel

The PSL1 assessment of "nickel and its compounds" focused on nickel and inorganic nickel compounds.

The 21 nickel compounds listed in Table 5 are considered within the scope of the PSL1 assessment of "nickel and its compounds". As such, these 21 nickel compounds do not require further risk assessment at this time.

Table 5: Nickel compounds for which no further assessment is proposed at this time.

| CAS RN | Name |
|---|---|
| 373-02-4 | Acetic acid, nickel(2++) salt |
| 2223-95-2 | Octadecanoic acid, nickel(2++) salt |
| 3333-67-3 | Carbonic acid, nickel(2++) salt (1:1) |
| 7440-02-0 | Nickel |
| 7718-54-9 | Nickel chloride (NiCl2) |
| 7786-81-4 | Sulfuric acid, nickel(2++) salt (1:1) |
| 10381-36-9 | Phosphoric acid, nickel(2++) salt (2:3) |
| 11113-75-0 | Nickel sulfide |
| 12004-35-2 | Aluminum nickel oxide (Al2NiO4) |
| 12035-72-2 | Nickel sulfide (Ni3S2) |
| 12054-48-7 | Nickel hydroxide (Ni(OH)2) |
| 12125-56-3 | Nickel hydroxide (Ni(OH)3) |
| 12334-31-5 | Nickel, [carbonato(2-)]hexahydroxytetra- |
| 12607-70-4 | Nickel, [carbonato(2-)]tetrahydroxytri- |
| 13138-45-9 | Nitric acid, nickel(2++) salt |
| 13770-89-3 | Sulfamic acid, nickel(2++) salt (2:1) |
| 15699-18-0 | Sulfuric acid, ammonium nickel(2++) salt (2:2:1) |
| 16812-54-7 | Nickel sulfide (NiS) |
| 51467-07-3 | Nickel(2++), hexaammine-, dihydroxide, (OC-6-11)- |
| 67806-76-2 | Nickel(2++), hexaammine-, (OC-6-11)-, carbonate (1:1) |
| 68515-84-4 | Olivine, nickel green |

## 2.2 Substances from the second Priority Substances List

The second Priority Substances List (PSL2) of the *Canadian Environmental Protection Act* was published in December, 1995. The list, recommended by a Ministers' Expert Advisory Panel drawn from major stakeholder groups, contained 25 substances, including single chemicals as well as mixtures and effluents.

Eleven substances that were assessed under the second Priority Substances List were also identified as priorities from categorization.

The substances listed in Table 6 are considered within the scope of the PSL2 assessments. As such, these 11 substances do not require further risk assessment at this time.

Table 6: PSL2 substances for which no further assessment is proposed at this time.

| CAS RN Number | Name | PSL Report |
|---|---|---|
| 67-66-3 | Methane, trichloro- | Chloroform |
| 85-68-7 | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester | Butylbenzylphthalate |
| 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- | Hexachlorobutadiene |
| 7446-70-0 | Aluminum chloride (AlCl3) | Aluminum salts |
| 10043-01-3 | Sulfuric acid, aluminum salt (3:2) | Aluminum salts |
| 13473-90-0 | Nitric acid, aluminum salt | Aluminum salts |
| 68081-86-7 | Phenol, nonyl derivs. | Nonylphenol and its ethoxylates |
| 84852-15-3 | Phenol, 4-nonyl-, branched | Nonylphenol and its ethoxylates |
| 1336-21-6 | Ammonium hydroxide ((NH4)(OH)) | Ammonia in the aquatic environment |

| | | |
|---|---|---|
| 7664-41-7 | Ammonia | Ammonia in the aquatic environment |
| 10599-90-3 | Chloramide | Inorganic chloramines |

## 2.3 Substances listed on Schedule 1

A number of substances prioritized during categorization also appear on the *List of Toxic Substances* in Schedule 1 of CEPA 1999. As such, these substances do not require further risk assessment at this time.

### Chlorobiphenyls

Polychlorinated biphenyls (PCBs) are listed as item 1 of the *List of Toxic Substances* in Schedule 1 of CEPA 1999. The Government of Canada has already taken action to eliminate PCBs from Canada through a number of domestic regulatory and voluntary tools to manage the risks associated with these substances

One substance identified as a priority during categorization (CAS RN 1336-36-3, 1,1'-Biphenyl, chloro derivs.) belongs to this group. As such, this substance does not require further risk assessment at this time.

### Mercury and its Compounds

"Mercury and its compounds" are listed as item 8 of the *List of Toxic Substances* in Schedule 1 of CEPA 1999. Environment Canada and Health Canada published a Risk Management Strategy for Mercury (RMS) in October 2010, covering all forms of mercury. The listing on Schedule 1 was modified in 2012, from "Mercury" to "Mercury and its compounds".

The 26 substances listed in Table 7 are identified as mercury or mercury compounds and are all covered under the Schedule 1 listing. There is also a clear association between these 26 substances, the Schedule 1 listing and the associated risk management actions. As such, these 26 mercury compounds do not require further risk assessment at this time.

Table 7: Mercury compounds for which no further assessment is proposed at this time.

| CAS RN | Name |
|---|---|
| 54-64-8 | Mercurate(1-), ethyl[2-mercaptobenzoato(2-)-O,S]-, sodium |
| 62-38-4 | Mercury, (acetato-O)phenyl- |
| 103-27-5 | Mercury, phenyl(propanoato-O)- |
| 104-60-9 | Mercury, (9-octadecenoato-O)phenyl-, (Z)- |
| 138-85-2 | Mercurate(1-), (4-carboxylatophenyl)hydroxy-, sodium |
| 1344-48-5 | Mercury sulfide (HgS) |
| 1600-27-7 | Acetic acid, mercury(2++) salt |
| 5954-14-3 | Mercury, (acetato-O)[3-(chloromethoxy)propyl-C,O]- |
| 7439-97-6 | Mercury |
| 7487-94-7 | Mercury chloride (HgCl2) |
| 7546-30-7 | Mercury chloride (HgCl) |
| 7783-35-9 | Sulfuric acid, mercury(2++) salt (1:1) |
| 7783-36-0 | Sulfuric acid, dimercury(1++) salt |
| 7789-47-1 | Mercury bromide (HgBr2) |
| 10045-94-0 | Nitric acid, mercury(2++) salt |
| 10112-91-1 | Mercury chloride (Hg2Cl2) |
| 10415-75-5 | Nitric acid, mercury(1++) salt |
| 15829-53-5 | Mercury oxide (Hg2O) |
| 19122-79-3 | Cinnabar (HgS) |
| 21908-53-2 | Mercury oxide (HgO) |

| | |
|---|---|
| 24806-32-4 | Mercury, [μ-[dodecylbutanedioato(2-)-O:O']]diphenyldi- |
| 26545-49-3 | Mercury, (neodecanoato-O)phenyl- |
| 33770-60-4 | Mercury, [2,5-dichloro-3,6-dihydroxy-2,5-cyclohexadiene-1,4-dionato(2-)-O1,O6]- |
| 62638-02-2 | Cyclohexanebutanoic acid, mercury(2++) salt |
| 94070-93-6 | Mercury, [μ-[(oxydi-2,1-ethanediyl 1,2-benzenedicarboxylato)(2-)]]diphenyl- |
| 104923-33-3 | Calomelite (Hg2Cl2) |

## Lead

"Lead" is listed as item 7 of the *List of Toxic Substances* in Schedule 1 of CEPA 1999. Health Canada and Environment Canada published a Final Human Health State of the Science Report on Lead (SOS) and a Risk Management Strategy for Lead (RMS) in February 2013.

These reports cover exposures to total lead and provide a comprehensive description of the existing management measures and progress to date under the Canadian Federal Risk Management Strategy for Lead. While many of these actions were triggered primarily by human health concerns, they have led to very substantial reductions of releases to the environment (as confirmed by the National Pollutant Release Inventory reporting and by environmental monitoring), thereby reducing potential environmental concerns. Research and monitoring will continue to measure levels of lead in Canadians and, where appropriate, assess the performance of potential control measures identified during the risk management phase.

As such, these 56 lead compounds do not require further risk assessment at this time.

Table 8: Lead compounds for which no further assessment is proposed at this time.

| **CAS RN** | **Name** |
|---|---|
| 75-74-1 | Plumbane, tetramethyl- |
| 78-00-2 | Plumbane, tetraethyl- |
| 301-04-2 | Acetic acid, lead(2++) salt |
| 301-08-6 | Hexanoic acid, 2-ethyl-, lead(2++) salt |
| 512-26-5 | 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, lead(2++) salt (2:3) |
| 546-67-8 | Acetic acid, lead(4++) salt |
| 598-63-0 | Carbonic acid, lead(2++) salt (1:1) |
| 1072-35-1 | Octadecanoic acid, lead(2++) salt |
| 1309-60-0 | Lead oxide (PbO2) |
| 1314-41-6 | Lead oxide (Pb3O4) |
| 1314-87-0 | Lead sulfide (PbS) |
| 1317-36-8 | Lead oxide (PbO) |
| 1319-46-6 | Lead, bis[carbonato(2-)]dihydroxytri- |
| 1335-25-7 | Lead oxide |
| 1335-32-6 | Lead, bis(acetato-O)tetrahydroxytri- |
| 1762-26-1 | Plumbane, ethyltrimethyl- |
| 1762-27-2 | Plumbane, diethyldimethyl- |
| 1762-28-3 | Plumbane, triethylmethyl- |
| 6838-85-3 | 1,2-Benzenedicarboxylic acid, lead(2++) salt (1:1) |
| 7428-48-0 | Octadecanoic acid, lead salt |
| 7439-92-1 | Lead |
| 7446-10-8 | Sulfurous acid, lead(2++) salt (1:1) |
| 7446-14-2 | Sulfuric acid, lead(2++) salt (1:1) |
| 7758-95-4 | Lead chloride (PbCl2) |
| 7783-46-2 | Lead fluoride (PbF2) |
| 10099-74-8 | Nitric acid, lead(2++) salt |
| 10190-55-3 | Lead molybdenum oxide (PbMoO4) |
| 12060-00-3 | Lead titanium oxide (PbTiO3) |

| | |
|---|---|
| 12141-20-7 | Lead oxide phosphonate (Pb3O2(HPO3)) |
| 12202-17-4 | Lead oxide sulfate (Pb4O3(SO4)) |
| 12275-07-9 | 1,3,5,7,9-Pentaoxa-252,452,652,852-tetraplumbacyclotridec-11-ene-10,13-dione, (Z)- |
| 12578-12-0 | Lead, bis(octadecanoato)dioxotri- |
| 12687-78-4 | Lead silicate sulfate |
| 13424-46-9 | Lead azide (Pb(N3)2) |
| 13453-66-2 | Diphosphoric acid, lead(2++) salt (1:2) |
| 13698-55-0 | 2-Butenedioic acid (E)-, lead salt |
| 13814-96-5 | Borate(1-), tetrafluoro-, lead(2++) (2:1) |
| 15245-44-0 | 1,3-Benzenediol, 2,4,6-trinitro-, lead(2++) salt (1:1) |
| 15347-57-6 | Acetic acid, lead salt |
| 15696-43-2 | Octanoic acid, lead salt |
| 15748-73-9 | Lead, bis(2-hydroxybenzoato-O1,O2)-, (T-4)- |
| 15845-52-0 | Phosphoric acid, lead(2++) salt (1:1) |
| 16996-40-0 | Hexanoic acid, 2-ethyl-, lead salt |
| 17976-43-1 | Lead, [μ-[1,2-benzenedicarboxylato(2-)-O1:O2]]di-μ-oxotri-, cyclo- |
| 19010-66-3 | Lead, bis(dimethylcarbamodithioato-S,S')-, (T-4)- |
| 19783-14-3 | Lead hydroxide (Pb(OH)2) |
| 27253-28-7 | Neodecanoic acid, lead salt |
| 36501-84-5 | Lead, bis(dipentylcarbamodithioato-S,S')-, (T-4)- |
| 50319-14-7 | Phenol, 2-methyldinitro-, lead salt |
| 57142-78-6 | Lead, [1,2-benzenedicarboxylato(2-)]oxodi- |
| 61790-14-5 | Naphthenic acids, lead salts |
| 62637-99-4 | Cyclohexanebutanoic acid, lead(2++) salt |
| 68604-56-8 | Octanoic acid, branched, lead salts, basic |
| 70084-67-2 | Lead, C6-19-branched carboxylate naphthenate complexes |
| 90431-32-6 | Lead, 2-ethylhexanoate isooctanoate complexes, basic |
| 125494-56-6 | Lead, C9-28-neocarboxylate 2-ethylhexanoate complexes, basic |

# 2.4 Other substances

## Lindane

Lindane (CAS RN 58-89-9, Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3β,4α,5α,6β)-) has been identified as a remaining priority.

This substance is listed in Part 2 'Substances subject to notification and consent' of Schedule 3 of CEPA 1999.

In 2011 Canada ratified an amendment adding lindane to the Stockholm Convention on Persistent Organic Pollutants. Before considering ratification, Canada assessed the adequacy of domestic risk management measures currently in place for this substance against the obligations under the Stockholm Convention which, once implemented, would require the manufacture, use and import of lindane to be prohibited. The Stockholm Convention also provides Parties with an option of claiming a five-year exemption period, upon ratification, to provide time for the transition to safer alternatives.

To ensure that Canada meets these obligations, the Government of Canada has been working with the two companies in Canada that produced lindane-based pharmaceuticals to phase out the use of lindane and lindane-containing products before the expiry of the exemption period (April 4, 2016), and to ensure that any remaining stockpiles of lindane and products containing lindane are disposed of in an environmentally sound manner. The use of lindane in the production of lindane-containing products by the two companies ceased by January 2011 and February 2012, respectively. The sale of lindane-containing products ceased by May 2011 and December 2012, respectively. The Drug Identification Numbers (DINs) for the lindane-containing products have been cancelled as of March 2013.

As such, lindane does not require further risk assessment at this time.

# 3. Conclusion

248 substances on the DSL identified as priorities through categorization will not be subject to further risk assessment work at this time under the CMP given past and current risk assessment activities or risk management actions.