

Re-evaluation Summary Table

Table 1 provides a summary of the proposed and/or final decisions made with respect to re-evaluation of active ingredients. For detailed mitigation measures and specific wording of label statements please refer to the appropriate regulatory publications. This table does not summarize data requirements.

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Acephate	30560-19-1	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 22/10/2004 Mitigation Measures: 02/02/2007 Update: November 2013	REV99-01 PACR2004-40 REV2007-02	Mitigation Measures: The PMRA has reviewed comments received in response to PACR2004-40, refined the risk assessment and implemented interim mitigation measures. Buffer zones proposed in the PACR have been revised using the PMRA's current model. REIs have been revised based on additional toxicological and exposure data. Rates for certain uses were reduced as proposed by the registrant. Decision: In the next round of re-evaluation, the PMRA will consider any new relevant information to refine the worker post-application risk assessment. Update - November 2013: The PMRA is currently updating the risk assessment for acephate based on new relevant information. Upon completion, the results will be published for consultation.	
Acifluorfen	62476-59-9	Herbicide	Initiated: 02/11/2004 PACR: 20/03/2006 Completed: 31/05/2006	PACR2006-02 RRD2006-20	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (including REI, terrestrial buffer zone and other label statements).	
Acrolein	107-02-8	Herbicide, Antimicrobial	Initiated: 22/02/2006 REV2010-11: 03/09/2010 Interim measures: 18/02/2011 Revised Mitigation Measures: 13/09/2012	REV2010-11 REV2011-02 REV2012-12	Interim risk mitigation measures: The PMRA is requiring additional risk mitigation measures to limit user exposure and further protect bystanders and the environment. The implementation of these measures is considered to be a first step towards the completion of the re-evaluation of the Canadian uses of products containing acrolein. Mitigation measures include new/revised label statements (including annual training for applicators, additional directions for use, and additional advisory statements). Update: The PMRA is requiring amendments to the labels of acrolein products, and to the Application and Safety Manual of the restricted class product for use in irrigation canals, to further protect workers, bystanders and the environment.	

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					The annual training for applicators of the commercial class product registered for use in oilfield injection systems is no longer required.	
<i>Agrobacterium radiobacter</i>	N/A	Crop bactericide	Initiated: 21/07/2005 Completed: 26/06/2006	N/A	Final Decision: Acceptable for continued registration with minor label changes.	
Aldicarb	116-06-3	Insecticide, acaricide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of aldicarb have been discontinued.	Expiry date of last registered product: 31/12/1996
Aliphatic Alcohols	112-30-1	Plant growth regulators	PRVD: 13/01/2009 Completed: 21/09/2009	PRVD2009-03 RVD2009-14	Final Decision: Acceptable for continued registration. Proposed mitigation includes new/revised label statements to protect human health and the environment (including PPE to protect mixer/loader/applicators, a restricted-entry interval to protect workers re-entering treated sites and buffer zones)	
Alkyl dimethyl Benzyl Ammonium Chloride Cluster (ADBAC) (see also N-alkyl ...)	139-08-2 68956-79-6 68391-01-5 63449-41-2 121-54-0	Biocide	PRVD: 26/06/2008 RVD: 12/03/2009 Completed : 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	
Alkyl Trimethylenediamines Cluster (ATMD)	61791-63-7 61791-64-8 68188-29-4	Biocide	PRVD: 09/09/2009 Completed: 17/12/2009	PRVD2009-09 RVD2009-19	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements (including PPE and additional advisory statements).	
Allethrin: unspecified isomers	N/A	Insecticide	Initiated/ Completed: 04/04/2005	REV2005-02	Final Decision: Not supported by registrant, no further action. All uses of allethrin have been discontinued. Note that d-cis allethrin and d-trans allethrin remain registered; only products with unspecified isomers of allethrin have been discontinued.	Expiry date of last registered product: 21/12/2000
D-cis, trans allethrin	584-79-2	Insecticide	Initiated: 14/11/2008 REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
D-trans allethrin	584-79-2	Insecticide	Initiated: 19/11/2008	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk	

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			REV2011-05: 20/12/2011		management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Aluminum phosphide and magnesium phosphide	20859-73-8 12057-74-8	Insecticide, animal toxicant, Rodenticide	Initiated: 18/03/2003 PACR: 26/11/2004 REV Note: 01/06/2007 REV Note: 24/08/2010	PACR2004-43 REV2007-06 REV2010-03	<p>Proposed Decision: Acceptable for continued registration. Proposed mitigation to include new/revised label statements to further protect workers and the environment (includes safety recommendations, placarding of fumigated areas, environmental precaution statements and other statements); reduction of the phosphine gas exposure limit from 0.3 ppm to 0.03 ppm; addition of a buffer zone of 150 m around all treated sites during fumigation and aeration until the concentration of phosphine gas in the buffer zone is within permitted limits. All registered end-use products that contain phosphine gas as the main active ingredient for use as a fumigant are also subject to these regulatory actions.</p> <p>Mitigation Measures: Based on a review of currently available information, additional data are required to conduct a refined human health risk assessment to allow for the determination of data-based buffer zones and an adequate re-entry/monitoring level. As it is anticipated that several years may be required to generate</p> <p>Proposed Decision: Acceptable for continued registration. Proposed mitigation to include new/revised label statements to further protect workers and the environment (includes safety recommendations, placarding of fumigated areas, environmental precaution statements and other statements); reduction of the phosphine gas exposure limit from 0.3 ppm to 0.03 ppm; addition of a buffer zone of 150 m around all treated sites during fumigation and aeration until the concentration of phosphine gas in the buffer zone is within permitted limits. All registered end-use products that contain phosphine gas as the main active ingredient for use as a fumigant are also subject to these regulatory actions.</p> <p>Mitigation Measures: Based on a review of currently available information, additional data are required to conduct a refined human health risk assessment to allow for the determination of data-based buffer zones and an adequate re-entry/monitoring level. As it is anticipated that several years may be required to generate these data, interim measures are proposed to mitigate potential health risks until such time as a refined risk assessment can be completed. These interim measures include the development of a product stewardship program, in</p>	

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					consultation with the PMRA, stipulating that a fumigation management plan is required from users prior to any fumigation with metal phosphides or phosphine gas, the re-entry level must be lowered to the lowest practical level and label amendments made. Update: A fumigation management plan guidance document has been submitted by registrants and reviewed by the PMRA. This document is to be incorporated into the Applicator's Manual accompanying the product. As an interim measure, a reduction of the phosphine gas exposure limit from 0.3 ppm to 0.1 ppm can be supported. In the long-term, efforts will be made towards improving technologies that would a) further decrease detection limits in the field, and b) provide means to further reduce human exposure.	
4-Aminopyridine			REV: 13/01/2009	REV2009-01	Decision: The PMRA has required new/revised label statements on 4-aminopyridine product labels to increase consistency across all end-use product labels with respect to directions for use and precautions (including adopting the most restrictive PPE and environmental precautions and adding directions for use to protect workers, the public and wildlife).	
Amitraz	52918-63-5	Insecticide	Initiated 16/09/2005 REV2011-04: 22/11/2011	REV2011-04	Update: The PMRA is requiring changes to labels of domestic class products to enhance the safety of companion animals. Due to the need for additional toxicology data, the implementation of these label improvements is considered a first step in the re-evaluation process for amitraz.	
Amitrole	61-82-5	Herbicide	Initiated 30/07/08 PRVD: 13/03/2012 RVD: 08/07/2014	PRVD2012-01 RVD2014-02	Final Decision: The PMRA is granting continued registration of one amitrole use (spruce bare root nursery stock (seedbeds)). Mitigation measures include new/revised label statements to further protect human health and the environment (including PPE and engineering controls, REIs, additional precautionary statements, revisions of directions for use, and buffer zones). All other amitrole uses (control of annual and perennial broadleaf and grassy weeds in crop and non-crop sites) will be phased out.	
Ancymidol	12771-68-5	Plant growth regulator	Initiated: 17/03/2003 PACR: 19/02//2004 Completed: 28/06/2004	PACR2004-01 RRD2004-15	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, REI, environmental hazard statement).	

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Anilazine	101-05-3	Fungicide	Initiated/ Completed: 24/07/2003 PMRL: 17/12/2009	REV2003-05 PMRL2009-08	Final Decision: Not supported by registrant, no further action. All uses of anilazine have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	Expiry date of last registered product: 31/12/2006
Antisapstain uses of 2-(thiocyanomethyl thio)benzothiazole (TCMTB), copper-8-quinolinolate, borax and disodium octaborate tetrahydrate	21564-17-0 10380-28-6 1330-43-4 12280-03-4	Antisapstain wood preservative	Initiated: 02/07/1992 Completed: (occupational risk) 28/04/2004	A92-01 RRD2004-08	Interim Decision* (Occupational Risk): Acceptable for continued registration. Additional chemical-specific data are required to refine the occupational risk assessment, and a product stewardship program (with follow-up monitoring) is to be developed and implemented to reduce exposure to workers. * This interim decision will be revisited in light of the assessment of the additional data that are required.	
Asphalt solids	8052-42-4	Pruning paint	Initiated: 26/08/2003 Completed: 17/03/2006		Final Decision: Microbial control claim not supported by registrants. Products labelled with microbial control will be discontinued but may be sold as moisture sealants or cosmetic treatments without registration.	
Asulam	3337-71-1	Herbicide	Initiated: 29/08/2002 Completed: 24/07/2003	REV2002-06 REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of asulam have been discontinued.	Expiry date of last registered product: 19/12/2002

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Atrazine	1912-24-9	Herbicide	Initiated: June 1988 Health PACR: 19/11/2003 Health Completed: 25/05/2004 Environment PACR: 22/05/2007 Environment Completed: 19/12/2007 Section 12 data reviewed: January 2012	PACR2003-13 RRD2004-12 PACR2007-05 RVD2007-05	Final Decision (human health): Acceptable for continued registration for use on corn only. All other uses will be phased out (e.g. lowbush blueberries, atrazine-tolerant canola, industrial and residential uses). Mitigation includes new/revised label statements to further protect workers and the general population. These label changes include engineering controls, PPE, buffer zones from any body of water, limiting application timing to pre- or postemergence only as well as PHIs of 45 days and 60 for sweet corn and field corn, respectively. As a result of comments on the PACR, the rate and number of applications were revised to a maximum application rate of 1.5 kg a.i./ha and up to two applications per year; however, but the maximum amount of atrazine used in a year cannot exceed 1.5 kg a.i./ha. Final Decision (environmental): Acceptable for continued registration for use on corn. Mitigation measures include buffer zones to protect non-target terrestrial and aquatic habitats from spray drift and precaution	Phase-out date for uses of atrazine on all uses other than corn (lowbush blueberries, atrazine-tolerant canola, industrial and residential uses): • products with existing labels can continue to be sold and distributed by the registrant within 18 months of the publication of the RRD (25/05/2004), after which all products sold or distributed by registrants must bear the new label requirements (i.e., for use on corn only).
ACZA (Ammoniacal Copper Zinc Arsenate)	1303-28-2 1317-39-1 1314-13-2	Heavy duty wood preservative	PRVD: 20/08/2010 REV: 20/08/2010 Completed: 22/06/2011 REV: 05/09/2013	PRVD2010-03 REV2010-05 RVD2011-06 REV2013-05	ACZA was cooperatively re-evaluated by the PMRA and the USEPA. ACZA was incorporated into the re-evaluation of heavy duty wood preservatives since its risk profile is generally encompassed by the re-evaluation risk assessment of CCA. Risk mitigation and risk management requirements for CCA are also generally required for ACZA. During the re-evaluation a program of best management practices (Recommendations for the design and operation of wood preservation facilities – technical recommendations document, Environment Canada, 2004) was developed and adopted by over 90% of Canadian wood-treatment facilities at the time of the RVD publication. Final Decision: Acceptable for continued registration. New risk mitigation measures include revisions to first aid and precautionary statements, PPE, direction for use, as well as additional environmental hazard statements. Additionally all operational procedures within treatment plants will be required to be consistent with the Environment Canada document: Recommendations for the Design and Operations of Wood Preservation Facilities – Technical Recommendations. The use limitations section of product labels will be amended and the PMRA is also requiring the development of a risk management plan, in conjunction with Canadian stakeholders, to further lower potential risks for those working with these products in wood-treatment	

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					facilities. Update: Re-evaluation Note REV2013-05 describes the risk management plan (RMP) for the Heavy Duty Wood Preservatives (HDWPs). The RMP aims to identify and implement opportunities to lower potential exposures and further reduce risk, above and beyond the changes to product labels that resulted from the PMRA's HDWP re-evaluation in June 2011.	
Azaconazole	60207-31-0	Antisapstain wood preservative	Initiated/ Completed: 11/05/2004	REV2004-02	Final Decision: Not supported by registrant, no further action. All uses of azaconazole have been discontinued.	Expiry date of last registered product: 21/12/2006
Azacosterol hydrochloride	1249-84-9	Bird repellent	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of azacosterol hydrochloride have been discontinued.	Expiry date of last registered product: 31/12/2001
Azinphos-methyl	86-50-0	Insecticide acaricide,	Initiated: 29/06/1999 PACR: 31/03/2003 Completed: 29/03/2004 Latest Update: 17/07/2007	REV99-01 PACR2003-07 RRD2004-05 REV2006-04 REV2007-08	Final Decision: All uses to be phased out in light of risks to workers. The PMRA received new worker exposure data after publication of RRD2004-05. The submitted studies have been reviewed and the review did not result in significant changes to the risk assessment outlined in RRD2004-05. The PMRA acknowledges significant challenges involved in transitioning from azinphos-methyl to safer alternatives and will, therefore, extend the last date of use for critical uses (i.e. apples, crab apples, apricots, blackberries, cherries, cranberries, grapes, pears, peaches, plums, prunes, raspberries) of azinphos-methyl products to 2012. The PMRA will monitor compliance with stewardship program requirements. The risks to workers do not meet current standards and are of concern; these risks will continue to be managed to the extent possible by measures discussed in the RRD. The PMRA has begun work to facilitate the development of a transition strategy for the phase out of azinphos-methyl. This process will address challenges encountered by growers as they move toward alternative pest control methods. Through stakeholder involvement, the PMRA will facilitate	Phase-out dates for uses for which alternatives exist (alfalfa, clover, rye, quince, potatoes, tomatoes, rutabagas, turnips, cabbages (including tight heading varieties of Chinese cabbage), broccoli, Brussels sprouts, cauliflowers, cucumbers, strawberries, boysenberries, loganberries, walnuts, melons, pumpkins, blueberries, outdoor ornamentals, nursery plants, forest trees and shade trees) • Last date of sale by registrants: 31/08/2004 • Last date for use of product: 31/12/2005 Revised phase-out dates for remaining uses (apples, crab apples, apricots, blackberries, cherries, cranberries, grapes, pears, peaches, plums, prunes, raspberries) as per REV2007-08: • Last date of sale by registrants: 31/12/2010 • Last date of sale by retailers: 31/12/2011 • Last date of use of product by users: 31/12/2012

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					<p>the move away from the use of azinphos-methyl while attempting to minimize impacts on growers.</p> <p>Registrants have ceased sale in Prince Edward Island to mitigate possible environmental concerns.</p>	
<i>Bacillus thuringiensis</i> subsp. <i>tenebrionis</i>	N/A	Insecticide	Initiated: 21/11/2003 PACR: 16/11/2006 Completed: 06/05/2008 Rev Note: 27/05/2010	PACR2006-09 RVD2008-18 REV2010-06	<p>Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers, bystanders and the environment (includes precautionary statements, PPE, first aid statements, resistance management statements, a prohibition to use in any type of irrigation system, aerial application instructions, environmental hazard statements, revised directions for use statements for domestic products and other statements).</p> <p>Update: Following the publication of RVD2008-18, several stakeholders filed Notices of Objection in July 2008. The PMRA has carefully reviewed this information, and concluded that a reconsideration of the re-evaluation decision for <i>Bacillus thuringiensis</i> is not warranted. However, some mitigation measures and label statements have been revised.</p>	

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<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i>	N/A	Insecticide	Initiated: 21/11/2003 PACR: 16/11/2006 Completed: 06/05/2008 Rev Note: 27/05/2010	PACR2006-09 RVD2008-18 REV2010-06	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers, bystanders and the environment (includes precautionary statements, PPE, first aid statements, resistance management statements, a prohibition to use in any type of irrigation system, aerial application instructions, environmental hazard statements, revised directions for use statements for domestic products and other statements). Update: Following the publication of RVD2008-18, several stakeholders filed Notices of Objection in July 2008. The PMRA has carefully reviewed this information, and concluded that a reconsideration of the re-evaluation decision for <i>Bacillus thuringiensis</i> is not warranted. However, some mitigation measures and label statements have been revised.	
<i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i>	N/A	Insecticide	Initiated: 11/09/2003 PACR: 16/11/2006 Completed: 06/05/2008 Rev Note: 27/05/2010	PACR2006-09 RVD2008-18 REV2010-06	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers, bystanders and the environment (includes precautionary statements, PPE, first aid statements, resistance management statements, a prohibition to use in any type of irrigation system, aerial application instructions, environmental hazard statements, revised directions for use statements for domestic products and other statements). Update: Following the publication of RVD2008-18, several stakeholders filed Notices of Objection in July 2008. The PMRA has carefully reviewed this information, and concluded that a reconsideration of the re-evaluation decision for <i>Bacillus thuringiensis</i> is not warranted. However, some mitigation measures and label statements have been revised.	
Barium metaborate	13701-59-2	Material preservative	Initiated: 17/11/2003 PACR: 17/06/2004 Completed: 14/03/2006	PACR2004-18 RRD2006-09	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (engineering controls and PPE).	
b-bromo-b-nitrostyrene	7166-19-0	Slimicide	Initiated/ Completed: 06/08/2008		Final Decision: Re-evaluation not required. All uses of b-bromo-b-nitrostyrene have been discontinued.	Expiry date of last registered product: 24/06/2008

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1-bromo-3-chloro-5,5-dimethylhydantoin and Related Hydantoins	16079-88-2	Fungicide, Sanitizer, Slimicide, Algaecide	Initiated PRVD: 31/01/2011 Completed: 06/10/2011	PRVD2011-01 RVD2011-08	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label amendments (including PPE, additional advisory and hazard statements).	
Bendiocarb	22781-23-3	Insecticide	Initiated: 29/08/2002 Completed: 16/07/2004	REV2002-06 REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of bendiocarb have been discontinued.	Expiry date of last registered product: 31/12/2013
Benomyl	17804-35-2	Fungicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of benomyl have been discontinued.	Expiry date of last registered product: 31/12/2004
Bensulide	741-58-2	Herbicide	Initiated: 29/06/1999 PACR: 31/03/2003 Completed: 03/08/2004	REV99-01 PACR2003-06 RRD2004-22	Final Decision: Acceptable for continued registration. Mitigation includes measures to further mitigate worker risks from turf use (prohibit backpack sprayer for turf uses, prohibit treatment of large turf areas, such as parks, with the exception of golf courses, limit golf course use to tees and greens and prohibit low pressure turf gun application for this use); mitigate residential risks (all bensulide formulations must be watered in); restrict agricultural use to field cucumbers only and add a plantback interval of 120 days; further measures to mitigate risk to the environment with the addition of buffer zones and prohibition to spray when bees are present.	
Bentazon	25057-89-0	Herbicide	Initiated: 28/07/2005 PRVD: 22/11/2007 Completed: 20/02/2008	PRVD2007-14 RVD2008-07	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes REI, buffer zones and other statements). Amend labels to limit the maximum application rate to two per year and add advisory label statement to reduce potential groundwater contamination.	
Benzisothiazolin-3-one	2634-33-5	Material preservative	Initiated: 13/04/2006 PRVD: 24/04/2008 Completed: 02/07/2008	PRVD2008-13 RVD2008-25	Final Decision: Acceptable for continued registration. Mitigation includes a revised PPE label statement to further protect workers.	
Benzoic acid	65-85-0	Slimicide	Completed: 28/02/2006	N/A	Final Decision: Benzoic acid is no longer registered as an active ingredient. No further review is required.	

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6-Benzylaminopurine	1214-39-7	Plant growth regulator	Initiated: 02/11/2004 PACR: 25/10/2005 Completed: 17/02/2006	PACR2005-11 RRD2006-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, PHI for apples and environmental hazard statements and other statements).	
1,4-Bis (bromoacetoxy)-2-butene	20679-58-7	Material preservative, slimicide	Initiated: 27/10/2005 PRVD: 29/09/2014	PRVD2014-07	Proposed Decision: The PMRA is proposing continued registration. Mitigation measures include new/revised label statements to further protect human health and the environment (includes additional PPE, updated environmental statements).	
Bis tributyl tin oxide, tributyl tin methacrylate and tributyl tin fluoride	56-35-9 2155-70-6 1983-10-4	Tributyltin antifouling paints for ship hulls	Initiated: 09/05/2000 Completed: 12/06/2002	SRA2000-01 SRD2002-01 REV2003-04	Final Decision: Phase out as a result of the PMRA review. Due to risks to the Canadian environment and in order to be consistent with the IMO Convention, the use of tributyltin antifouling paints has been discontinued.	Phase-out dates for all antifouling paint uses: • Last date of sale by registrants: 01/09/2002 • Last date of sale by retailers: 01/09/2002 • Last date of use of product by users: 31/10/2002
Bis (trichloromethyl) sulfone	3064-70-8	Material preservative, slimicide, fungicide	Initiated: 15/10/2003 PACR: 18/05/2004 Completed: 19/04/2005	PACR2004-12 RRD2005-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, environmental hazard statements and other statements).	
Boric acid and its salts (disodium octaborate tetrahydrate, borax pentahydrate, borax and zinc borate)	10043-35-3 12280-03-4 11130-12-4 1303-96-4 12447-61-9	Acaricide, algicide, hard surface disinfectant, fungicide, material preservative, slimicide, insecticide, swimming pool algicide	Initiated: 13/07/2004 PRVD: 16/10/2012	PRVD2012-03	Note that disodium octaborate tetrahydrate and borax were also reviewed with respect to antisapstain uses (refer to section on antisapstain wood preservatives in this document). Proposed Decision: The PMRA is proposing continued registration for certain non-antisapstain uses of boron. For continuing uses, new risk-reduction measures (soluble powder formulation only for use as a material preservative, limited amount handled per day, additional PPE or engineering controls, enclosed bait stations for indoor uses) are proposed to be included on the labels of certain products. Certain uses of boron are proposed for removal: 1) for both commercial and domestic class products, remove all dust/powder formulations, all uses brush, trowel and/or putty knife application of the paste formulation, and brush application of the solution formulation; 2) for commercial class products, remove pressure sprayer and seed spreader applications of granular formulation.	
Borax anhydrous	1330-43-4	Insecticide	Completed: 7/03/2008		Final Decision: No registered end uses in Canada—re-evaluation is not required.	

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Brodifacoum	19786540	Rodenticide	Initiated: 22/10/2003 and 23/10/2003 PACR: 14/07/2004 Completed: 14/03/2006	PACR2004-27 RRD2006-11	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers, children, pets and the environment (restriction of bait placement to tamper-resistant bait stations or in locations not accessible to children, pets or livestock; restriction of commercial products to use by certified pest control operators, farmers and persons authorized by government-approved pest control programs; PPE for domestic and commercial handlers; restriction of brodifacoum to indoor use and other statements). Refer to the RRD for the final revised wording of required label statements, because external comments resulted in changes to the label statements and the PMRA further revised the proposed label statements found in the PACR. See also Rodenticides for additional mitigation measures.	
Bromacil	314-40-9	Herbicide	Initiated: 17/03/2003 PACR: 23/06/2004 Completed: 08/03/2006	PACR2004-22 RRD2006-07	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, bystanders and the environment (includes PPE, prohibition of use in residential areas, buffer zones); amend labels to limit the maximum application rate to 13.5 kg a.i./ha per year, to include the timing of applications and the, number of applications per year, and to remove all references to use on ditch banks, wellheads and bridge approaches.	
Bromadiolone	28772-56-7	Rodenticide	Initiated: 22/10/2003 and 23/10/2003 PACR: 14/07/2004 Completed: 14/03/2006	PACR2004-27 RRD2006-11	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers, children, pets and the environment (restriction of bait placement to tamper-resistant bait stations or in locations not accessible to children, pets or livestock; restriction of commercial products to use by certified pest control operators, farmers and persons authorized by government-approved pest control programs; PPE for domestic and commercial handlers). Refer to the RRD for the final revised wording of required label statements, because external comments resulted in changes to the label statements and the PMRA further revised the proposed label statements found in the PACR. See also Rodenticides for additional mitigation measures.	

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Bromohydroxy-acetophenone	2491-38-5	Material preservative, slimicide	Initiated: 11/08/2003 PACR: 21/04/2004 Completed: 13/08/2004	PACR2004-07 RRD2004-24	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, environmental hazard statements and other statements).	
Bromoxynil present as the ester of n-octanoic acid or n-heptanoic acid	1689-99-2	Herbicide	Initiated: 09/09/2003 PRVD: 22/01/2008 Completed: 26/05/2008	PRVD2008-07 RVD2008-21	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones and other statements).	
Bronopol	52-51-7	Material preservative, slimicide, sanitizer	Initiated: 15/09/2003 PACR: 24/08/2005 Completed: 30/03/2006	PACR2005-06 RRD2006-16	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, precautionary statement regarding possible formaldehyde release, requirement of metering pump for cooling water system use, environmental hazard statement and other statements).	
Butoxypolypropylene glycol	2594688	Insect repellent	Initiated: 23/06/2006 PRVD: 30/03/2010 Completed: 13/09/2010	PRVD2010-05 RVD2010-08	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements (including additional advisory statements).	
Butylate	2008-41-5	Herbicide	Initiated/ Completed: 11/05/2004	REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of butylate have been discontinued.	Expiry date of last registered product: 25/03/2003
Capsaicin	404-86-4	Animal repellent	Initiated: 29/10/2003 PACR: 21/04/2004 Completed: 05/11/2004	PACR2004-08 RRD2004-30	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect users, the general public and domestic animals (includes PPE and precaution statements). As result of comments to PACR, the requirement for rubber gloves when using domestic products with <1% capsaicin was removed.	
Captan	133-06-2	Fungicide, material preservative	Initiated 07/07/2008			

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Carbaryl/Lawn & Turf	63-25-2	Insecticide, acaricide, plant growth regulator	Initiated (turf uses): 27/09/2000 Initiated (uses other than turf): 29/08/2002 Update: 13/08/2003 PRVD: 10/08/2009	REV2000-04 REV2002-06 REV2003-06 PRVD2009-14	Lawn & Turf Re-evaluation of turf uses is proceeding at same time as non-turf assessments. Proposed Decision: The PMRA is proposing continued registrations for certain uses of carbaryl. For continuing uses, proposed mitigation is to include new/revised label statements to protect workers and the environment (including water soluble packaging, additional PPE, restriction in the number of applications, increased application intervals, REI, spray buffer zones and additional advisory statements). Certain uses of carbaryl are not supported by the technical registrant: indoor uses including greenhouses, residences, food and feed handling establishments and barns and livestock production areas; aerosol products; agricultural dust uses; bran bait application to residential gardens; livestock for food; livestock for non-food; companion animals; granular bait products for ornamental gardens; and applications by hand, spoon and bellygrinder. Other uses of carbaryl are proposed for phase-out: turf, golf courses	
Carbathiin	5234-68-4	Fungicide	Initiated: 19/09/2005 PRVD: 12/11/2008 Completed: 18/06/2009	PRVD2008-25 RVD2009-11	Final Decision: Acceptable for continued registration for products containing carbathiin (as a seed treatment) and oxycarboxin (for control of rust on ornamentals grown in enclosed commercial structures). Mitigation for carbathiin includes revised label statements to further protect workers and the environment (including PPE, environmental hazards and other advisory label statements). An REI of 12 hours is required for oxycarboxin. Carbathiin products registered for use as a tree seedling treatment, outdoor ornamentals and residential plantscapes treatment are no longer supported by the registrant and will be discontinued. Carbathiin and oxycarboxin products registered in Canada for use as a turf treatment are no longer supported by the registrant and will be discontinued.	
Carbendazim	10605-21-7	Fungicide	Initiated: 10/11/2004 Completed: 13/04/2006	REV2006-03	Final Decision: Acceptable for continued registration with no significant label changes.	
Carbendazim-phosphate	52316-55-9	Fungicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of carbendazim-phosphate have been discontinued.	Expiry date of last registered product: 31/12/2000

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Carbofuran	1563-66-2	Insecticide	Initiated: 29/08/2002 PRVD: 31/07/2009 Completed: 08/12/2010	REV2002-06 PRVD2009-11 RVD2010-16	Final Decision: The PMRA is requiring phase-out of carbofuran products in Canada. Carbofuran products pose an unacceptable risk to human health and the environment. As a result, all uses of carbofuran will be phased-out. This includes registered uses on canola, mustard, sunflower, corn (sweet, field and silage), sugar beet, green pepper, potato, raspberry and strawberry.	Last date of sale by retail: 31/12/2010 Expiry date of last registered product:31/12/2012
Carbon dioxide	124-38-9	Fumigant, insecticide, rodenticide	Initiated: 18/03/2003 PACR: 06/08/2004 Completed: 22/07/2005	PACR2004-31 RRD2005-10	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (includes instructions for ventilation, acceptable CO2 levels, PPE, requirement to placard or post signs and other statements). Due to training requirements, carbon dioxide was reclassified as a restricted product.	
CCA (chromated copper arsenate)	1303-28-2 7738-94-5 1344-70-3	Heavy duty wood preservative	Initiated: 02/07/1992 Updates: 03/04/2002 13/11/2003 17/03/2004 22/04/2008 Label Guidance: 02/06/2006 PRVD: 20/08/2010 REV: 20/08/2010 Completed: 22/06/2011 REV: 05/09/2013	A92-02 REV2002-03 REV2003-07 REV2004-01 REV2008-08 REV2006-07 PRVD2010-03 REV2010-05 RVD2011-06 REV2013-05	Update: CCA was cooperatively re-evaluated by the PMRA and the USEPA. The use limitations section of product labels were amended and domestic products were discontinued during the re-evaluation. During the re-evaluation a program of best management practices (Recommendations for the design and operation of wood preservation facilities – technical recommendations document, Environment Canada, 2004) was developed and adopted by over 90% of Canadian wood-treatment facilities at the time of the RVD publication. A label guidance document was published to supplement the product labels with additional guidance on the use limitations for CCA-treated wood. Final Decision: Acceptable for continued registration. New risk mitigation measures include revisions to first aid and precautionary statements, PPE, direction for use, as well as additional environmental hazard statements. Additionally all operational procedures within treatment plants will be required to be consistent with the Environment Canada document: Recommendations for the Design and Operations of Wood Preservation Facilities – Technical Recommendations. The PMRA is also requiring the development of a risk management plan, in conjunction with Canadian stakeholders, to further lower potential risks for those working with these products in wood-treatment facilities. Update: Re-evaluation Note REV2013-05 describes the risk management plan (RMP)	Phase-out dates for CCA-treated wood for residential uses (e.g. play-structures, decks, picnic tables, landscaping timers, residential fencing, patios, walkways and boardwalks): • Last date for treatment of lumber for the residential market: 31/12/2003 Remaining stocks of wood treated prior to 31/12/2003 can still be sold in stores and be used for construction. Already-built structures are not affected by this action.

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					for the Heavy Duty Wood Preservatives (HDWPs). The RMP aims to identify and implement opportunities to lower potential exposures and further reduce risk, above and beyond the changes to product labels that resulted from the PMRA's HDWP re-evaluation in June 2011.	
Cedar leaf oil	N/A	Animal repellent	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of cedar leaf oil have been discontinued.	Expiry date of last registered product: 31/12/2003
Chinomethionat	196868	Fungicide	Initiated/ Completed: 04/04/2005	REV2005-01	Final Decision: Not supported by registrant, no further action. All uses of chinomethionat have been discontinued.	Expiry date of last registered product: 31/12/2005
Chloramben	Mixture	Herbicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of chloramben have been discontinued.	Expiry date of last registered product: 31/12/2000
Chlorflurecol-methyl	2536-31-4	Plant growth regulator	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of chlorflurecol-methyl have been discontinued.	Expiry date of last registered product: 31/12/2001
Chloromequat chloride	999-81-5	Plant growth regulator	Initiated: 08/03/2006 PRVD: 30/11/2009 Completed: 08/03/2010	PRVD2009-13 RVD2010-02	Final Decision: The PMRA is proposing continued registration. Proposed mitigation measures include new/revised label statements (including REIs, buffer zones and additional advisory statements).	
Chloropicrin	76-06-2	soil fumigant and antimicrobial	Initiated: 26/06/2006 REV: 13/08/2010 Mitigation Measures: 14/09/2012	REV2010-12 REV2010-10 REV2012-07 REV2012-08 REV2012-09	Updates: Implementation of Mitigation Measures (These REV's outline label improvements and requirements for both antimicrobial and soil fumigant products.) The PMRA is requiring registrants of products containing chloropicrin to implement mitigation measures to further limit user exposure and to further protect bystanders and the environment. Required mitigation measures include label amendments for products containing chloropicrin, as well as Fumigation Management Plan requirements for the soil fumigant uses.	
Chlorothalonil	1897-45-6	Fungicide, material preservative	Initiated 13/09/2007 PRVD: 01/11/2011 End of comment period: 31/12/2011	PRVD2011-14	Proposed Decision: The PMRA is proposing continued registration with the implementation of mitigation measures. Proposed mitigation includes new/revised label statements to further protect human health and the environment (including PPE, REIs, changes to maximum application rate or number of yearly applications, revised toxicology and environmental statements, aquatic buffer zones and other label statements).	

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Chlorpropham	101-21-3	Herbicide, plant growth regulator	Initiated: 29/08/2002 PACR: 26/03/2007 Completed: 15/01/2008	REV2002-06 PACR2007-04 RVD2008-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (including PPE and REIs) as well as the requirement to install a shield around the conveyor belt to prevent spray mist drifting when chlorpropham is applied by spray on a conveyor belt. Refer to the RVD for the final revised wording of required label statements because external comments resulted in changes to the re-entry statements for potato storage facilities.	
Chlorpyrifos ^{Lawn & Turf}	2921-88-2	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 18/03/2003 Mitigation Measures Update 05/01/2007 30/09/2008	REV99-01 REV2000-01 REV2000-05 PACR2003-03 REV2007-01	^{Lawn & Turf} Re-evaluation of lawn and turf uses was completed in Phase I. Phase 1: Phase-out of all Domestic Class products with the exception of containerized low-concentration ant baits. Removal of residential uses, both indoor and outdoor (including all public areas such as schools, playgrounds and restaurants), from Commercial Class products. Uses inside and outside commercial buildings including warehouses, railroad boxcars and industrial plants are retained. Reduction of maximum application rate to sod farms and golf courses to 1 kg/ha. Phase-out of use on tomatoes and an MRL of zero being established to prevent the import of chlorpyrifos-treated tomatoes; lower MRLs for apples and grapes for import purposes (no apple or grape use in Canada); addition of REIs to labels for agricultural workers entering treated areas; phase-out after 2005 of certain product use patterns for controlling termites. Phase 2: Proposed Measures: Discontinuation of uses on corn, filberts, lentils, oats, peppers, sugar beets and tobacco. Discontinuation of uses on peaches and nectarines in 2006 with interim mitigation for workers and the environment. Additional mitigation measures required for certain uses including canola, barley, carrot, flax, potato, wheat, strawberry, radish, Asian radish, celery, cucumber, cole crops, garlic, sunflower seeds and rutabaga. Mitigation measures include a reduction of the number of applications per season, restrict aerial application to wheat and canola only, buffer zones to protect aquatic ecosystems, implementation of engineering controls and PPE for workers, establishment of REIs for postapplication workers. Mitigation Measures: The PMRA has reviewed comments received in response to PACR2003-03. Based on the review of currently available information and the comments	Phase-out date for Domestic Class products: • Last date of sale by retailer 31/12/2001 Phase-out date for Commercial Class products with claims for uses in and around residences and other areas where children may be exposed: • Last date of sale by retailer 31/12/2001 Phase-out date for use for termite control: • Last date of sale by retailer 31/12/2005. Phase-out date for use on tomatoes: • Last date for use: 31/12/2000

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					<p>received, the PMRA is requiring that interim mitigation measures be implemented. To further protect workers, paintbrush applications for indoor uses have been discontinued, use of high-pressure handwand equipment has been discontinued, engineering controls and/or additional PPE will be required. Also, postapplication workers must observe established REIs. To further protect the environment, buffer zones have been established and precautionary statements regarding hazards to bees must be added to the labels of all products with agricultural uses. The maximum number of applications permitted per season per crop has also been limited.</p> <p>Decision: Some uses proposed for discontinuation in PACR2003-03 will be maintained for a variety of reasons relating to the value of the product. Continuing registration of use on peaches/nectarines, use as a mosquito larvicide and aerial uses are acceptable in the short term. Buffer zones have been established pending refinement. In the next round of re-evaluation the PMRA will refine the environmental assessment.</p>	
Chloroacetamide	79-07-2	Material preservative	Initiated: 24/04/2003 Completed: 18/06/2008		Final Decision: Not supported by registrant, no further action. All uses of chloroacetamide have been discontinued.	Expiry date of last registered product: 31/12/2009
1-(3-chloroallyl)-3,5,7-triaza-1-azonia adamantane chloride (CTAC)	4080-31-3	Material preservative, slimicide	Initiated: 15/09/2003 PACR: 10/06/2004 Completed: 15/04/2005	PACR2004-17 RRD2005-03	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, precautionary statements regarding potential formaldehyde release, environmental hazard statements and other statements).	
Chloroneb	2675-77-6	Fungicide	Initiated: 26/06/2006 Completed: 22/01/2008		Final Decision: Not supported by registrant, no further action. All uses of chloroneb have been discontinued.	Expiry date of last registered product: 31/12/2008
Chlorophacinone	3691-35-8	Rodenticide	Initiated: 22/10/2003 and 23/10/2003 PACR: 14/07/2004 Completed: 14/03/2006	PACR2004-27 RRD2006-11	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers, children, pets and the environment (restriction of bait placement to tamper-resistant bait stations or in locations not accessible to children, pets or livestock; restriction of commercial products to use by certified pest control operators, farmers and persons authorized by government-approved pest control programs; PPE for	

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					domestic and commercial handlers). Refer to the RRD for the final revised wording of required label statements, because external comments resulted in changes to the label statements and the PMRA further revised the proposed label statements found in the PACR. See also Rodenticides for additional mitigation measures	
4-Chlorophenoxy-acetic acid	122-88-3	Plant growth regulator	Initiated: 02/11/2004 PACR: 21/07/2005 Completed: 08/03/2006	PACR2005-05 RRD2006-08	Final Decision: Acceptable for continued registration with no label changes.	
5-chloro-2(2,4-dichlorophenoxy)phenol (Triclosan)	3380-34-5	Material preservative, Hard-surface disinfectant & sanitizer	Initiated: 13/06/2008 Preliminary assessment: 31/03/2012	Canada Gazette, Part I: Vol. 146 No. 13 - March 31, 2012	Preliminary Assessment: Environment Canada and Health Canada released a joint preliminary assessment report on triclosan. Proposed conclusions under the PCPA: The PMRA is proposing that the use of pest control products containing triclosan for material preservative use in manufacture of textiles, leather, paper, plastics and rubber in Canada do not pose an unacceptable risk to human health. While use of these products may contribute to environmental exposure, pest control products are not expected to contribute significantly to the risks to aquatic organisms identified in the preliminary assessment. In addition, the current registrant of triclosan has chosen not to maintain registration under the PCPA. Also see "Triclosan – Questions and Answers" (http://www.chemicalsubstanceschimiques.gc.ca/fact-fait/triclosan-eng.php).	Expiry date of last registered product: 31/12/2014
5-Chloro-2-methyl-3(2H)-isothiazolone and 2-methyl-3(2H)-isothiazolone	26172-55-4 2682-20-4	Material preservative, slimicide	Initiated: 26/09/2003 and 10/10/2003 PACR: 19/10/2004 Completed: 06/10/2005	PACR2004-39 RRD2005-11	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, environmental hazard statements and other statements). Registrants of some Canadian end-use products containing IST/ISL registered for use at maximum application rates higher than those registered in the United States were required to submit a rationale to support these maximum application rates or to lower their rates on the label.	
3-Chloro-1,2-propanediol	96-24-2	Rodenticide	Initiated: 30/10/2003 Completed: 05/02/2008		Final Decision: Not supported by registrant, no further action. All uses of 3-chloro-1,2-propanediol have been discontinued.	Expiry date of last registered product: 05/02/2008

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Chlorsulfuron	64902-72-3	Herbicide	Initiated: 02/02/2006 PRVD: 03/10/2007 Completed: 15/02/2008	PRVD2007-09 RVD2008-08	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones, runoff statement, a restriction to apply the product only once per growing season, and other label statements).	
Chlorthal present as acid	1861-32-1	Herbicide	Initiated: 21/07/2005 PRVD: 26/05/2008 Completed: 14/08/2008	PRVD2008-18 RVD2008-30	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes a reduction in the maximum application rate on vegetables, additional PPE, restricted REI, a runoff statement, environmental hazard and other label statements). As well, the registrant has voluntarily discontinued residential uses, late fall application on turf and use on beans, potatoes and peas.	
Cholecalciferol	67-97-0	Rodenticide	Initiated: 26/06/2006 Completed: 22/01/2008		Final Decision: Not supported by registrant, no further action. All uses of cholecalciferol have been discontinued.	Expiry date of last registered product: 31/12/2008 Last Date of Sale by Registrant: July 31, 2008 Last Date of Sale by Retailers: September 30, 2008 Last Date of Permitted Use: Dec 31, 2008
Citronella oil and related compounds (for use as personal insect repellents)	8000-29-1	Personal insect repellent	Initiated: 01/06/1990 PACR: 17/09/2004 Update: 28/02/2008	A90-01 PACR2004-36 REV2005-05 REV2008-03	Final Decision (artificial essential oil blend and citronellal): Not supported by registrant, no further action. All uses of artificial essential oil blend and all uses of citronellal have been discontinued. Proposed Decision (oil of citronella, citronella terpene, and mixture of citronella oil, citrus oil, eucalyptus oil, and pine oil): Phase-out of existing end-use products unless registrants commit to provide further data addressing deficiencies that would allow the PMRA to make a conclusion	Artificial essential oil blend (Chemfree Deflector Insect Repellent) Expiry date of last registered product: 16/12/2003 Citronellal (Walkabout Personal Insect Repellent) Expiry date of last registered product: 31/12/2004
Clethodim	99129-21-2	Herbicide	Initiated: 08/05/2008 Update: 02/03/2010	REV2010-04	Update: This Re-evaluation note describes the regulatory update for continued registration of clethodim. Mitigation measures include new/revised label statements to protect human health and environment (including REI and maximum number of application on dry common beans)	

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Clofentezine	74115-24-5	Acaricide	Initiated: 26/06/2006 REV2012-06: 26/09/2012 PRVD: 03/12/2013 RVD: 04/09/2014	REV2012-06 PRVD2013-05 RVD2014-04	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements to further protect human health and the environment (includes REIs, buffer zones, environmental hazards and other statements).	
Clomazone	81777-89-1	Herbicide	Initiated: 09/08/2007	REV2007-10	Final Decision: Acceptable for continued registration with no label changes.	
Clopyralid	1702-17-6	Herbicide	Initiated 21/03/2006 PRVD: 02/12/2010 Completed: 13/05/2011	PRVD2010-17 RVD2011-05	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect workers and the environment (including PPE, REI, terrestrial buffer zones and other label statements).	
Coal tar acid	108-95-2	Remedial wood preservative	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of coal tar acid have been discontinued.	Expiry date of last registered product: 31/12/2005
Codling moth pheromone	33956-49-9 112-53-8 112-72-1	Insecticide	Initiated: 01/01/2003 Completed: 16/03/2004	RRD2004-02	Final Decision: Acceptable for continued registration with no label changes.	
<i>Colletotrichum gloeosporioides</i> f.sp. <i>malvae</i>	N/A	Herbicide	Initiated: N/A Completed: 27/06/2006	REV2006-10	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment. However, <i>Colletotrichum gloeosporioides</i> f.sp. <i>malvae</i> was discontinued by the registrant on 18/09/2006 after completion of the re-evaluation.	Expiry date of last registered product: 18/09/2006
Copper as Elemental (Present as Copper Naphthenate)	488734	Material and wood preservative	Initiated PRVD: 19/10/2010 RVD: 31/10/2011	PRVD2010-16 RVD2011-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect human health and the environment (including PPE, removal of domestic fabric treatment uses, additional advisory and hazard statements and other label statements).	

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Copper 8-quinolinolate	10380-28-6	Heavy Duty Wood Preservative, Joinery Wood Preservative, Material Preservative, Anti-sapstain	Initiated: PRVD: 02/12/2010 Completed: 12/10/2011	PRVD2010-20 RVD2011-09	Final Decision: Based on residential exposure from commercial use of copper 8-quinolinolate as an antisapstain, continued registration is acceptable. Since the publication of the PRVD, the registrant has voluntarily discontinued all remedial/joinery wood preservative uses. Note: The occupational and ecological exposure from commercial use of copper 8-quinolinolate as an antisapstain, are being addressed under a separate initiative within the PMRA and are not part of this re-evaluation decision.	Expiry date of last registered product for remedial/joinery wood preservative uses: 30/03/2011
Copper Pesticides			PRVD: 09/02/2009 Completed: 24/06/2010	PRVD2009-04 RVD2010-05	Final Decision: The PMRA is granting continued registration of pesticides containing the following copper-based active ingredients: cuprous oxide, cupric oxide, copper sulphate, copper sulfate pentahydrate, copper oxychloride, copper hydroxide and metallic copper. Mitigation includes new/revised label statements to protect human health and the environment (including maximum application rates, application interval (days) and seasonal maximum application rates, additional advisory statements, additional PPE to protect mixers/loaders/applicators, a restricted-entry interval, buffer zones to protect non-target, sensitive aquatic and terrestrial habitats). Note that copper naphthenate is re-evaluated separately. (See copper as elemental)	
Copper triethalolamine	7440-50-8	Algicide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of copper triethalolamine have been discontinued.	Expiry date of last registered product: 31/12/2002
Coumaphos	56-72-4	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 31/03/2003 Completed: 29/07/2004	REV99-01 PACR2003-04 RRD2004-21	Final Decision: Acceptable for continued registration with data requirements as outlined in the PACR. The registrants chose to discontinue registration of all existing coumaphos end-use products. All existing uses of coumaphos have been discontinued.	K.R.S. Spray Foam with Co-Ral, Registration No. 15103 • Last date for use: 31/12/2003 Co-Ral Animal Insecticide 25% Wettable Powder, registration no. 6857 and Co-Ral Animal Insecticide 1% Shaker Can, Registration No. 13466 • Last date for use: 31/12/2005 Cattle Bag Dust, Registration No. 16772 • Last date of sale by registrant: 31/12/ 2005 • Last date of sale by retailer or distributor: 31/12/2006 • Last date for use: 31/12/2007

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Creosote	8001-58-9	Heavy duty wood preservative and remedial wood preservative	Initiated: 02/07/1992 PRVD: 20/08/2010 REV:20/08/2010 Completed: 22/06/2011 REV: 05/09/2013	A92-02 REV2003-09 PRVD2010-03 REV2010-05 RVD2011-06 REV2013-05	<p>Update: Creosote was cooperatively re-evaluated by the PMRA and the USEPA. The use limitations section of product labels were amended and domestic products were discontinued during the re-evaluation. During the re-evaluation a program of best management practices (Recommendations for the design and operation of wood preservation facilities – technical recommendations document, Environment Canada, 2004) was developed and adopted by over 90% of Canadian wood-treatment facilities at the time of the RVD publication.</p> <p>Final Decision: Acceptable for continued registration. New risk mitigation measures include revisions to first aid and precautionary statements, PPE, direction for use, as well as additional environmental hazard statements. Additionally, all operational procedures within treatment plants will be required to be consistent with the Environment Canada document: Recommendations for the Design and Operations of Wood Preservation Facilities – Technical Recommendations. The PMRA is also requiring the development of a risk management plan, in conjunction with Canadian stakeholders, to further lower potential risks for those working with these products in wood-treatment facilities.</p> <p>Update: Re-evaluation Note REV2013-05 describes the risk management plan (RMP) for the Heavy Duty Wood Preservatives (HDWPs). The RMP aims to identify and implement opportunities to lower potential exposures and further reduce risk, above and beyond the changes to product labels that resulted from the PMRA's HDWP re-evaluation in June 2011.</p>	Phase-out dates for domestic uses: • Last date of sale by registrants: 01/04/2005 • Last date of sale by retailers: 01/04/2008
Cresylic acid	Mixture	Farm disinfectant	Initiated/ Completed: 24/07/2003	REV2003-05	<p>Final Decision: Not supported by registrant, no further action. All uses of cresylic acid have been discontinued.</p>	Expiry date of last registered product: 31/12/2000
Cyanazine	21725-46-2	Herbicide	Initiated/ Completed: 24/07/2003	REV2003-05	<p>Final Decision: Not supported by registrant, no further action. All uses of cyanazine have been discontinued.</p>	Expiry date of last registered product: 31/12/2004
Cycloate	1134-23-2	Herbicide	Initiated: 29/08/2002 Completed: 11/05/2004	REV2002-06 REV2004-03	<p>Final Decision: Not supported by registrant, no further action. All uses of cycloate have been discontinued.</p>	Expiry date of last registered product: 31/12/2002

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Cyfluthrin	68359-37-5	Insecticide	Initiated: 08/08/2011 REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Cypermethrin	18413873	Insecticide	Initiated REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Daminozide	1596-84-5	Plant growth regulator	Initiated: 17/03/2003 PACR: 06/07/2004 Completed: 18/10/2004	PACR2004-24 RRD2004-29	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, restriction of use to greenhouses and shade houses, environmental hazard statement as well as other statements).	
Dazomet	533-74-4	soil fumigant and antimicrobial	Initiated: 30/07/2008 REV: 13/08/2010 Mitigation Measures: 14/09/2012	REV2010-12 REV2010-10 REV2012-07 REV2012-08 REV2012-10	Updates: Implementation of Mitigation Measures: (These REVs outline label improvements and requirements for both antimicrobial and soil fumigant products.) The PMRA is requiring registrants of products containing dazomet to implement mitigation measures to further limit user exposure and to further protect bystanders and the environment. Required mitigation measures include label amendments for products containing dazomet, as well as Fumigation Management Plan requirements for the soil fumigant uses.	
Deltamethrin	52918-63-5	Insecticide	Initiated REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents	
Denatonium Benzoate	3734-33-6	Animal Repellent	Initiated: 08/05/2009 PRVD: 08/11/2011 Completed: 27/04/2012	PRVD2011-15 RVD2012-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect human health and the environment (including specification of outdoor use only, standardized statements for PPE and REIs, and additional advisory statements).	

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Desmedipham	13684-56-5	Herbicide	Initiated: 26/06/2006 PRVD: 08/04/2009 Completed: 01/10/2009	PRVD2009-06 RVD2009-17	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes additional advisory statements and buffer zones).	
Di-n-propyl isocinchomeronate (non-repellent uses)	3737-22-2	Insecticide	Initiated: 20/12/2004 PACR: 13/04/2006 Completed: 16/06/2006	PACR2006-04 RRD2006-22	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect human health and the environment including a prohibition of use on horses intended for slaughter, a statement that animals must be removed from their quarters before treating premises and to ventilate the area before re-admitting animals, limit use to horse stables and barns and an environmental hazard statement; a requirement to update labels as per DIR2002-02, Canadian Label Improvement Program for Pesticides Used on Companion Animals and clarify directions of use and application rates for some product labels. In addition, use on cattle and as a surface spray or fog of their quarters as well as a space spray or fog in any farm buildings are no longer being supported.	
Dialkyl (8% C8, 9% C10, 47% C12, 18% C14, 8% C16, 10% C18) dimethyl ammonium chloride	N/A	Material preservative	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of dialkyl (8% C8, 9% C10, 47% C12, 18% C14, 8% C16, 10% C18) dimethyl ammonium chloride have been discontinued.	Expiry date of last registered product: 31/12/2000
Dialkyl (5% C12 60% C14 30% C16 5% C18) methyl benzyl ammonium chloride	N/A	Material preservative	Initiated: 13/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	

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Diazinon ^{Lawn & Turf}	333-41-5	Insecticide, acaricide	Initiated: 29/06/1999 Preliminary: 30/06/2005 PRVD: 10/12/2007 Completed: 04/11/2009 Update: 04/04/2012 Update: 18/06/2013	REV99-01 REV2000-07 REV2000-08 REV2005-06 PRVD2007-16 RVD2009-18 REV2013-01	<p>^{Lawn & Turf} Re-evaluation of lawn uses is complete and these have been phased out.</p> <p>Update: Phase-out of all indoor uses and non-agricultural outdoor uses of diazinon, including all uses on lawns and turf, as a result of voluntary action by registrants.</p> <p>Preliminary Assessment: The preliminary risk assessment of the remaining uses indicated a level of concern for workers and the environment. The PMRA solicited information (from 30/06/2005 to 29/08/2005) that may be used to refine these preliminary assessments and/or mitigate risks. The PMRA will review the information received, revise the risk and value assessments as necessary and propose regulatory action.</p> <p>Final Decision: Continued registration of some diazinon uses (soil drench and cattle ear tag) and a measured phase-out of all other diazinon uses. For those uses accepted for continued registration, mitigation is to include new/revised label statements (including PPE and engineering controls, REIs, additional precautionary statements and buffer zones).</p> <p>For uses with longer phase-outs, the PMRA is continuing to work with growers on transition strategy</p> <p>Update 4 April 2012: Cranberry use: The requirement to monitor the concentration of diazinon in cranberry flood water has recently been replaced with a requirement for cranberry flood water to not be released until 14 days after the last application of diazinon. Registrants were informed by letter and are encouraged to expedite these changes in advance of the deadline for changes to marketed labels (4 April 2014) and users may implement the new requirement immediately.</p> <p>Update 18 June 2013: Re-evaluation Note REV2013-01 describes the risk management plan (RMP) for diazinon. The RMP identifies mitigation measures, which must be</p>	Phase-out dates for residential and commercial products for indoor uses: • Sales will virtually end in 2001 with provision for a small amount of carryover into 2002. Phase-out dates for Domestic Class products for use by homeowners on lawns: • Sales will virtually end in 2002 with provision for a small amount of carryover into 2003. Phase-out dates for Commercial Class products for use by pest control operators on residential and other lawns: • Sales will virtually end in 2003 with provision for a small amount of carryover into 2004. The expiry date for the uses identified for short-term phase-out listed in REV2009-18 is March 12, 2012 The expiry dates for the uses identified for phase-out listed in REV2013-01 are: • December 31, 2013 for apricot, peach, plum and prune; • December 31, 2016 for cherry, apple, blackberry, carrot, Christmas tree, cranberry, currant, gooseberry, loganberry, onion (bulb and green), parsnip, pear, radish, raspberry, rutabaga, strawberry, tobacco (greenhouse seedlings) and t

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					implemented by 31 December 2013 and are required to further reduce exposures during the phase-out period. A registrant-sponsored product stewardship plan is required to be implemented in order to raise awareness regarding the potential risks of diazinon use, symptoms of overexposure as well as promote adherence to product label requirements and phase-out timelines. Alternative pest management strategies are currently under development by the Diazinon Transition Strategy Working Groups for critical diazinon uses.	
1,2-Dibromo-2,4-dicyanobutane	35691-65-7	Material preservative, slimicide	Initiated: 20/03/2003 PACR: 15/07/2004 Completed: 06/12/2004	PACR2004-29 RRD2004-31	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, environmental hazard statement and requirement to package powder formulation in water soluble bags).	

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2,2-Dibromo-3-nitrilopropionamide (DBNPA)	22542627	Material preservative, slimicide, algicide	Initiated: 15/10/2003 PACR: 04/06/2004 Completed: 29/03/2006	PACR2004-16 RRD2006-12	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, environmental hazard statements and other statements); registrants of dual classified products must submit an application to register a separate commercial end-use product if they want to retain the commercial uses; and a second application is also required to amend labels of technical or manufacturing use products to remove references to commercial uses. With respect to the recommendation in PACR2004-16 to amend labels to indicate that secondary biological effluent treatment is required for all uses of DBNPA with the exception of secondary oil recovery systems, the PMRA will review data submitted by the registrant; therefore, it will not require a label statement on secondary biological treatment at this time. The PMRA will revisit the issue after reviewing the data and may require further label changes.	
DicambaLawn & Turf	6583	Herbicide	Initiated: 17/11/2004 PACR: 19/02/2007 Completed: 05/08/2008	PACR2007-02 RVD2008-28	Final Decision: Acceptable for continued registration on lawn and turf, agriculture and industrial uses with the exception of the discontinuation of dicamba products containing the diethanolamine (DEA) form of dicamba. Final mitigation measures include new/revised label statements to further protect workers from exposure (e.g. PPE requirements) and to protect the environment (e.g. buffer zones).	
Dicamba (non-turf uses)	6583	Herbicide	Initiated: 17/11/2004 PRVD: 27/08/2007 Completed: 05/08/2008	PRVD2007-05 RVD2008-28	Final Decision: Acceptable for continued registration on lawn and turf, agriculture and industrial uses with the exception of the discontinuation of dicamba products containing the diethanolamine (DEA) form of dicamba. Final mitigation measures include new/revised label statements to further protect workers from exposure (e.g. PPE requirements) and to protect the environment (e.g. buffer zones).	
Dichlobenil	1194-65-6	Herbicide	Initiated: 01/01/2005 PACR: 25/10/2005 Completed: 29/03/2006	PACR2005-10 RRD2006-14	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE, REIs), domestic handlers (precautionary statements) and the environment (environmental hazard statements); label amendment to limit the maximum application rate to 11.0 kg a.i./ha; and amend commercial labels to identify specific areas where dichlobenil is used for nutsedge control.	

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Dichlone	117-80-6	Fungicide	Initiated/ Completed: 24/07/2003 PMRL: 17/12/2009	REV2003-05 PMRL2009-08	Final Decision: Not supported by registrant, no further action. All uses of dichlone have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	
Dichloran	99-30-9	Fungicide	Initiated: 26/04/2006 PRVD: 10/06/2008 Completion Date: 13/01/2009	PRVD2008-21 RVD2009-03	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, a restricted-entry interval, additional advisory label statements to reduce potential surface water and groundwater contamination, buffer zones to protect non-target, sensitive aquatic habitats, changes to maximum application rates).	
Dichlorflurecol methyl	21634-96-8	Plant growth regulator	Initiated/ Completed: 30/06/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of dichlorflurecol methyl have been discontinued.	Expiry date of last registered product: 31/12/2001
Dichlorprop present as dimethylamine salt	N/A	Herbicide	Initiated: 12/03/2008 Completed: 12/03/2008		Final Decision: Re-evaluation not required.	Timelines for end of registrations will be determined in conjunction with PMRA decision re: replacement products containing dichlorprop-p.
1,3-dichloro-5,5-dimethylhydantoin	118-52-5	Fungicide, Sanitizer, Slimicide, Algaecide	Initiated PRVD: 31/01/2011	PRVD2011-01	Proposed Decision: The PMRA is proposing continued registration. Proposed mitigation includes new/revised label amendments (including PPE and additional advisory and hazard statements).	
1,3-Dichloro-5-ethyl-5-methylhydantoin	89415-87-2	N/A	N/A	N/A	Re-evaluation not required as it is no longer considered an active ingredient.	
2,4-Dichlorophenoxy acetic acid (2,4-D) and its salt and ester forms Lawn & Turf	94-75-7	Herbicide	Initiated: 27/09/2000 PACR: 21/02/2005 REV: 16/08/2006 Completed: 16/05/2008 Update: 10/07/2013	REV2000-04 PACR2005-01 REV2006-11 RVD2008-11 REV2013-02	Final Decision: Acceptable for continued registration on lawn and turf, agriculture, forestry and industrial uses with the exception of the discontinuation of 2,4-D products applied to aquatic areas. Final mitigation measures include new/revised label statements to further protect workers and the environment. Update: Data required under Section 12 related to chemistry and toxicology, as well as rationales received for environment data requirements, have been reviewed. These confirmed that 2,4-D continues to be acceptable for continued registration. As a result, no further mitigation measures are required.	

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2,4-Dichlorophenoxy acetic acid (2,4-D) and its salt and ester forms (non-turf uses)	94-75-7	Herbicide	Initiated: 18/11/2004 PACR: 19/06/2007 Completed: 16/05/2008 Update: 10/07/2013	PACR2007-06 RVD2008-11 REV2013-02	Final Decision: Acceptable for continued registration on lawn and turf, agriculture, forestry and industrial uses with the exception of the discontinuation of 2,4-D products applied to aquatic areas. Final mitigation measures include new/revised label statements to further protect workers (e.g. REIs, PPE requirements) and the environment (e.g. buffer zones). Update: Data required under Section 12 related to chemistry and toxicology, as well as rationales received for environment data requirements, have been reviewed. These confirmed that 2,4-D continues to be acceptable for continued registration. As a result, no further mitigation measures are required.	
2,4-Dichlorophenoxy acetic acid (2,4-D) present as sodium salt	2702-72-9	Herbicide	Initiated/ Completed: 04/04/2005	REV2005-02	Final Decision: Not supported by registrant, no further action. All uses of 2,4-D present as sodium salt have been discontinued. Other forms of 2,4-D remain registered; only the sodium salt form has been discontinued.	Expiry date of last registered product: 01/06/2005
1,3-Dichloropropene	542-75-6	Nematicide soil fumigant	Initiated: 18/03/2003 PACR: 09/08/2004 Interim measures: 23/04/2008 Update 30/09/2008	PACR2004-34 REV2008-07	Interim Measures: The PMRA has reviewed comments received in response to PACR2004-34. Included in these comments was groundwater monitoring studies submitted by the registrant. Though not considered to constitute an imminent risk to health, concerns regarding infiltration into groundwater were not fully addressed by the data submitted. The registrant is therefore conducting a groundwater monitoring study in major Canadian use areas. PACR2004-34 proposed risk mitigation measures that were recommended by the USEPA in a 1998 Reregistration Eligibility Decision for 1,3-D. Many of these measures have already been applied to product labels. Several others are now required as outlined in REV2008-07, Re-evaluation Note 1,3-Dichloropropene Interim Measures. Final decision: Not supported by registrant, no further action. All uses of 1,3-Dichloropropene are being discontinued.	Expiry date of last registered product: 31/12/2011
Dichlorvos	62-73-7	Insecticide, acaracide	Initiated: 29/06/1999 REV Note: 06/03/2008 Update 30/09/2008	REV99-01 REV2008-04	Mitigation Measures: Mitigation to include new/revised label statements to further protect workers and the environment. Decision: Mitigation measures have been implemented. In the next round of re-evaluation, the PMRA will finalize the risk assessment following development of relevant policy.	

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Diclofop-methyl	51338-27-3	Herbicide	Initiated 28/03/2006 PRVD: 10/06/2011 Completed: 13/12/2011	PRVD2011-10 RVD2011-12	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect workers and the environment (including PPE, REI, terrestrial and aquatic buffer zones and other label statements). Note: All uses of diclofop-methyl have been voluntarily discontinued by the registrant.	Expiry date of last registered product: 31/12/2014
Dicofol	115-32-2	Acaricide	Initiated: 18/03/2003	REV2010-14	Final Decision: Not supported by registrant, no further action. All uses of dicofol have been discontinued.	Expiry date of last registered product: 31/12/2011
Didecyl Dimethyl Ammonium Chloride Cluster (DDAC)	7173-51-5 68607-28-3 5538-94-3	Biocide	PRVD : 12/11/2008 Completed: 26/03/2009	PRVD2008-27 RVD2009-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements (PPE and additional environmental advisory statements). Note: The antispain uses of DDAC have been reviewed together with all antispain active ingredients under a separate initiative within the PMRA and are not part of this re-evaluation decision.	
Didecyl Dimethyl Ammonium Chloride	7173-51-5	Biocide	PRVD : 12/11/2008 Completed: 26/03/2009	PRVD2008-27 RVD2009-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements (PPE and additional environmental advisory statements). Note: The antispain uses of DDAC have been reviewed together with all antispain active ingredients under a separate initiative within the PMRA and are not part of this re-evaluation decision.	
Dienochlor	2227-17-0	Non-crop fungicide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of dienochlor have been discontinued.	Expiry date of last registered product: 19/12/2002
Difenzoquat	43222-48-6	Herbicide	Initiated 11/05/2004 Update: October 2013	REV2012-13	Update - October 2013: All uses have been voluntarily discontinued by the registrant.	Last date of sale by registrants: 31/12/2013 Last date of sale by retailers: 31/12/2015 Last date for use of product: 31/12/2017

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Diflubenzuron	35367-38-5	Insecticide, insect growth regulator	Initiated: 18/03/2003 PACR: 09/08/2004 Completed: 14/03/2006	PACR2004-35 RRD2006-10	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, bystanders and the environment (includes PPE, REI for greenhouse use, buffer zones and other statements); aerial application to be limited to helicopters only. Refer to RRD for final wording of required label statements because some wording was revised (e.g. buffer zone and wording regarding temporary pools).	
Diisobutylphenoxyethoxyethyl dimethyl benzyl ammonium chloride	121-54-0	Material preservative	Initiated: 13/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	
Dimethenamid	87674-68-8	Herbicide	N/A	REV2010-14	Final Decision: Not supported by registrant, no further action. All uses of dimethenamid (racemic) have been discontinued.	Expiry date of last registered product: 31/12/2013
Dimethoate	60-51-5	Insecticide, acaricide	Initiated: 29/06/1999 PRVD: 26/08/2011 End of comment period: 25/10/2011	REV99-01 PRVD2011-12	All Domestic Class products have been voluntarily removed from the marketplace as of 31/12/2004. The re-evaluation of other uses continues. All commercial dimethoate product labels have been amended to indicate that products are not to be used in and around homes or other residential areas such as parks, school grounds or playing fields, and that products are not for use by homeowners or other uncertified users. Proposed Decision: The PMRA is proposing continued registration for certain uses of dimethoate with the implementation of mitigation measures. Proposed mitigation to include new/revised label amendments to further protect human health and the environment. These include: additional PPE, engineering controls, restrictions on amount of active handled per day and on the number of applications, increased application intervals and pre-harvest intervals, reduction of maximum rates, REIs, precautionary statements, buffer zones for non-target aquatic habitats, as well as statements to avoid drift to areas of human habitation). Other uses of dimethoate are being proposed for phase out. These uses are: application on Douglas fir seed trees, Sitka spruce and spruce (woodland), application to structural sites, paint-on treatments to birch, roses and lilac,	Expiry date of last registered Domestic product: 01/31/2004

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					application with right- of- way sprayer and soil drench application to carnation	
Dinitrophenol	51-28-5	Remedial wood preservative	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of dinitrophenol have been discontinued.	Expiry date of last registered product: 31/12/2005
Dinocap	6119-92-2	Fungicide	Completed: 31/01/2008	REV2008-02	Final Decision: Not supported by registrant, no further action. All uses of dinocap are being discontinued.	Expiry date of last registered product: 31/12/2012
Dinoseb	88-85-7	Herbicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of dinoseb have been discontinued.	Expiry date of last registered product: 31/12/2000
Diocetyl dimethyl ammonium chloride	5538-94-3	Biocide	PRVD : 12/11/2008 completed: 26/03/2009	PRVD2008-27 RVD2009-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements (PPE and additional environmental advisory statements). Note: The antispain uses of DDAC have been reviewed together with all antispain active ingredients under a separate initiative within the PMRA and are not part of this re-evaluation decision.	

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Diodofon	20018-09-1	Antimicrobial, material, preservative	Initiated: 13/06/2008 PRVD: 19/03/2010 Completed: 20/10/2010	PRVD2010-04 RVD2010-13	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements (including PPE, removal of uses for wettable powder, rate reduction for some uses, and additional advisory statements).	
Diphacinone	82-66-6	Rodenticide	Initiated: 22/10/2003 and 23/10/2003 PACR: 14/07/2004 Completed: 14/03/2006	PACR2004-27 RRD2006-11	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers, children, pets and the environment (restriction of bait placement to tamper-resistant bait stations or in locations not accessible to children, pets or livestock; restriction of commercial products to use by certified pest control operators, farmers and persons authorized by government-approved pest control programs, PPE for domestic and commercial handlers). Refer to the RRD for the final revised wording of required label statements, because external comments resulted in changes to the label statements and the PMRA further revised the proposed label statements found in the PACR. See also Rodenticides for additional mitigation measures.	
Diphenylamine	122-39-4	Plant growth regulator	Initiated: 05/08/2003 Completed: 27/06/2006	N/A	Final Decision: Acceptable for continued registration with minor label changes.	
Diquat	2764-72-9	Herbicide	Initiated: 23/10/2003 PRVD date: 21/04/2008 Completed: 12/04/2010	PRVD2008-12 RVD2010-03	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, REI, spray drift control, terrestrial and aquatic buffer zones and environmental hazards).	
Disodium cyano-dithioimido-carbonate	138-93-2	Slimicide	Initiated: 30/09/2003 PACR: 15/07/2004 Completed: 15/04/2005	PACR2004-28 RRD2005-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, precautionary statement regarding potential hydrogen cyanide release, requirement of metering pump for cooling tower system use, and environmental hazard statement).	

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Disulfoton	298-04-4	Insecticide	Initiated: 29/06/1999 Completed: 24/07/2003	REV99/01 REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of disulfoton have been discontinued.	Expiry date of last registered product: 01/07/2006
Dithiopyr	97886-45-8	Herbicide	PRVD: 15/01/2009 RVD: 11/09/2009	PRVD2009-01 RVD2009-15	Final Decision: Acceptable for continued registration. Proposed mitigation includes new/revised label statements to protect human health and the environment (including clarification of the maximum number of applications per year, a restricted-entry interval, precautionary environmental statements and buffer zones).	
Diuron	330-54-1	Herbicide	Initiated: 02/11/2004 PACR: 31/10/2006 Completed: 09/10/2007	PACR2006-07 RVD2007-03	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, bystanders and the environment (includes PPE, REI, statements for the protection of bystanders in residential areas, buffer zones, groundwater advisory and environmental hazard statements and other statements). In addition, for uses of diuron on industrial sites and non-crop uses including irrigation and drainage ditches maximum application rates must be reduced. The Canadian registrants of the technical grade active ingredient have indicated that the use of diuron on ponds and dugouts will no longer be supported in Canada and will be phased out. End-use products formulated as a wettable powder must be phased out.	
9-Dodecenyl acetate	16974-11-1 20711-10-8	Insecticide	Initiated: 01/01/2003 Completed: 18/03/2004	RRD2004-03	Final Decision: Acceptable for continued registration with no label changes.	
Dodemorph-acetate	31717-87-0	Fungicide	Initiated: 17/03/2003 PRVD: 18/12/2009 Completed: 13/12/2011	PRVD2009-10 RVD2011-11	Final Decision, updated since the RVD: Acceptable for continued registration for use on mini potted roses and garden type roses only. Mitigation measures include new/revised label statements to further protect workers and the environment (including specifying not for use on cut flower roses, REI, a maximum of one application per crop cycle, reduced maximum spray volume, additional advisory label statements, and buffer zones). The re-evaluation decision has been recently revised to allow the use on garden type roses in addition to mini-potted roses. The registrant will be communicating these new changes to the users. Update – February 2014: Following RVD2011-11, all uses of dodemorph-acetate have been voluntarily discontinued by the registrant.	Last date of sale by registrants: 20/03/2013 Last date of sale by retailers: 31/12/2015 Last date for use of product: 31/12/2016

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Dodine	197142	Fungicide	Initiated: 24/03/2006 PRVD: 29/02/2008 Completed: 27/05/2008	PRVD2008-11 RVD2008-22	Final Decision: Acceptable for continued registration. Mitigation includes revised label statements to further protect workers and the environment (including REI, PPE, ground and surface water advisory statements, buffer zones and other label statements). Restrictions on application rate, number of applications per year and pre-harvest intervals to be included on the label for apples, cherries and strawberries.	
D-phenothrin	N/A	Insecticide	Initiated: 11/08/2011 REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Endosulfan	115-29-7	Insecticide acaricide	Initiated: 09/08/2002 PACR: 25/06/2004 Preliminary Assessments: 16/10/2007 Updates: 15/04/2009 12/11/2009 12/08/2010 08/02/2011	REV2002-04 PACR2004-21 REV2007-13 REV2009-03 REV2009-09 REV2010-16 REV2011-01	Final Decision: The phase-out of endosulfan insecticide from now until December 31, 2016, when the registrations of all endosulfan pesticide products in Canada will expire. Additional mitigation measures are also required and include new/revised label statements (including PPE, REIs, reduced number of application and limits of the amount of product handled per day, modification of the rates, and additional advisory statements).	Last date of use is December 31, 2010 on the following crops: All product formulations: alfalfa, clover, field corn, sunflower, spinach, succulent beans, succulent peas; WP product formulation: above crops and field tomatoes, sweet corn, dry beans and dry peas. Last date of use is December 31, 2012 on the following crops/sites: apple, bean (dry), broccoli, Brussels sprouts, cabbage, cauliflower, corn (sweet), grape, pea (dry), pear, rutabaga, turnip, greenhouse cucumber, greenhouse tomato, bait station outside food processing plants. Last date of use is December 31, 2016 on the following crops: apricot, celery, cherry, cucumber, eggplant, lettuce (head), melon, ornamentals (outdoors), ornamentals (greenhouse), peach, pepper, plum, potato, pumpkin, squash, strawberry, sugar beet, tomato.
Endothall	145-73-3	Herbicide	Initiated: 09/03/2006 Completed: 31/05/2006	REV2006-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (48-hour REI, treated crops to be harvested by mechanical means only), the environment (buffer zones and environmental hazard statements) and the general public (do not feed treated forage to dairy animals or animals intended for slaughter).	

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
EPTC	759-94-4	Herbicide	Initiated: 29/08/2002 PRVD: 08/08/2007 Completed: 14/02/2008	REV2002-06 PRVD2007-03 RVD2008-06	Final Decision: Acceptable for continued registration with the exception of domestic class products and fertilizer impregnation (on-farm and commercial), which will be phased out. Mitigation measures to include new/revised label statements to further protect workers and the environment (includes PPE for mixers, loaders and applicators when using granular and emulsifiable concentrate formulations, 24-hour REI, terrestrial and aquatic buffer zones and additional precautionary statements to prevent runoff, leaching and volatilization). Directions for use must clearly indicate that no more than two applications are allowed per year for commercial class products.	
Ergocalciferol	50-14-6	Rodenticide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of ergocalciferol have been discontinued.	Expiry date of last registered product: 31/12/2005
Ethalfuralin	55283-68-6	Herbicide	Initiated 13/06/2008 PRVD: 01/12/2011 Completed: 08/11/2012	PRVD2011-16 RVD2012-09	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE, REIs, buffer zones, and additional advisory statements).	
Ethametsulfuron-methyl	97780-06-8	Herbicide	Initiated: 14/09/2005 PRVD: 04/02/2008 Completed: 12/05/2008	PRVD2008-05 RVD2008-19	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, 12-hour REI, terrestrial and aquatic buffer zones and additional precautionary statements to prevent runoff and leaching).	
Ethefon	16672-87-0	Plant growth regulator	Initiated Interim measures: 29/09/2009	REV2009-06	Interim measures: The PMRA is requiring interim mitigation measures as a first step in the re-evaluation process for ethefon. Mitigation includes new/revised label statements (PPE, REIs, buffer zones and additional precautionary statements to protect the environment).	
Ethion	563-12-2	Insecticide	Initiated: 29/06/1999 Completed: 19/10/2001 PMRL: 17/12/2009	REV99-01 REV2001-03 PMRL2009-08	Final Decision: Not supported by registrant, no further assessment. All uses of ethion have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	Expiry date of last registered product: 31/12/2003

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Ethofumesate	67293-74-7	Herbicide	Initiated: 27/04/2006 PRVD: 15/11/2007 Completed: 17/04/2008 Section 12 data reviewed: 30 March 2012	PRVD2007-12 RVD2008-14	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones, runoff advisory and other statements). Update 30 March 2012: Review of environmental data, required under Section 12 of the PCPA, confirmed that ethofumesate is acceptable for continued registration. As a result, buffer zones will be revised on certain labels.	
Ethoxyquin	91-53-2	Plant growth regulator	Initiated/ Completed: 04/04/2005 PMRL: 17/12/2009	REV2005-01 PMRL2009-08	Final Decision: Not supported by registrant, no further action. All uses of ethoxyquin have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	Expiry date of last registered product: 11/01/2005
Ethylene Oxide	75-21-8	Fungicide, insecticide	Initiated: PRVD: 30/11/2010 Completed: 19/12/2013	PRVD2010-21 RVD2013-02	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements to further protect human health (including safety and awareness training for all employees in the fumigation facility, additional PPE for handlers, reduction of the maximum application rate, prohibition of use in/on basil, and additional advisory and precautionary statements).	
Ethyl parathion	56-38-2	Insecticide	Initiated: 29/06/1999 Completed: 19/10/2001 PMRL: 17/12/2009	REV99-01 REV2001-02 PMRL2009-08	Final Decision: Not supported by registrant, no further assessment. All uses of ethyl parathion have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	Expiry date of last registered product: 31/12/2003
Etridiazole	2593-15-9	Fungicide	Initiated: 06/01/2005 PACR: 21/03/2006 Completed: 14/06/2006	PACR2006-03 RRD2006-21	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (including REI, PPE, limitation of two applications per season and minimum of 10 days between applications, buffer zones and other label statements); the Canadian registrant has indicated that the use of etridiazole on sod farms will no longer be supported in Canada and will be phased out.	
Fatty Acids (pelargonic acid and capric acid)	112-05-0 334-48-5	Herbicide	Initiated:2008 Completed: 28/11/2008		Final Decision: Acceptable for continued registration. Mitigation measures to include new/revised labels to further protect the environment.	

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Fenbutatin oxide	4184433	Acaricide	Initiated: 18/03/2003 PACR: 19/02/2007 Completed: 20/12/07	PACR2007-03 RVD2007-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE and REI) and the environment (buffer zones and environmental hazard statements).	
Fenitrothion	122-14-5	Insecticide	Initiated: 29/06/1999 PACR: 14/07/2003 Completed: 28/05/2004	REV99-01 PACR2003-08 RRD2004-13 REV2006-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, bystanders and the environment; all uses will be Restricted uses; maximum application rate reduced to 210 g a.i./ha. However, fenitrothion was discontinued by the registrant on 20/08/2004 after completion of the re-evaluation (see REV2006-01).	Expiry date of last registered product: 20/08/2004
Fenoxaprop-p-ethyl (Isomer)	71283-80-2	Herbicide	Initiated: 30/08/2007 PRVD: 22/02/2011 Completed: 04/06/12	PRVD2011-04 RVD2012-07	Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements, including additional PPE, REIs, prohibiting use on turf in recreational areas (excluding golf courses) and residential lawns, buffer zones, and additional advisory statements.	
Fenthion	55-38-9	Insecticide	Initiated: 29/06/1999 PACR: 31/03/2003 Completed: 13/05/2004	REV99-01 PACR2003-05 RRD2004-10	Final Decision: Acceptable for continued registration. However, rather than address the requirements to support continuing registration as outlined in the PACR, the registrant decided it would no longer support the registered uses and discontinued registration of all existing fenthion end-use products. All uses of fenthion have been discontinued.	Revised phase-out dates for all uses of fenthion: • Last date of sale by retailers: 31/12/2007 • Last date of use: 31/12/2008
Fenvalerate	51630-58-1	Insecticide	Initiated/ Completed: 26/01/2006	REV2006-01	Final Decision: Not supported by registrant, no further action. All uses of fenvalerate have been discontinued.	Expiry date of last registered product: 19/05/2005
Ferbam	14484-64-1	Fungicide	Initiated 26/06/2006			
Fertilizer-Pesticide combination products		Fertilizer-Pesticide combination products	Decision: 02/02/2010	REV2010-01	Decision: Based on consultations with the provinces, experts and registrants, the PMRA concluded that fertilizer-pesticide combination products for lawn and turf uses do not support the goals of best practices for pest management in turf. The regulatory action does not include agricultural uses of fertilizer-pesticide combination products (turf farm).	Last date of sale of combination products: 31/12/2012

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Flamprop-m-methyl	069806-50-4	Herbicide	Initiated/ Completed: 26/01/2006	REV2006-01	Final Decision: Not supported by registrant, no further action. All uses of flamprop-m-methyl have been discontinued.	Expiry date of last registered product: 31/12/2007
Fluazifop-butyl (racemic mix)	8785906	Herbicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of fluazifop-butyl have been discontinued.	Expiry date of last registered product: 19/12/2002
Fluazifop-p-butyl	79241-46-6	Herbicide	Initiated 13/06/2008 PRVD: 20/06/2011 Completed: 23/04/2012	PRVD2011-11 RVD2012-05	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label amendments to further protect workers and the environment (including PPE, prohibition of use in greenhouses, REI, hazard label statements, advisory statements and buffer zones).	
Flurecol-methyl	N/A	Plant growth regulator	Initiated/ Completed: 16/07/2004	REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of flurecol-methyl have been discontinued.	Expiry date of last registered product: 31/12/2001
Folpet	133-07-3	Fungicide, material preservative	Initiated 26/06/2006			
Fonofos	944-22-9	Insecticide	Initiated: 29/06/1999 Completed: 12/06/2000	REV99-01 REV2000-03	Final Decision: Not supported by registrant, no further assessment. All uses of fonofos have been discontinued.	Expiry date of last registered product: 31/10/2000
Formaldehyde and Paraformaldehyde	50-00-0 30525-89-4	Fungicide, bactericide, wood preservative	Initiated: 28/03/2006 PRVD: 15/07/2010 Completed: 20/10/2011	PRVD2010-10 RVD2011-10	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect workers and the environment (including removal of certain uses, revised PPE, reduced maximum application rates, certification requirement for fumigation application, additional precautionary statements and other label statements).	
Formetanate hydrochloride	23422-53-9	Insecticide, acaricide	Initiated: 29/08/2002 PRVD: 12/11/2008 Completed: 24/04/2009	REV2002-06 PRVD2008-26 RVD2009-05	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (reduced rates/applications per year, timing of application, remove aerial applications, PPE, REI, buffer zones).	

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Fosamine ammonium	2595413-6	Herbicide	Initiated: 18/03/2003 PACR: 16/04/2004 Completed: 12/07/2004	PACR2004-05 RRD2004-18	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, bystanders and the environment (includes PPE, prohibition of use in residential areas, environmental hazard statements and other statements); limiting use to one application per season and restructuring of maximum application rates to 17.9 kg a.i./ha for low shrubs and brushes and 21.6 kg a.i./ha for tall, dense, woody species with very heavy foliage.	
Gibberellin A4A7 and gibberellic acid	468-44-0 510-75-8 77-06-5	Plant growth regulator	Initiated: 28/10/2004 PACR: 07/10/2005 Completed: 15/02/2006	PACR2005-09 RRD2006-05	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, PHIs, and other statements).	
Glufosinate-ammonium	77182-82-2	Herbicide		N/A	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect the environment (i.e. buffer zones).	
Glutaraldehyde	111-30-8	Material preservative and slimicide	PRD: 04/09/2007 RD: 30/11/2007	PRD2007-09 RD2007-11	Final Decision: A comprehensive review has been completed for a major new use pattern (i.e. sanitizer) for glutaraldehyde. Health and environmental risks for the sanitizer use are acceptable.	
Glyphosate		Herbicide	Initiated: 09/11/2009 Updated: 02/02/2010	REV2010-02	Re-evaluation Work Plan: This Re-evaluation Note describes the anticipated risk assessments. The PMRA will be working cooperatively with the USEPA on the re-evaluation of glyphosate.	
Gum resin	N/A	Insecticide	Initiated: 22/09/2003 Completed: 09/03/2006		Final Decision: One registered product that no longer needs registration under the Pest Control Products Act. No further review is required.	
Hexahydro-1,3,5-triethyl-s-triazine	7779-27-3	Material preservative	Initiated: 18/03/2003 PACR: 04/06/2004 Completed: 19/08/2004	PACR2004-13 RRD2004-25	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, engineering controls, statement regarding potential formaldehyde release, environmental hazard statement and other statements).	

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Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine (hexahydrotriazine)	1029711	Material preservative, slimicide	PRVD: 06/04/2010 Completed: 19/10/2010	PRVD2010-06 RVD2010-14	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements (including phase-out of certain uses, decrease in application rates, additional PPE and precautionary statements).	
Hexazinone	18019315	Herbicide	Initiated: 25/11/2004 PRVD: 15/11/2007 Completed: 27/04/2009	PRVD2007-13 RVD2009-08	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones, groundwater and runoff advisory statements and other statements). Refer to RVD for final wording of required label statements because some wording was revised.	
Hydantoins: halobrom and halane	16079-88-2 118-52-5	Air sanitizer, algicide, hard surface disinfectant, sanitizer, slimicide, swimming pool algicide and bactericide	Initiated: 21/12/2005			
Hydramethylnon	67485-29-4	Insecticide	Initiated: 24/03/2003 PACR: 24/10/2003 Completed: 30/06/2004	PACR2003-11 RRD2004-16	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE) and the general public including children and pets (i.e. placement of bait stations).	
Hydrogen cyanide	N/A	Insecticide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of hydrogen cyanide have been discontinued.	Expiry date of last registered product: 31/12/1997
2-Hydroxyethyl n-octyl sulfide plus related active compounds	3547-33-9	Synergist with insecticides	Initiated/ Completed: 11/05/2004	REV2004-02	Final Decision: Not supported by registrant, no further action. All uses of 2-hydroxyethyl n-octyl sulfide plus related active compounds have been discontinued.	Expiry date of last registered product: 31/12/2004

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
2-(hydroxymethyl)-2-Nitro-1,3-propanediol	126-11-4	Material preservative, slimicide	Initiated: 07/08/2003 PACR: 06/07/2004 Completed: 20/05/2005	PACR2004-23 RRD2005-08	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE and precautionary statements regarding potential formaldehyde release). As a result of comments to the PACR, the statement "This product is toxic to fish and other aquatic organisms" is no longer required. Similarly, the restriction of use in oil field flooding to terrestrial oil wells is no longer considered necessary.	
Imazamethabenz-methyl	81405-85-8	herbicide	PRVD: 3/12/2008 Completed: 29/04/2009	PRVD2008-29 RVD2009-10	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, re-entry interval, drift reduction, precautionary statements and buffer zones).	
Imazapyr	81334-34-1	Herbicide	Initiated: 6/11/2006 PRVD: 22/02/2008 Completed: 28/04/2008	PRVD2008-10 RVD2008-17	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect workers and the environment (includes PPE, REIs, buffer zones, environmental hazards and other statements).	
Imazethapyr	81335-77-5	Herbicide	Initiated: 14/06/2007 PRVD: 03/03/2010 Completed: 18/10/2010	PRVD2010-02 RVD2010-12	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements (including REI, buffer zones, and additional precautionary statements).	
Iodocarb	55406-53-6	Fungicide, Material and Wood Preservative	Initiated 24/09/2004 PRVD: 06/10/2010 Completed: 10/03/2011	PRVD2010-15 RVD2011-04	Final Decision: The PMRA is granting continued registration. Proposed mitigation includes new/revised label statements (including additional PPE, prohibiting some uses, limiting certain uses, additional good hygiene practices, and additional advisory statements).	
Iprodione	36734-19-7	Fungicide	Initiated 02/05/2005			
Kinoprene (racemic)	37882-31-8	Insecticide	Initiated/ Completed: 16/07/2004	REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of kinoprene (racemic) have been discontinued.	Expiry date of last registered product: 31/12/2001

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Lambda-cyhalothrin	91465-08-6	Insecticide	Initiated: 15/08/2011 REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Lime Sulphur	1344-81-6	Fungicide, insecticide, acaricide	PRVD: 09/02/2009 Completed: 28/05/2009	PRVD2009-05 RVD2009-13	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE, a restricted-entry interval, buffer zones).	
Lindane	58-89-9	Insecticide, acaricide, Fungicide	Initiated: 15/03/1999 Completed: 05/04/2002 Update: 27/08/2009 PMRL: 17/12/2009 Update: 5/11/2010	SRA99-01 REV2002-02 Information Note April 2006 Information Note Dec 2006 REV2009-08 PMRL2009-08 REV2010-19	Final Decision: Currently, all pest control products are discontinued or suspended in Canada. Update 26/04/2006: A follow-up review has been initiated. Update 22/12/2006: The target completion date for the follow-up review has been postponed to spring 2007 pending receipt of a new occupational exposure study. Update 27/08/2009: A follow-up review of lindane has been completed. The PMRA finds that the pesticide lindane poses unacceptable risks of harm to human health and the environment. This assessment, which included dietary, cancer and environmental assessments, confirms an earlier decision by the PMRA to withdraw all pest control products containing lindane from use in Canada, either by discontinuation or by suspension under the authority of the Pest Control Products Act. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs) Update 05/11/2010: The PMRA has reviewed new data and mitigation proposals sent by former registrants as a response to REV2009-08. The assessment confirms the 2002 decision to phase out all registrations of lindane. No lindane products are registered for pesticide use in Canada.	Expiry date of last registered product: 31/12/2004

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Linuron	330-55-2	Herbicide	Initiated 26/06/2006 PRVD: 17/07/2012	PRVD2012-02	Proposed Decision: The PMRA is proposing to phase out all uses of linuron. Based on available information the use of linuron products in accordance with the current label presents an unacceptable risk to health and environment.	
Lithium hypochlorite	13840-33-0	Swimming pool algicide and bactericide	Initiated: 12/08/2003 PACR: 19/07/2004 Completed: 13/01/2005	PACR2004-30 RRD2005-01	Final Decision: Acceptable for continued registration with no further regulatory action required at this time.	
Malathion ^{Lawn & Turf}	121-75-5	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 05/09/2003	REV99-01 REV2000-06 REV2003-03 PACR2003-10	Decision (adulticide use in residential mosquito abatement programs): Acceptable for continued registration for large-scale application in residential areas for control of adult mosquitoes. Mitigation includes removal of non-ULV (non ultra-low volume) uses in residential areas, rate reduction for aerial ULV applications in residential areas to a maximum of 260 g a.i./ha and revised PPE for operators. ^{Lawn & Turf} Through voluntary action by the registrant, the following uses have been discontinued: broadcast turf (i.e., residential yard) as well as residential indoor uses (including pet treatments, treatment of pet quarters, indoor broadcast and spot treatments and mattress applications). The PMRA will continue with the re-evaluation of the remaining uses for malathion.	Removal of all malathion non-ULV use for mosquito control in residential areas (e.g. higher rate of application, spray, thermal fog) to be removed from the label by the 2003 spray season.
Malathion remaining uses	121-75-5	Insecticide, acaricide	Initiated PRVD: 05/11/2010 Completed: 08/11/2012	PRVD2010-18 RVD2012-10	Final Decision: Acceptable for continued registration. Some uses were not supported by registrants and will be removed. Mitigation for the remaining uses includes new/revised label statements to protect human health and the environment (including additional PPE, restrictions on amount of active handled per day, packaging of all malathion wettable powder products in water soluble packaging, REIs, modification of rates, buffer zones, and additional advisory statements).	

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Maleic hydrazide	123-33-1	Plant growth regulator	Initiated: 21/03/2006 PRVD: 07/08/2008 Completed: 12/01/2009 Section 12 data reviewed: 30/03/2012	PRVD2008-24 RVD2009-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, a restricted-entry interval to protect workers entering treated sites, additional advisory label statements to reduce potential surface water and groundwater contamination, and buffer zones to protect non-target, sensitive terrestrial habitats.) Update 30 March 2012: Review of submitted environmental data, required under Section 12 of the PCPA, confirmed that the use of maleic hydrazide is acceptable for continued registration. As a result, updated standard statements will be added to labels.	
Mancozeb	2234559	Fungicide	Initiated 03/07/2007 PRVD: 20/07/2013	PRVD2013-01	Proposed Decision: The PMRA is proposing continued registration of most mancozeb uses with the implementation of mitigation measures, and data requirements as outlined in the PRVD. Proposed mitigation includes new/revised label amendments to further protect human health and the environment (PPE, REIs, maximum number of applications and application interval, water soluble packages, buffer zones, and additional advisory statements). PMRA is proposing the phase-out of certain uses of mancozeb with risk concerns. These uses are: seed treatment for barley, corn, flax, oat, wheat and potato seed pieces, and application on apples, pears, grapes and greenhouse tomatoes. Additional mitigation measures are proposed to further protect human health and the environment during a phase-out period.	
Maneb	12427-38-2	Fungicide	Completed: 22/07/2008	REV2010-14	Final Decision: Not supported by registrant, no further action. All uses of maneb are being discontinued.	Expiry date of last registered product: 31/12/2013
MCPALawn & Turf (present as acid, amine salt, esters, and potassium or sodium salt)	94-74-6	Herbicide	Initiated: 27/09/2000 Update: 27/09/2000 PACR: 28/04/2006 Completed: 28/04/2008	REV2000-04 PACR2006-05 RVD2008-17	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect workers and the environment (includes PPE, REIs, buffer zones, environmental hazards and other statements).	

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MCPA (present as acid, amine salt, esters, and potassium or sodium salt) (non-turf uses)	94-74-6	Herbicide	Initiated: 05/11/2004 PRVD: 03/07/2007 Completed: 22/05/2008	PRVD2007-01 RVD2008-20	Final Decision: Acceptable for continued registration on lawn and turf, agriculture, forestry and industrial uses with the exception of the discontinuation of 2,4-D products containing the DEA form of MCPA. Final mitigation measures include new/revised label statements to further protect workers and the environment.	
MCPB (Present as Sodium Salt and Isomer Specific)	6062-26-6 94-81-5	Herbicide	Initiated PRVD: 07/02/2011 RVD: 17/10/2012	PRVD2011-06 RVD2012-08	Decision: The PMRA is granting continued registration. Mitigation includes new/revised label statements (including restriction on the amount handled per day, REIs, PPE, engineering controls, additional restrictions of some uses, buffer zones, and additional advisory statements).	
Mecoprop (racemic) and associated salts and esters Lawn & Turf	1929-86-8 93-65-2	Herbicide	Initiated: 27/09/2000 Completed: 13/05/2004	REV2000-04 RRD2004-09	Final Decision: Phase-out as a result of the PMRA review. Rather than generate the new data that would have been required for racemic mecoprop, the registrants have chosen to discontinue sales of racemic mecoprop and its associated salts and esters, and to reformulate products with a related chemical, mecoprop-p, which is supported by new data.	Phase-out dates for all uses of racemic mecoprop: • Last date of sale by registrants of manufacturing end-use products (technical or manufacturing concentrates): 31/12/2004 • Last date of sale by registrants of end-use products: 31/12/2005 • Last date of sale by retailers: 31/12/2009 • Last date of use of product by users: 31/12/2009
Metalaxyl and metalaxyl-m	57837-19-1 70630-17-0	Fungicide	Initiated: 28/09/2005 PRVD: 05/11/2007 Completed: 30/01/2008 Section 12 Data reviewed: 30/09/2011	PRVD2007-10 RVD2008-03	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (including REI, PPE, ground and surface water advisory statements, drift prevention statements and other label statements). Update 30/09/2011: Review of environmental data, required under Section 12 of the PCPA, confirmed that the use of metalaxyl and metalaxyl-m is acceptable for continued registration. As a result, revised buffer zones and updated standard statements will be added to certain labels.	
Metaldehyde	108-62-3	Molluscicide	Initiated: 28/03/2006 PRVD: 25/04/2008 Completion date: 12/11/2008	PRVD2008-15 RVD2008-34	Final Decision: Acceptable for continued registration, Mitigation includes new/revised label statements to further protect human health and the environment (including removal of broadcast and foliar applications, required distance from any food/feed crops, REI, and changes to formulation size and addition of a bittering agent to reduce exposure of children and animals).	

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Metam Sodium and Metam Potassium	137-42-8 137-41-7	soil fumigant and antimicrobial	REV: 13/08/2010 Mitigation Measures: 14/09/2012	REV2010-09 REV2010-10 REV2012-07 REV2012-08 REV2012-11	Updates: Implementation of Mitigation Measures: (These REVs outline label improvements and requirements for both antimicrobial and soil fumigant products.) The PMRA is requiring registrants of products containing metam sodium and metam potassium to implement mitigation measures to further limit user exposure and to further protect bystanders and the environment. Required mitigation measures include label amendments for products containing metam sodium and metam potassium, as well as Fumigation Management Plan requirements for the soil fumigant uses.	
Methamidophos	10265-92-6	Insecticide	Initiated: 29/06/1999 REV Note: 04/09/2007	REV99-01 REV2007-11 REV2010-14	Preliminary Assessment: Potential risks to the environment, to workers both during application and during re-entry activities as well as to the general population through drinking water exposure have been identified. At this time, these assessments support a phase out from the Canadian market of methamidophos and all associated uses, i.e. on broccoli, Brussels sprouts, cabbage, cauliflower, head lettuce, potato and canola. Based on information available to the PMRA, there is little reported use of products containing methamidophos in Canada, and viable alternatives are registered for these uses. Following publication of the preliminary assessment, the registrant chose to discontinue registration of all methamidophos products.	Expiry date of last registered product: 31/12/2012
Methidathion	950-37-8	Insecticide	Initiated: 29/06/1999 Completed: 19/10/2001	REV99-01 REV2001-01	Final Decision: Not supported by registrant, no further assessment. All uses of methidathion have been discontinued.	Expiry date of last registered product: 31/12/2002
Methiocarb	2032-65-7	Molluscicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of methiocarb have been discontinued	Expiry date of last registered product: 05/09/2000
Methomyl	16752-77-5	Insecticide	Initiated: 29/08/2002 PACR in preparation REV: 14/01/2009 REV: 30/06/2010	REV2002-06 REV2009-02 REV2010-08	Preliminary Assessment: The preliminary risk and value assessment identified potential risks to the general population through dietary and drinking water exposure and to the environment. The PMRA is soliciting information that may be used to refine this preliminary assessment and/or mitigate health and environmental risks, as well as comments on the value of methomyl for specific uses. Update: This re-evaluation note describes interim mitigation measures, which include new/revised label statements to further protect human health and the environment. Label amendments include: removal of use on strawberries and in residential areas and parks, maximum number of applications, additional	

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					REIs, PPE, environmental advisory statements and interim buffer zones.	
Methoxychlor	72-43-5	Insecticide	Initiated/ Completed: 16/07/2004 PMRL: 17/12/2009	REV2004-03 PMRL2009-08	Final Decision: Not supported by registrant, no further action. All uses of methoxychlor have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	Expiry date of last registered product: 31/12/2005
Methyl bromide	74-83-9	Insecticide acaricide, fungicide, rodenticide, nematicide, herbicide	Initiated: 27/10/1980 Completed: 09/03/2004	RRD2004-01	Final Decision: Methyl bromide consumption is being phased-out through implementation of the Ozone Depleting Substances Regulations under the Canadian Environmental Protection Act. Extensive label improvements have been put in place (see RRD). As of 1 January 2005, methyl bromide will only be manufactured, used, sold, offered for sale, imported or exported for purposes set out in the Ozone Depleting Substances Regulations. Exempt from the Ozone Depleting Substances Regulations is methyl bromide that was imported or that is recovered, recycled or reclaimed prior to 2005. Critical use exemptions will require approval by Environment Canada and the Parties to the Montreal Protocol. Emergency uses will require immediate approval by Environment Canada, but will be reviewed subsequently by the Parties to the Montreal Protocol. Quarantine and preshipment applications will continue to be allowed as set out in the Ozone Depleting Substances Regulations Regulations.	

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Methylene bis(thiocyanate)	6317-18-6	Material preservative, slimicide	Initiated: 28/08/2003 PACR: 09/07/2004 Completed: 10/02/2006	PACR2004-26 RRD2006-03	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, environmental hazard statements and other statements). In addition there is a metering pump requirement for liquid product formulations applied to cooling water systems treating > 15 000 L. Reference to use in log/thaw ponds must be removed. Precautionary statements regarding potential hydrogen cyanide and/or formaldehyde release no longer required as a result of comments to PACR2004-26.	
Methyl isothiocyanate	556-61-6	Fungicide, herbicide, insecticide, nematocidal	Initiated/ Completed: 26/01/2006	REV2006-01	Final Decision: Not supported by registrant, no further action. All uses of methyl isothiocyanate have been discontinued.	Expiry date of Vorlex plus Liquid Soil Fumigant (Registration No. 18353): 31/08/2007 Expiry date of Vorlex plus CP Liquid Soil Fumigant (Registration No.18354): 31/12/2005
Methyl nonyl ketone	112-12-9	Animal repellent	Initiated: 12/08/2003 PACR: 21/04/2004 Completed: 12/07/2004	PACR2004-06 RRD2004-17	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect users, bystanders, pets and the environment (includes restriction to only apply in areas adjacent to buildings, PPE, precaution statements, environmental hazard statements and other statements).	
2,2'-(1-methyltrimethylene dioxy)bis-(4-methyl-1,3,2-dioxaborinane)	279782	Material preservative, slimicide	Initiated: 15/10/2003 Completed: 26/06/2006	REV2006-08	Final Decision: Acceptable for continued registration. Mitigation includes label statements to further protect workers (PPE).	
Metiram	9006-42-2	Fungicide	Initiated 26/06/2006 PRVD: 26/06/2014	PRVD2014-03	Proposed Decision: The PMRA is proposing phase-out of all uses of metiram based on available data and current assessments showing potential health and environment risks. During the proposed phase-out of metiram, additional measures are proposed to reduce potential risks.	
Metobromuron	3060-89-7	Herbicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of metobromuron have been discontinued.	Expiry date of last registered product: 31/12/2005
Metribuzin	21087-64-9	Herbicide	Initiated: 26/09/2003 PACR: 30/08/2005 Completed: 30/03/2006	PACR2005-07 RRD2006-15	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE, REI and other statements) and the environment (buffer zones, environmental hazard statements).	

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Metsulfuron-methyl	74223-64-6	Herbicide	Initiated: 28/10/2004 PRVD: 28/02/2008 Completed: 10/11/2008	PRVD2008-08 RVD2008-35	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect human health and the environment (including PPE, REI, additional precautions for the wettable granule formulation, buffer zones to protect non-target terrestrial and aquatic plants and advisory statements to reduce runoff).	
MGK (n-octyl bicycloheptene dicarboxamide)	113-48-4	Synergist for insecticides	Initiated REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Mineral oil	64741-89-5 68476-77-7 64741-73-7 64742-65-0 8042-47-5 8012-95-1	Insecticide, acaricide, fungicide	Initiated: 15/05/2007 PRVD: 29/05/2008 Completed: 20/08/2008	PRVD2008-19 RVD2008-32	Final Decision: Acceptable for continued registration. Mitigation measures to include new/revised label statements to further protect workers and the environment (includes PPE, restricted REI, buffer zones, environmental hazards and other statements).	
Mixture of slimicide compounds known as DDI	Mixture	Slimicide	Initiated/ Completed: 04/04/2005	REV2005-02	Final Decision: Not supported by registrant, no further action. All uses of DDI (i.e. Formula 3434 slimicide) have been discontinued.	Expiry date of last registered product: 07/10/2003
Monolinuron	1746-81-2	Herbicide	Initiated/ Completed: 11/05/2004	REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of monolinuron have been discontinued.	Expiry date of last registered product: 31/12/2003
Monosodium methane arsonate	2163-80-6	Herbicide and insecticide	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of monosodium methane arsonate have been discontinued.	Expiry date of last registered product: 31/12/2008
Myclobutanil	88671-89-0	Fungicide	Initiated 30/08/2007 PRVD: 06/10/2010 Completed: 13/12/2013	PRVD2010-14 RVD2013-01	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements to further protect human health and the environment (including PPE, REIs, reduction of the maximum application rate for golf course use, reduced application frequencies, buffer zones, and additional precautionary statements).	
N-alkyl (25% C12, 60% C14, 15% C16) dimethyl benzyl ammonium chloride	68424-85-1	Material preservative	Initiated: 13/08/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: No registered end uses in Canada— re-evaluation not required.	

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N-alkyl (50% C12, 30% C14, 17% C16, 3% C18) dimethyl ethylbenzyl ammonium chloride	N/A	Material preservative	Initiated: 13/08/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: No registered end uses in Canada—re-evaluation not required.	
N-alkyl (3% C12, 95% C14, 2% C16) dimethyl benzyl ammonium chloride (myristyl dimethyl benzyl ammonium chloride dihydrate)	139-08-2	Material preservative	Initiated: 13/08/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: No registered end uses in Canada—re-evaluation not required.	
N-alkyl (40% C12, 50% C14, 10% C16) dimethyl benzyl ammonium chloride	NA	Material preservative	Initiated: 17/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	
N-alkyl (5% C12, 60% C14, 30% C16, 5% C18) dimethyl benzyl ammonium chloride	NA	Material preservative	Initiated: 17/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	
N-alkyl (5% C5-18, 61% C12, 23% C14, 11% C16) dimethyl benzyl ammonium chloride	63449-41-2	Material preservative	Initiated: 17/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	

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N-alkyl (67% C12, 25% C14, 7% C16, 1% C18) dimethyl benzyl ammonium chloride	NA	Material preservative	Initiated: 17/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	
N-alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chloride	NA	Material preservative	Initiated: 17/08/2007 PRVD: 26/06/2008 Completed: 12/03/2009	PRVD2008-23 RVD2009-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including additional PPE to protect mixers/loaders/applicators, instructions regarding the maximum use rate in a pulp and paper process and maximum yearly applications for once-through cooling water tower use, additional advisory health and environment label statements, and a restricted-entry interval to protect swimmers).	
n-Alkyl (50% C12, 30% C14, 17% C16, 3% C18) dimethyl benzyl ammonium chloride	68391-01-5	Slimicide	Initiated/ Completed: 04/04/2005	REV2005-02	Final Decision: Not supported by registrant, no further action. All uses of n-alkyl (50% C12, 30% C14, 17% C16, 3% C18) dimethyl benzyl ammonium chloride have been discontinued.	Expiry date of last registered product: 31/12/2002
N-A-(1-nitroethyl benzyl] ethylenediamine	14762-38-0	Slimicide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of N-A-(1-nitroethyl benzyl] ethylenediamine have been discontinued.	Expiry date of last registered product: 01/01/2004
Nabam	142-59-6	Fungicide, Slimicide	Initiated 26/06/2006 PRVD: 22/02/2011 Completed: 20/04/2012	PRVD2011-03 RVD2012-03	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label amendments to further protect workers and the environment (including PPE, closed mixing and loading systems for all solutions (dry coupling), and additional advisory statements).	

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Naled	300-76-5	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 06/08/2004 Completed: 27/06/2006	REV99-01 REV2003-02 PACR2004-33 RRD2006-24	Final Decision (Residential Uses): Phase-out of pet collar products and other uses of naled in residential areas as a result of the PMRA review. Final Decision (Commercial Uses): Acceptable for continued registration with respect to dietary and drinking water risks; risks to workers during mixing, loading and application with groundboom, low-pressure handwand, high-pressure handwand, airblast, aerial, backpack, greenhouse vapour treatment and by fogging; and risks to the environment. New/revised label statements to further protect workers (including PPE, engineering controls, REI) and the environment (including buffer zones). For aerial application, closed mixing/loading systems must be used; for high-pressure handwand, the specified PPE must be worn and workers must not handle more than 1000 L of diluted product per day. Refer to RRD2006-24 for final revised label statements.	Phase-out dates for domestic class products (pet collars) • Last date of sale by registrants: 31/12/2002 • Last date of sale by retailers: 31/12/2003 Phase-out dates for commercial class products labelled for use on turf and residential areas (e.g. homes, lawns, parks, school grounds and playing fields): • Last date of sale by registrants: 31/08/2003 • Last date of sale by retailers: 31/12/2003 • Last date of use by product users: 31/08/2004
Naphthalene	91-20-3	insecticide	Initiated: 23/06/2006 PRVD: 15/12/2009 Completed: 23/06/2010	PRVD2009-16 RVD2010-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements (including modification of packaging, reduction of application rates, additional precautionary statements and modified label language).	
Naphthalene Acetates			PRVD: 27/11/2008 Completed: 27/02/2009	PRVD2008-28 RVD2009-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE for mixer/loader/applicators and buffer zones for terrestrial habitats).	
Napropamide	15299-99-7	Herbicide	Initiated: 24/03/2006 PRVD: 10/09/2007 Completed: 28/02/2008	PRVD2007-06 RVD2008-09	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes PPE, REIs, buffer zones and other statements).	

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Naptalam present as acid or sodium salt	132-66-1 132-67-2	Herbicide	Initiated: 02/09/2005 PRVD: 13/11/2007 Completed: 28/01/2008	PRVD2007-11 RVD2008-02	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, drift prevention statements, runoff advisory and other statements). Naptalam may be applied on cucumbers and melons 1–2 times per year (one pre-emergence and/or one postemergence to the crop) with a maximum single application rate of 4.48 kg a.i./ha, and to squash and pumpkins only once per year pre-emergence to the crop with a maximum single application rate of 4.48 kg a.i./ha. Note: All uses have been voluntarily discontinued by the registrant	Expiry date of last registered product: tbd
Niclosamide	50-65-7	Fish toxicant	Initiated: 18/11/2003 Completed: 21/04/2004	RRD2004-07	Final Decision: Acceptable for continued registration with no further regulatory action required at this time.	
Nicosulfuron	111991-09-4	Herbicide	Initiated: 28/10/2004 PRVD: 08/01/2008 Completed: 25/06/2008	PRVD2008-01 RVD2008-24	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones, runoff advisory and other statements).	
Nicotine	54-11-5	Smoke Fumigator	Initiated: 30/03/2006	N/A REV2010-14	Final Decision: Not supported by registrant, no further action. All uses of nicotine are being discontinued.	Last date of sale by registrant: 31/12/2010 Last date of sale by retailer: 31/12/2011 Last date of use: 31/12/2012
Nuclear polyhedrosis virus of red-headed pine sawfly	N/A	Insecticide	N/A	N/A	Final Decision: Technical product expired as of 31 March 2006. No end-use products currently registered.	
o-Benzyl p-chlorophenol	120-32-1	Hard surface disinfectant sanitizer	Initiated: 18/11/2003 Completed: 2006		Pest control uses are discontinued. Remaining uses are regulated by Health Canada's Therapeutic Products Directorate.	Expiry date of last end-use product: 31/12/2006
Octylbicyclo heptene dicarboximide	113-48-4	Insecticide	Initiated: REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	

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Octyl decyl dimethyl ammonium chloride	5538-94-3	Biocide	PRVD : 12/11/2008 Completed: 26/03/2009	PRVD2008-27 RVD2009-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements (PPE and additional environmental advisory statements). Note: The antisapstain uses of DDAC are being reviewed together with all antisapstain active ingredients under a separate initiative within the PMRA and are not part of this re-evaluation decision.	
Oil of lavender	8000-28-0	Personal insect repellent	Initiated/ Completed: 11/05/2004	REV2004-02	Final Decision: Not supported by registrant, no further action. All uses of oil of lavender have been discontinued.	Expiry date of last registered product: 31/03/2007
Oxadiazon	19666-30-9	Herbicide	Initiated: 04/07/2005 Completed: 27/06/2006	N/A	Final Decision: Acceptable for continued registration with no label changes.	
Oxamyl	23135-22-0	Insecticide, acaricide, nematocidal	Initiated: 29/08/2002 PRVD: 09/07/2007 Completed: 01/02/2008	REV2002-06 PRVD2007-02 RVD2008-05	Final Decision: Acceptable for continued registration. Mitigation measures to include new/revised label statements to further protect workers (PPE, REIs, closed mix/load equipment for custom application on potatoes and closed cab ground application equipment when handling more than 110 kg a.i./day, and restrictions to the number of applications for potatoes and non-bearing apple trees), drinking water (reduce maximum application rate for foliar application to non-bearing apples to 1.68 kg a.i./ha) and the environment (additional label statements including environmental hazards, surface water advisory statements and buffer zones to protect sensitive habitats).	
Oxine benzoate	7091-57-8	Fungicide	Completed: 31/01/2008	REV2008-02	Final Decision: Not supported by registrant, no further action. All uses of oxine benzoate are being discontinued.	Expiry date of last registered product: 31/12/2011
Oxirane derivatives	Mixture	Material preservative	Initiated: 26/04/2006 PRVD: 18/01/2008 Completed: 07/04/2008	PRVD2008-02 RVD2008-12	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE and other statements). In addition, the maximum concentration added to paint must not exceed 0.20% a.i. by weight. A statement is being added to the label to indicate that this product is not for use in the production of paper or paperboard that will come into contact with food.	

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10,10'-Oxybis (phenoxarsine)	58-36-6	Material preservative, fungicide	Initiated: 26/08/2003 PACR: 04/06/2004 Completed: 08/03/2005	PACR2004-14 RRD2005-02	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, precautionary statements regarding potential arsenic release and environmental hazard statement).	
2,2-oxybis(4,4,6-trimethyl-1,3,2-dioxaborinane)	14697-50-8	Material preservative, slimicide	Initiated: 15/10/2003 Completed: 26/06/2006	REV2006-08	Final Decision: Acceptable for continued registration. Mitigation includes label statements to further protect workers (PPE).	
Oxycarboxin	5259-88-1	Fungicide	Initiated: 19/09/2005 PRVD: 12/11/2008 Completed: 18/06/2009	PRVD2008-25 RVD 2009-11	Final Decision: Acceptable for continued registration for products containing carbathiin (as a seed treatment) and oxycarboxin (for control of rust on ornamentals grown in enclosed commercial structures). Mitigation for carbathiin includes revised label statements to further protect workers and the environment (including PPE, environmental hazards and other advisory label statements). An REI of 12 hours is required for oxycarboxin. Carbathiin products registered for use as a tree seedling treatment, outdoor ornamentals and residential landscapes treatment are no longer supported by the registrant and will be discontinued. Carbathiin and oxycarboxin products registered in Canada for use as a turf treatment are no longer supported by the registrant and will be discontinued.	
Oxydemeton methyl	301-12-2	Insecticide	Initiated: 29/06/1999 Completed: 16/07/2004	REV99-01 REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of oxydemeton methyl have been discontinued.	Expiry date of last registered product: 31/12/2001
Oxydiethylene bis(alkyl dimethyl ammonium chloride)	68609-28-3	Biocide	PRVD : 12/11/2008 Completed: 26/03/2009	PRVD2008-27 RVD2009-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements (PPE and additional environmental advisory statements). Note: The antisapstain uses of DDAC have been reviewed together with all antisapstain active ingredients under a separate initiative within the PMRA and are not part of this re-evaluation decision.	
Oxyfluorfen	14965496	Herbicide	Initiated: 17/03/2003 PACR: 30/06/2005 Completed: 05/05/2006	PACR2005-03 RRD2006-19	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones and other statements). Refer to RRD for final revised wording of required label statements because external comments resulted in changes to the label statements with respect to buffer zones.	

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2 (p-hydroxyphenyl) Glyoxylohydroxymoyl chloride	34911-46-1	Slimicide	Initiated/ Completed: 30/6/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of 2 (p-hydroxyphenyl) glyoxylohydroxymoyl chloride have been discontinued.	Expiry date of last registered product: 31/12/2001
Para-Dichlorobenzene	106-46-7	Insecticide	PRVD: 04/05/2010 Completed: 13/09/2010	PRVD2010-07 RVD2010-09	Final Decision: Acceptable for continued registration with mitigation and data requirements as outlined in the PRVD. Mitigation includes new/revised label statements (including modification of packaging and additional precautionary statements).	
Paraquat dichloride	4685-14-7	Herbicide	Initiated: 07/08/2003 PACR: 22/10/2004 Completed: 29/03/2006	PACR2004-41 RRD2006-13	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, buffer zones and other statements); registrants are required to remove references to use in aquatic non-food sites, forest and woodlots (for conifer control and control of mixed stands of conifers and deciduous brush), industrial and domestic vegetation control non-food sites (including chemical mowing); and turf from the end-use product labels as these uses have been discontinued. In addition, all domestic products for paraquat have been discontinued.	Expiry date of last registered Domestic product: 31/12/2005
Pebulate	1114-71-2	Herbicide	Initiated: 29/08/2002 Completed: 11/05/2004	REV2002-06 REV2004-03	Final Decision: Not supported by registrant, no further action. All uses of pebulate have been discontinued.	
Pendimethalin	40487-42-1	Herbicide	Initiated: 18/03/2003 PRVD: 10/09/2007 Completed: 16/06/2008	PRVD2007-07 RVD2008-23	Final Decision: Acceptable for continued registration with mitigation. Mitigation includes new/revised label statements to further protect workers and the environment. The PMRA is currently developing a policy for managing chemicals that are persistent, bioaccumulative and toxic (PBT). Although acceptable for continued registration at this time, pendimethalin is considered to have PBT characteristics and will be revisited once a PBT policy has been developed.	

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Pentachlorophenol	87-86-5	Heavy duty wood preservative	Initiated: 02/07/1992 PRVD: 20/08/2010 REV: 20/08/2010 Completed 22/06/2011 REV: 05/09/2013	A92-02 REV2004-04 REV2005-03 PRVD2010-03 REV2010-05 RVD2011-06 REV2013-05	Pentachlorophenol was cooperatively re-evaluated by the PMRA and the USEPA. The use limitations sections of product labels were amended during the re-evaluation. During the re-evaluation a program of best management practices (Recommendations for the design and operation of wood preservation facilities – technical recommendations document, Environment Canada, 2004) was developed and adopted by over 90% of Canadian wood-treatment facilities at the time of the RVD publication. Final Decision: Acceptable for continued registration. New risk mitigation measures include revisions to first aid and precautionary statements, PPE, direction for use, as well as additional environmental hazard statements. Additionally, all operational procedures within treatment plants will be required to be consistent with the Environment Canada document: Recommendations for the Design and Operations of Wood Preservation Facilities – Technical Recommendations. The PMRA is also requiring the development of a risk management plan	
Permethrin	52645-53-1	Insecticide	Initiated 03/02/2009 REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Personal insect repellents containing DEET (N,N-diethyl-m-toluamide and related compounds)	134-62-3	Personal insect repellent	Initiated: 01/06/1990 Completed: 15/04/2002	A90-01 RRD2002-01	Final Decision: Acceptable for continued registration. Mitigation includes the following: <ul style="list-style-type: none"> For children 6 months to 2 years, the use of one application of DEET may only be considered for this age group in situations where a high risk of complications from insect bites exist. For children between 2–12 years, the least concentrated product (10% DEET or less) should be used and should not be applied more than 3 times per day. For adults and individuals 12 years and older, products containing DEET at concentrations above 30% will no longer be acceptable for registration, based on a human health risk assessment that considered daily application of DEET over a prolonged period of time. Based on incomparable methods of application (i.e., apply DEET sparingly but apply sunscreen liberally) DEET + sunscreen combination products will no longer be acceptable for registration. The reapplication interval must be on the labels of all products; claims to repel fleas must be deleted; and vague, ambiguous or inc 	Phase-out dates for existing products containing >30% DEET: <ul style="list-style-type: none"> Last date of sale by registrants: 31/08/2002 Last date of sale by retailers: 31/12/2004 Phase-out dates for existing combination DEET + sunscreen products: <ul style="list-style-type: none"> Last date of sale by registrants: 31/08/2002 Last date of sale by retailers: 31/12/2003

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Personal insect repellents containing di-n-propyl isocinchomeronate (MGK Repellent 326)		Personal insect repellent	Initiated: 01/06/1990 Completed: 12/12/2001	A90-01 RRD2001-01	Final Decision: Not supported by registrant. In addition, available data showed that MGK 326, which is always used in combination with DEET and MGK 264, does not increase efficacy of those products. All uses of MGK 326 for use in personal insect repellents have been discontinued.	Phase-out dates for existing products containing MGK 326 for use in personal insect repellents: • Last date of sale by registrants: 31/08/2002 • Last date of sale by retailers: 31/12/2002
Personal insect repellents containing n-octyl bicycloheptene dicarboximide (MGK Synergist 264)		Personal insect repellent	Initiated: 01/06/1990 Completed: 12/12/2001	A90-01 RRD2001-02	Final Decision: Phase out as a result of the PMRA review, due to potential synergistic effects of MGK 264 on DEET in humans (MGK 264 is always found in combination with DEET) and due to lack of increased efficacy over products containing DEET alone.	Phase-out dates for existing products containing MGK 264 for use in personal insect repellents: • Last date of sale by registrants: 31/08/2002 • Last date of sale by retailers: 31/12/2002
Phenmedipham	13684-63-4	Herbicide	Initiated: 15/10/2003 PRVD: 03/06/2009 Completed: 24/09/2009	PRVD2009-07 RVD 2009-16	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes additional advisory statements and buffer zones).	
2-Phenylphenol	90-43-7	Hard surface disinfectant, material preservative	Initiated: 07/04/2006 PRVD: 25/01/2008 Completed: 07/04/2008	PRVD2008-04 RVD2008-13	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, an environmental hazard statement and a statement indicating that all preserved textiles must be washed before manufacturing clothing). Post-harvest treatment on fruits including apples, cantaloupes, cherries, peaches, plums, carrots, cucumbers, peppers, sweet potatoes and tomatoes will be phased out.	

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Phorate	298-02-2	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 24/01/2003 Completed: 13/05/2004 Updates: 05/06/2007 26/03/2008 30/09/2011 REV2012-01: 28/05/2012	REV99-01 PACR2003-01 RRD2004-11 REV2007-07 REV2008-05 REV2012-01	<p>Final Decision: Phase-out of all uses of phorate, except potatoes, due to environmental concerns. Continued registration for use on potatoes is acceptable until 31 December 2006 due to lack of available alternatives for control of wireworm on potatoes, with interim mitigation to protect workers (engineering controls and PPE) and environment (statement indicating high toxicity to birds, small mammals, fish and aquatic invertebrates required on label).</p> <p>Updates 2007, 2008, 2011: The phase-out dates for the remaining use of phorate on potatoes were extended in 2007, 2008, 2011, due to a continuing extensive wireworm problem and the lack of adequate alternative management strategies. Most recently (2011), the phases out dates for the remaining use of phorate on potatoes were extended until 2015 with certain conditions. The registrant is to implement further risk mitigation measures. It is expected that research on alternatives will continue so that alternative products could be submitted to the PMRA for consideration.</p> <p>Update 28 May 2012: REV2012-01 presents information on the current phorate phase-out schedule as well as a summary of the additional mitigation measures initiated to further manage exposure to the granular product. Additional time (up to two years) may be added to the phase-out schedule if applications for alternatives are received by end of 2015, otherwise the phase-out will proceed according to the current schedule. The PMRA is coordinating a Phorate Transition Strategy Working Group to promote good agricultural practices and develop alternatives. In addition to the previously stated risk management measure, additional label amendments include: 1) all purchasers and users be provincially certified/licensed pesticide applicators; 2) additional statements be added to manage risks to birds; 3) minimum row spacing requirements be indicated on the label to limit the maximum application rate; 4) registrants to expand their existing stewardship program to include risk mitigation for birds; 5) reference to the PMRA Incident Reporting System to be made on the label.</p>	<p>Phase-out dates for uses for which alternatives exist (corn lettuce, beans and rutabagas):</p> <ul style="list-style-type: none"> Last date of sale by registrants: 31/08/2004 Last date for use of product: 31/12/2004 <p>Phase-out dates for remaining use on potatoes:</p> <ul style="list-style-type: none"> Last date of sale by the registrant: 31/12/2014 Last date of sale by distributors or retailers: 01/05/2015 Last date for use by end-users: 01/08/2015
Phosalone	36693	Insecticide acaricide	Initiated: 29/06/1999 PACR: 13/06/2005 Completed: 31/01/2008	REV99-01 PACR2005-02 REV2006-13 REV2008-02	<p>Final Decision: Not supported by registrant, no further action. All uses of phosalone are being discontinued. Interim protective measures are being implemented by the registrant.</p>	<p>Phase-out dates for uses for which alternatives exist (apple, pear, cherry, grape, peach, plum/prune):</p> <ul style="list-style-type: none"> Registration number 15416: 31/12/2009 Registration number 24092: 31/12/2009 Registration number 17983: 30/09/2012

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Phosmet	732-11-6	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 01/10/2004 Mitigation measures: 28/11/2007 Update: 30/09/2008	REV99-01 PACR2004-38 REV2007-14	Mitigation Measures: Mitigation measures on the sites supported by the registrant include specific REIs, PPE for critical postapplication activities performed by workers within 14 days of phosmet application, availability of wash stations and double notification for field workers. The registrant does not support use of high-pressure spray application on beef cattle and hogs or domestic/homeowner use of phosmet. Other measures include new/revised label statements to further protect workers (PPE) and the environment (buffer zones, environmental hazard statements). To minimize surface water contamination by phosmet applied on cranberries, all effluent water must be impounded and released only when levels of phosmet are 0.2 g a.i./L. Decision: Mitigation measures have been implemented. In the next round of re-evaluation, PMRA will consider biomonitoring studies to refine the postapplication worker exposure assessment.	Phase-out dates for domestic class product: • Last date of sale by registrant: 29/11/2002 • Last date of sale by retailers: 29/11/2002
Phosphoric acid	7664-38-2	Hard surface disinfectant	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of phosphoric acid have been discontinued.	Expiry date of last registered product: 28/08/2001
Picloram acid and related salts	6606	Herbicide	Initiated: 23/09/2005 PRVD: 23/08/2007 Completion: 14/01/2009 Update: 24/06/2010	PRVD2007-04 RVD2009-02 REV2010-07	Final Decision: Acceptable for continued registration. Proposed mitigation includes new/revised label statements to protect workers (additional PPE, buffer zones, precautionary statements, direction for use and REI) and the environment (hazard and advisory statements, and buffer zones for aquatic and terrestrial habitats); reduced maximum application rate for all uses and limiting use to one application per year. Update: The purpose of this Re-evaluation Note is to describe the updated label amendments for picloram. The revised label amendments include rate reductions, additional advisory statements, additional PPE, restricted-entry intervals and buffer zones to protect non-target sensitive aquatic organisms and terrestrial plants.	
Pimaricin	7681-93-8	Material preservative	Initiated: 24/04/2003 Completed: 27/06/2006	REV2006-09	Final Decision: Acceptable for continued registration with no label changes.	
Pindone	83-26-1	Rodenticide	Initiated/ Completed: 04/04/2005	REV2005-02	Final Decision: Not supported by registrant, no further action. All uses of pindone have been discontinued.	Expiry date of last registered product: 09/03/2004

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Pine oil	2228954	Hard surface disinfectant	Completed: 2006	N/A	There are no end-use products registered containing pine oil as active ingredient. No re-evaluation is required.	
Piperonyl butoxide	51-03-6	Synergist for insecticides	Initiated REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Pirimicarb	23103-98-2	Insecticide, acaricide, fungicide	Initiated/ Completed: 26/01/2006	REV2006-01	Final Decision: Not supported by registrant, no further action. All uses of pirimicarb have been discontinued.	Expiry date of Pirimor 50DF Dry Flowable Insecticide (Registration No. 22792): 31/12/2009 Expiry date of Pirliss 50-DF Dry Flowable Insecticide (Registration No. 22793): 31/12/2007 Expiry date of C-I-L Insecticide-fungicide for Roses & Flowers Flortect (Registration No. 22921): 08/03/2007 Expiry date of Wilson Floritact Insecticide-Fungicide for Roses & Flowers (Registration No. 24876): 21/12/2006
Poly[oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene Dichloride] (POD)	31512-74-0	fungicide, material preservative, slimicide, algicide	Initiated 22/01/2009 PRVD: 06/10/2011 Completed: 23/04/2012	PRVD2011-13 RVD2012-04	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label amendments to further protect workers and the environment (including PPE, good hygiene practices in occupational settings, improvements to advisory label statements, and a prohibition of use in decorative fountains with fish.).	
Poly (hydroxyethelene [dimethyliminio] ethylene [dimethyl iminio] methylene dichloride	N/A	Anti-microbial	Initiated/ Completed: 04/04/2005	REV2005-02	Final Decision: Not supported by registrant, no further action. All uses of poly(hydroxyethelene [dimethyliminio] ethylene [dimethyl iminio] methylene dichloride have been discontinued.	Expiry date of last registered product: 23/12/2003
Polybutene	9003-28-52 9003-28-53 25249-55	Bird repellent	Initiated: 18/03/2003 PACR: 30/03//2004 Completed: 27/01/2006	PACR2004-03 RRD2006-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers and the environment (PPE, environmental hazard statements with respect to small birds and other statements).	

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Polyhedral inclusion bodies (PIBs) of <i>Orgyia pseudotsugata</i> (Douglas fir tussock moth) nucleopolyhedroviruses (OpNPVs)	N/A	Insecticide	Initiated: 16/06/2004 PACR: 06/08/2004 Completed: 31/03/2006	PACR2004-32 RRD2006-18	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (includes PPE and other statements).	
Potassium dichromate	7778-50-9	Remedial wood preservative	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of potassium dichromate have been discontinued.	Expiry date of last registered product: 31/12/2005
Potassium dimethyldithiocarbamate	128-03-0	Material Preservative, Slimicide	Initiated 27/06/2006 PRVD: 14/02/2011 RVD: 20/04/2012	PRVD2011-05 RVD2012-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements (including PPE, limiting the use to non-food contact products and materials, and additional advisory and hazard statements).	
Potassium N-hydroxymethyl-N-methyl-dithiocarbamate	51026-28-9	Material preservative, slimicide	Initiated: 27/06/2006 Completed: 31/07/2006	N/A	Final Decision: Not supported by registrant, no further action. All uses of potassium N-hydroxymethyl-N-methyldithiocarbamate have been discontinued.	Expiry date of last registered product: 31/07/2006
Prometryn	7287-19-6	Herbicide	Initiated: 25/11/2004 PACR: 01/05/2006 Completed: 23/08/2007	PACR2006-06 REV2006-12 RVD2007-02	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, REI, buffer zones, rotational crop restrictions, surface water and groundwater advisory statements and other statements). End-use products formulated as a wettable powder must only be marketed in water soluble packages.	
Propanil	709-98-8	Herbicide	Initiated/ Completed: 04/04/2005	REV2005-01	Final Decision: Not supported by registrant, no further action. All uses of propanil have been discontinued.	Expiry date of last registered product: 31/12/2007
Propargite	2312-35-8	Acaricide	Initiated/ Completed: 16/07/2004 PMRL: 17/12/2009	REV2004-03 PMRL2009-08	Final Decision: Not supported by registrant, no further action. All uses of propargite have been discontinued. Proposed Maximum Residue Limit: The PMRA has followed-up with proposed revocation of associated maximum residue limits (MRLs)	Expiry date of last registered product: 31/12/2002

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Propetamphos	31218-83-4	Insecticide	Initiated: 29/06/1999 Completed: 16/01/2003	REV99-01 REV2003-01	Final Decision: Acceptable for continued registration. Mitigation includes limiting use to crack and crevice applications only; removing from the label reference to pests controlled through spot treatment; removing residential use sites from labels with the exception of food service areas; allowing use in food service areas of residential structures only when food is covered or removed prior to treatment; and limiting use to the more dilute spray concentration of 0.5%.	
Propiconazole	60207-90-1	Fungicide, material preservative	Initiated PRVD: 04/02/2011 Completed: 24/02/2012	PRVD2011-02 RVD2012-02	Final Decision: Acceptable for continued registration. Proposed mitigation includes new/revised label statements (including PPE, REIs, prohibition of high pressure sprayers for remedial wood preservative uses, discontinuation of domestic remedial wood preservative product, buffer zones, and additional advisory statements). Update: The label statement regarding retention of effluent water for cranberry use is no longer required for propiconazole products.	Expiry date of last domestic product: 31/12/2013
Propoxur	114-26-1	Insecticide, insect growth regulator, acaricide	Initiated: 29/08/2002 PRVD: 03/03/2011 Completed: 30/04/1014	REV2002-06 PRVD2011-09 RVD2014-01	Final Decision: The PMRA is granting continued registration for certain uses, i.e. indoor crack and crevice applications of commercial class products in commercial areas, outdoor uses of domestic and commercial class products, as well as bait trays. Mitigation measures for these uses include new/revised label statements (including PPE, specific application equipment and use directions, restriction on the amount handled per day, and additional advisory statements) as well as prohibition of use in indoor locations where children may be exposed. All other uses will be phased-out because either registrants do not support continued registration or a human health risk of concern has been identified. These are the following: use to control biting flies including mosquitoes, black flies, gnats, sandflies and punkies, use in pet collars, all indoor uses of domestic class products except bait trays, and indoor uses of commercial class products in residential areas.	Phase-out timeline for use to control biting flies including mosquitoes, black flies, gnats, sandflies and punkies, use in pet collars, all indoor uses of domestic class products except bait trays, and indoor uses of commercial class products in residential areas: Last Date of Sale by Registrant: October 31, 2015 Last Date of Sale by Retailer: October 31, 2016 Last Date of Use: October 31, 2017
Proprietary mixture of scented oils	N/A	Insecticide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of the proprietary mixture of scented oils have been discontinued.	Expiry date of last registered product: 31/12/2001
Propylene glycol	57-55-6	Sanitizer	PRVD: 12/05/2008 Completed: 18/08/2008	PRVD2008-17 RVD2008-31	Final Decision: Acceptable for continued registration with no label changes.	

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Propyzamide	23950-58-5	Herbicide	Initiated: 17/03/2003 PRVD: 30/05/2008 Completed: 23/09/2009	PRVD2008-20 RVD2009-12	Final Decision: Acceptable for continued registration. Proposed mitigation to include new/revised label statements to further protect workers and the environment (includes PPE, REI, plantback interval, buffer zones, surface and groundwater advisory statements and other statements).	
Putrescent whole egg solids	N/A	Animal Repellent	Initiated: 01/01/2004 PACR: 15/03//2004 Completed: 06/05/2005	PACR2004-02 RRD2005-07	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect users (includes precautionary statements regarding egg allergies and potential sensitization).	
Pyrazon (chloridazon)	1698-60-8	Herbicide	Initiated: 20/01/2006 PRVD: 06/12/2007 Completed: 24/04/2008	PRVD2007-15 RVD2008-15	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes REI, buffer zones, surface and groundwater advisory statements and other statements).	
Pyrethrins	8003-34-7	Insecticide	Initiated Update: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Pyridate	55512-33-9	Herbicide	Initiated/ Completed: 04/04/2005	REV2005-01	Final Decision: Not supported by registrant, no further action. All uses of pyridate have been discontinued.	Expiry date of last registered product: 30/03/2005
Quintozene	82-68-8	Fungicide	PRVD: 13/02/2009 Completed: 24/06/2010	PRVD2009-02 RVD2010-06	Final Decision: The PMRA is granting continued registration for certain uses (i.e. cole crops and ornamental bulb dip). Mitigation measures include phase-out of all uses on turf (including residential, commercial, turf farms and golf courses) and all ornamentals (except bulb dip treatment). For remaining uses, new/revised label statements are required to further protect workers and the environment. These include packaging the wettable powder formulation in water soluble packets, additional PPE, REIs and advisory statements to protect non-target sensitive terrestrial and aquatic species.	Expiry date of quintozene turf product: 31/12/2010 <ul style="list-style-type: none"> • Last date of sale by registrants: 31/12/2010 • Last date of sale by retailers: 31/12/2010 • Last date for use of product: 31/12/2010 • Last date for use of quintozene products on turf and ornamentals (except bulb dip treatment) 31/12/2010 For guidance on disposal, see DIR99-04

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Resmethrin	10453-86-8	Insecticide	Initiated 26/08/2003 REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents. Note: All uses have been voluntarily discontinued by the registrant.	<ul style="list-style-type: none"> Last date of sale by registrants: 31/12/2013 Last date of sale by retailers: 31/12/2014 Last date for use of product by users: 31/12/2017
Rimsulfuron	122931-48-0	Herbicide	Initiated: 28/10/2004 PRVD: 29/01/08 Completed: 11/08/2008	PRVD2008-06 RVD2008-29	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes REI, PPE, buffer zones, surface and groundwater advisory statements and other statements).	
Rodenticides		Rodenticides	Updates 29/03/2007 22/06/2009 01/11/2010	REV2007-04 REV2009-05 REV2010-17	Update: In 2007, the USEPA released a proposed risk mitigation decision for nine rodenticides (brodifacoum, bromadiolone, difethialone, chlorophacinone, diphacinone, warfarin, zinc phosphide, bromethalin and cholecalciferol) for public comment. As a result, the PMRA considered including similar mitigation measures as part of an overall mitigation strategy for rodenticides. Risk Mitigation Measures: The PMRA is requiring additional risk mitigation measures for eight rodenticides currently registered in Canada (brodifacoum, bromadiolone, bromethalin, chlorophacinone, difethialone, diphacinone, warfarin and zinc phosphide). The additional protective measures are intended to further protect children, pets and non-target wildlife from the risks associated with the use of eight rodenticides in Canada.	
Rotenone	83-79-4	Fish toxicant	Initiated/ Completed: 29/01/2008	REV2008-01	Final Decision: Rotenone and its associated use as a fish toxicant is acceptable for continued registration. Mitigation measures identified in the USEPA RED were used as a basis for label improvements for the aquatic non-food uses of rotenone in Canada. Both environmental and health mitigation measures were added to the two currently registered piscicidal rotenone products and those label changes are now complete. Non-piscicidal end-use products are not supported by registrants and will be discontinued.	Non-piscicidal end-use products: Last date of sale by registrants: 31/12/2008 Last date of permitted use: 31/12/2012
S-(2-hydroxypropyl) thiomethane sulfonate	29803-57-4	Slimicide	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of S-(2-hydroxypropyl) thiomethane sulfonate have been discontinued.	Expiry date of last registered product: 31/12/2005

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Sethoxydim	74051-80-2	Herbicide	Initiated: 07/04/2006 PRVD: 13/12/2007 Completed: 12/03/2008 Section 12 data reviewed: 28/09/2011	PRVD2007-17 RVD2008-10	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect workers and the environment (includes REI, buffer zones, surface water advisory statements, environmental hazards and other statements). Update 30/09/2011: Review of environmental data, required under Section 12 of the PCPA, confirmed that the use of sethoxydim is acceptable for continued registration. As a result, revised buffer zones and updated standard statements will be added to labels.	
Silicon dioxide and silica gel	N/A 7631-86-9	Insecticide	Initiated: 07/01/2004 PACR: 28/04/2004 Completed: 16/07/2004	PACR2004-09 RRD2004-20	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE); registrants of end-use products containing silicon dioxide, which are used for the treatment of fleas, carpet beetles or bed bugs, are required to use a technical grade active ingredient source that contains less than 1% crystalline silica. (i.e. switch to alternate source or remove these uses from label); registrants of all end-use products are strongly encouraged to use a source of technical silicon dioxide containing less than 1% crystalline silica (if registrants continue to use sources containing >1% crystalline silica, use-specific exposure data may need to be generated by the next round of re-evaluation).	
Simazine	122-34-9	Herbicide	Initiated: 29/03/2006 PRVD: 04/11/2009 Completed: 05/03/2010	PRVD2009-12 RVD2010-01	Final Decision: Acceptable for continued registration. Mitigation measures include new/updated label statements (including PPE, REI, change to maximum application rates, additional precautionary statements, buffer zones, formulation into wettable powder is prohibited, restrictions in the applications in fields containing tile drainage).	
S-methoprene	65733-16-6	Insecticide, insect growth regulator, acaricide	Initiated: 25/11/2004 PACR: 03/01/2007 Completed: 23/10/2007	PACR2007-01 RVD2007-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE) and the environment (environmental hazard statements and wording changes to briquet product label statements regarding product application). For all domestic class end-use products registered for use on cats and dogs, labels must comply with Regulatory Directive DIR2002-01, Canadian Label Improvement Program for Pesticides Used on Companion Animals.	

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Soap salts (includes potassium, alkanolamine and ammonium salts of fatty acids)	N/A	Insecticide, acaricide	Initiated: 06/08/2003 PACR: 07/04/2004 Completed: 03/09/2004	PACR2004-04 RRD2004-26	Final Decision: Acceptable for continued registration. Mitigation includes a label statement indicating toxicity to aquatic organisms to further protect the environment, the modification of labels for products used on companion animals to comply with Regulatory Directive DIR2002-01, Canadian Label Improvement Program for Pesticides Used on Companion Animals, and identification of the type of soap salts in the active ingredient statement on the labels of technical grade and end-use products.	
Sodium bromide	7647-15-6	Algicide, hard surface disinfectant, molluscicide, sanitizer, slimicide, swimming pool algicide and bactericide	Initiated: 12/09/2003		Mitigation measures comprising label changes have been implemented to further protect the environment (environmental hazard statement for commercial class product labels).	
Sodium chlorate	2146050	Slimicide	Initiated: 09/03/2006 PRVD: 06/02/2008 Completed: 24/04/2008	PRVD2008-09 RVD2008-16	Final Decision: Acceptable for continued registration with no label changes.	
Sodium chlorite	7758-19-2	Hard surface disinfectant, slimicide	Initiated: 16/08/2007 PRVD: 06/02/2008 Completed: 24/04/2008	PRVD2008-09 RVD2008-16	Final Decision: Acceptable for continued registration with no label changes.	
Sodium cyanide	57-12-5	Animal toxicant	Initiated: 07/07/2004 PACR: 16/03/2006 Completed: 26/06/2006	PACR2006-01 RRD2006-23	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, bystanders and the environment (includes precaution to carry antidote kit, precaution statements to protect bystanders and pets and environmental hazard statements to protect wildlife including endangered species). Refer to RRD2006-23 for revised label amendments.	

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Sodium dichloro-s-triazinetrione and trichloro-s-triazinetrione	2893-78-9 87-90-1	Swimming pool algicide and bactericide, hard surface disinfectant, laundry additive, sanitizer, slimicide	Initiated: 22/09/2003 and 05/11/2003 PACR: 30/06/2004 Completed: 30/03/2006	PACR2004-25 RRD2006-17	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers and the environment (includes PPE and an environmental hazard statement).	
Sodium Dimethyldithiocarbamate	128-04-1	Fungicide, material preservative, slimicide	Initiated PRVD: 14/02/2011 RVD: 20/04/2012	PRVD2011-05 RVD2012-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements (including PPE, limiting the use to non-food contact products and materials, and additional advisory and hazard statements).	
Sodium dodecylbenzene sulfonate	25155-30-0	Hard surface disinfectant, slimicide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of sodium dodecylbenzene sulfonate have been discontinued.	
Sodium fluoride	7681-49-4	antimicrobial, wood preservative	Initiated: 24/04/2008 PRVD: 04/05/2010 Completed: 18/10/2010	PRVD2010-08 RVD2010-10	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements (including certification of handlers, engineering controls, additional PPE and precautionary statements).	
Sodium fluosilicate	16893-85-9	Insecticide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of sodium fluosilicate have been discontinued.	Expiry date of last registered product: 31/12/2005
Sodium metaborate tetrahydrate	10555-76-7	Herbicide	Initiated/ Completed: 11/05/2004	REV2004-02	Final Decision: Not supported by registrant, no further action. All uses of sodium metaborate tetrahydrate have been discontinued.	Expiry date of last registered product: 31/12/2004
Sodium monofluoroacetate (Compound 1080)	62-74-8	Animal toxicant	Initiated: 01/08/2003 PACR: 18/06/2004 Completed: 19/04/2005	PACR2004-20 RRD2005-05	Final Decision: Acceptable for continued registration with no further regulatory action required at this time.	

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Sodium monofluoroacetate (Compound 1080)	62-74-8	Animal toxicant	Update: 20/12/2011 REV: 28/08/2013 Completed: 27/05/2014	REV2011-06 REV2013-04 RVD2014-03	Special Review initiation: The PMRA is initiating a special review of sodium monofluoroacetate and its associated products under section 17(1) of the PCPA. The PMRA plans to revisit the current mitigation measures relating to potential exposure of non-target species when using baits, in order to determine whether the environmental risks continue to be acceptable. Special Review Decision: The PMRA is granting continued registration with the implementation of new risk-reduction measures on the labels of all products to further protect the environment.	
Sodium o-phenylphenate (present as tetrahydrate)	132-27-4	Material preservative	Initiated: 21/03/2006 PRVD: 25/01/2008 Completed: 07/04/2008	PRVD2008-04 RVD2008-13	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, an environmental hazard statement and a statement indicating that all preserved textiles must be washed before manufacturing clothing). Post-harvest treatment on fruits including apples, cantaloupes, cherries, peaches, plums, carrots, cucumbers, peppers, sweet potatoes and tomatoes will be phased out.	
Sodium salt of 2-mercaptobenzothiazole	2492-26-4	Material preservative slimicide	Initiated: 20/03/2003 PACR: 04/06/2004 Completed: 10/08/2004	PACR2004-15 RRD2004-23	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE and environmental hazard statement).	
Sodium and calcium hypochlorite	7681-52-9 7778-54-3	Swimming pool algicide and bactericide, hard surface disinfectant, laundry additive, sanitizer, slimicide, fungicide, air sanitizer	Initiated: 04/09/2003 PACR: 22/10/2004 Completed: 17/06/2005	PACR2004-42 RRD2005-09	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (REI, PPE, environmental hazard statement). Any reference to disinfectant uses must be removed from pest control product labels and registrants are encouraged to contact the Therapeutic Products Directorate regarding registration of these uses. Sodium and calcium hypochlorite can be used for "water treatment" or "waste water treatment". However, no claim is made on the labels of currently registered end-use products other than "ask your technical distributor for assistance". For this reason, these uses could not be re-evaluated.	

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Streptomycin present as sulphate	57-92-1 and 3810-74-0	Bactericide	Initiated: 13/04/2006 PRVD: 16/05/2008 Completed: 29/07/2008	PRVD2008-16 RVD2008-26	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect human health and the environment (includes antibiotic resistance, environmental hazards and other statements).	
Strychnine	57-24-9	Bird toxicant, animal toxicant, rodenticide	Initiated: 15/10/2003 PACR: 26/09/2005 Update: 01/03/2007 Update: 30/09/2008	PACR2005-08 REV2007-03	Final Decision (for control of Northern pocket gophers, skunks, pigeons, wolves, coyotes and black bears): Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, the general public including children and pets, and the environment (includes requirement to store products under lock and key, PPE, directions to collect spilled bait, environmental precautions statements and other statements). Mitigation Measures (for control of ground squirrels): Acceptable for continued registration for the short term in light of environmental concerns. Interim mitigation to include new/revised label statements to further protect workers and the environment pending implementation of a Richardson's ground squirrel pest management strategy. Decision: Mitigation measures have been implemented. In the next round of re-evaluation, the PMRA will consider new information as a result of the Richardson's ground squirrel pest management strategy.	
Sulcofuron-sodium (Mitin FF)	3567-25-7	Insecticide	Initiated: 05/08/2003 PACR: 18/06/2004 Completed: 22/09/2004	PACR2004-19 RRD2004-27	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes engineering control, PPE, environmental hazard statements and other statements). After completion of re-evaluation Mitin FF was discontinued by the registrant.	Discontinued: 02/12/2005 Last product expires: 31/12/2008
Sulfaquinoxaline	59-40-5	Rodenticide	Initiated/ Completed: 24/11/2005	REV2005-07	Final Decision: Not supported by registrant, no further action. All uses of sulfaquinoxaline have been discontinued.	Expiry date of Poulin's Rat & Mouse Poison (Registration No. 8718): 31/12/2010 Expiry date of Wilson Prolin Concentrate (Registration No. 8699): 31/12/2009 Expiry date of Co-op Warfarin Rat Killer Rodenticide Pellets (Registration No. 11164): 31/12/2008

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Sulfotep	3689-24-5	Insecticide	Initiated: 29/06/1999 Completed: 26/10/2001	REV99-01 REV2001-04	Final Decision: Not supported by registrant, no further assessment. All uses of sulfotep have been discontinued.	Expiry date of last registered product: 31/12/2004
Sulphur	7704-34-9	Fungicide, insecticide, acaricide, rodenticide	Initiated: 27/08/2003 PACR: 07/05/2004 Completed: 16/07/2004	PACR2004-10 RRD2004-19	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (PPE, REI, buffer zones, environmental hazard statements and other statements), limitation of no more than 8 applications per season for use on field crops.	
Tau-fluvalinate	29409-94-54	Insecticide, acaricide	Initiated: 06/03/2006 Completed: 27/06/2006	N/A	Final Decision: Acceptable for continued registration with no label changes.	
TCA	76-03-9	Herbicide	Initiated/ Completed: 24/07/2003	REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of TCA have been discontinued	Expiry date of last registered product: 31/12/2006
Tefluthrin	79538-32-2	Insecticide	Initiated: 29/08/2007 PRVD: 24/02/2010 Completed: 13/09/2010 PMRL: 24/02/2010 EMRL: 24/09/2010	PRVD2010-01 RVD2010-07 PMRL2010-12 EMRL2010-24	Final Decision: Acceptable for continued registration. Mitigation measures to protect human and environmental health include new/revised label statements (including PPE, REIs, replant and pre-harvest intervals and additional precautionary statements). Established Maximum Residue Limit: The PMRA has established a maximum residue limit of 0.06ppm limit for tefluthrin on field corn, sweet corn kernels plus cob with husks removed.	
Temephos	3383-96-8	Insecticide	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of temephos have been discontinued.	Expiry date of last registered product: 19/12/2002
Terbacil	5902-51-2	Herbicide	Initiated: 17/03/2003 PACR: 30/06/2005 Completed: 10/02/2006	PACR2005-04 RRD2006-04	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes REI, buffer zones and other statements). As a result of comments to PACR2005-04, the use of terbacil on raspberries will be extended to all Canadian provinces (i.e., was registered in British Columbia only).	

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Terbufos	13071-79-9	Insecticide	Initiated: 29/06/1999 PACR: 24/01/2003 Completed: 23/03/2004 Update: 26/03/2008	REV99-01 PACR2003-02 RRD2004-04 REV2008-06	Final Decision: Phase-out of all uses of terbufos, except with sugar beets, as a result of the PMRA review due to risks to the environment. The PMRA has accepted continued use on sugar beets until 31/12/2009 due to the lack of available alternatives. Identified risks to workers from using terbufos on sugar beets can be effectively mitigated by ensuring that engineering controls and requirements regarding additional PPE and clothing are implemented. Update: The phase out dates for the remaining use of terbufos on sugar beets have been extended due to a continuing extensive wireworm problem and the lack of available adequate alternative management strategies. The registration of terbufos for all remaining uses expired on August 1, 2012.	Expiry date of last registered product: 01/08/2012
Tetrachlorvinphos	22248-79-9	Insecticide, acaricide	Initiated: 29/06/1999 PACR: 05/09/2003 Completed: 25/06/2004	REV99-01 PACR2003-09 RRD2004-14	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE, restrict low pressure handwands for wettable powder applications to spot treatment in poultry facilities); domestic class dust formulations restricted to no more than 2 grams of powder per kilogram body weight for cats and dogs, and restriction of these products to bedding used by pets only; and removal of use for tick control in outdoor living areas.	Voluntary removal by registrant of the use for tick control in outdoor living areas (campgrounds, backyards, picnic areas, recreational areas, etc.), from the label.
Tetramethrin	2117280	Insecticide	Initiated REV2011-05: 20/12/2011	REV2011-05	Update: In order to allow for a consistent approach to the risk assessment and risk management for these active ingredients, the PMRA will proceed with the re-evaluations of these actives as a "pyrethroid cluster". The outcome of the individual re-evaluations will be reported in future published documents.	
Thiabendazole	148-79-8	Fungicide	Initiated: 23/09/2005 PRVD: 21/07/2010 Completed: 17/03/2011	PRVD2010-12 RVD2011-02	Final Decision: The PMRA is granting continued registration with mitigation. Mitigation measures include new/revised label statements (water soluble packaging, additional PPE, an REI, precautionary statements, use limitations and restrictions).	
Thifensulfuron methyl	79277-27-3	Herbicide	Initiated: 28/10/2004 PRVD: 30/01/2008 Completed: 08/09/2008	PRVD2008-03 RVD2008-33	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes REI, PPE, buffer zones, surface and water advisory statements and other statements).	

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Thiophanate-methyl	7912735	Fungicide, insecticide, acaracide	Initiated: 03/11/2004 Preliminary risk assessment: 27/09/2007 PRVD: 31/01/2011 End of comment period: 01/04/2011 REV2012-14: 11/12/2012	REV2007-12 PRVD2011-07 REV2012-14	Proposed Decision: The PMRA is proposing continued registration. Proposed mitigation includes new/revised label statements (including PPE, limitations on amount handled per day, restrictions on the number of applications per season, rate modifications, REIs, buffer zones, and additional advisory statements). Update: The PMRA is providing a status update and next steps for the re-evaluation of thiophanate-methyl. Extensive comments were received during the consultation period for PRVD2011-07 and are currently under review. The following main areas of focus from PRVD2011-07 will be updated before a final decision can be made on the re-evaluation of thiophanate-methyl: toxicological assessment, occupational and non-occupational exposure risk assessment and dietary risk assessment. The PMRA is currently working with registrants in obtaining the relevant information required in order to finalize the re-evaluation of thiophanate-methyl and will communicate the results of the updated assessments in a future document.	
Thiram	137-26-8	Fungicide, animal repellent	Initiated: 29/08/2002	REV2002-06		
Tralkoxydim	87820-88-0	Herbicide	Initiated PRVD: 26/06/2009 Completed: 31/01/2011	PRVD2009-08 RVD2011-01	Final Decision: The PMRA is granting continued registration. Mitigation measures to protect human and environmental health include new/revised label statements (including additional label statements on the maximum number of applications, REI, PPE, additional advisory statements and buffer zones).	
Triallate	2303-17-5	Herbicide	Initiated: 29/08/2002 PRVD: 27/09/2007 Completed: 04/02/2008	REV2002-06 PRVD2007-08 RVD2008-04	Final Decision: Acceptable for continued registration. Mitigation to include new/revised label statements to further protect workers and the environment (includes PPE for granular formulation, 12-hour REI for all formulations, buffer zones and other statements). In addition, for emulsifiable concentrate formulations in agricultural field scenarios, mitigation could be achieved by limiting the amount handled per day to 189 kg active ingredient, requiring closed mix/load systems and applying with a closed cab. For fertilizer admixture scenarios, mitigation is not possible based on available information, and specific data to assess this scenario would be required.	
Triasulfuron	82097-50-5	Herbicide	Initiated/ Completed: 26/01/2006	REV2006-01	Final Decision: Not supported by registrant, no further action. All uses of triasulfuron have been discontinued.	Expiry date of last registered product: 31/12/2008

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Tribenuron Methyl	101200-48-0	Herbicide	Initiated: 17/06/2008 REV Note: 16/06/2009	REV2009-04	Final decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to protect human health and environment (including REI, additional advisory statements, and spray buffer zones)	
Tributyltin Compounds (Tri-n-butyltin maleate and Tributyltin Oxide)	4027-18-3 56-35-9	Material Preservative	PRVD: 15/07/2010 Completed: 07/12/2010	PRVD2010-11 RVD2010-15	Final Decision: PMRA is requiring the phase-out of all remaining registrations of products containing tributyltin compounds. Tributyltin compounds are classified as Track 1 substances under the federal Toxic Substances Management Policy (TSMP). This proposal affects all end-use products containing tributyltin oxide and tri-n-butyltin maleate registered in Canada.	Last date of sale by retail: 31/12/3013 Expiry date of last registered product: 31/12/2014
Trichlorfon	52-68-6	Insecticide	Initiated: 29/06/1999 Preliminary risk assessment: 17/05/2007 PRVD: April 18, 2008 Completed: July 31, 2008	REV99-01 REV2007-05 PRVD2008-14 RVD2008-27	Final Decision: Some uses were found to be acceptable for continued registration with mitigation and data requirements as outlined in the PRVD. These uses include ground application on Balsam fir and spruce trees in farm woodlots, rights-of-way and Christmas tree plantations as well as uses on beef and non-lactating dairy cattle. The remaining uses were to be phased-out because of risks to human health and/or the environment. Following the decision document, the registrant chose to discontinue registration of all existing trichlorfon end-use products.	Last date of sale by registrant: 31/12/2008 Last date of sale by retail: 31/12/2010 Expiry date: 31/12/2013
Triclopyr	19516870	Herbicide	Initiated: 17/03/2003 PACR: 22/09/2004 Completed: 10/02/2006	PACR2004-37 RRD2006-02	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes a 12-hour REI for broadcast treatment; prohibition of broadcast use in residential areas; limited maximum application rate to 2.24 kg a.e./ha and one application per growing season for use on ranges, pastures and sites where cattle can be grazed; environmental hazard statements, PHI for grass hay and other statements).	
Triethylene Glycol	112-27-6	Sanitizer	Completed: 14/03/2008		Final Decision: No registered end uses in Canada— re-evaluation is not required.	
3-Trifluoromethyl-4-nitrophenol	88-30-2	Fish toxicant	Initiated: 18/11/2003 PACR: 14/05/2004 Completed: 18/10/2004	PACR2004-11 RRD2004-28	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers and the environment (includes PPE, environmental hazards statements, notification requirements and other statements).	

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Trifluralin	578064	Herbicide	Initiated: 10/01/2005 PRVD: 18/06/2008 Completed: 11/09/2009	PRVD2008-22 RVD2009-09	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to protect human health and the environment (including PPE, REI, additional advisory statements and buffer zones).	
Triforine	26644-46-2	Fungicide	Initiated: 10/04/2006 PRVD: 06/10/2010 Completed: 18/02/2011	PRVD2010-13 RVD2011-03	Re-evaluation of the outdoor uses on roses and ornamentals is completed. The dietary and aggregate exposure to triforine will proceed under new round of re-evaluations. Final Decision: The PMRA is granting continued registration for outdoor uses on roses and ornamentals. Mitigation measures include new/revised label statements (including buffer zones, changes to the maximum number of yearly applications, and additional advisory statements).	
3-(trimethoxysilyl) propyldimethyl octadecyl ammonium chloride	27668-52-6	Antimicrobial	Initiated: 13/06/2008 PRVD: 06/05/2010 Completed: 18/10/2010	PRVD2010-09 RVD2010-11	Final Decision: The PMRA is granting continued registration. Mitigation measures include new/revised label statements (includes additional advisory statements, PPE, limiting use to materials and products that do not come into direct contact with food or feed).	
(Z)-9-tricosene	9357174	Insecticide	Initiated: 01/01/2003 PACR: 24/10/2003 Completed: 30/03/2004	PACR2003-12 RRD2004-06	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers (PPE) and the environment (when using in areas accessible to birds, use a bait station).	
Vernolate	1929-77-7	Herbicide	Initiated: 29/08/2002 Completed: 24/07/2003	REV2002-06 REV2003-05	Final Decision: Not supported by registrant, no further action. All uses of vernolate have been discontinued.	Expiry date of last registered product: 19/12/2002
Vinclozolin	50471-44-8	Fungicide	Initiated: 24/01/2005 Completed: 31/01/2008	REV2008-02	Final Decision: Not supported by registrant, no further action. All uses of vinclozolin are being discontinued. Interim protective measures are being implemented by the registrant.	Expiry date of last registered product: 31/12/2010

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Warfarin	81-81-2	Rodenticide	Initiated: 22/10/2003 and 23/10/2003 PACR: 14/07/2004 Completed: 14/03/2006	PACR2004-27 RRD2006-11	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers, children, pets and the environment (includes restriction of bait placement to tamper-resistant bait stations or in locations not accessible to children, pets or livestock; restriction of commercial products to use by certified pest control operators, farmers and persons authorized by government-approved pest control programs; PPE for domestic and commercial handlers). Refer to the RRD for the final revised wording of required label statements, because external comments resulted in changes to the label statements and the PMRA further revised the proposed label statements found in the PACR. See also Rodenticides for additional mitigation measures.	
Water soluble dyes registered as pesticides	N/A	Herbicide, algicide	Completed: 31/12/2004	N/A	Final Decision: Not supported by registrant, no further action. All uses of water soluble dyes registered as pesticides have been discontinued.	Expiry date of last registered product: 31/12/2004
Zinc as Elemental (Present as Zinc Naphthenate)	12001-85-3	Material and wood preservative	Initiated 13/06/2008 PRVD: 19/10/2010 RVD: 31/10/2011	PRVD2010-16 RVD2011-07	Final Decision: Acceptable for continued registration. Mitigation measures include new/revised label statements to further protect human health and the environment (including PPE, removal of domestic fabric treatment uses, additional advisory and hazard statements and other label statements).	
Zinc 2-mercapto-benzothiazole	155-04-4	Material preservative	Initiated/ Completed: 30/06/2003	REV2003-04	Final Decision: Not supported by registrant, no further action. All uses of zinc 2-mercapto benzothiazole have been discontinued.	Expiry date of last registered product: 31/12/2001
Zinc phosphide	1314-84-7	Rodenticide	Initiated: 17/02/2005 PACR: 08/11/2006 Completed: 28/06/2007	PACR2006-08 RVD2007-01	Final Decision: Acceptable for continued registration. Mitigation includes new/revised label statements to further protect workers, domestic handlers, children, pets and the environment (includes restriction of bait placement to tamper-resistant bait stations or in locations not accessible to children, pets or livestock; restriction of commercial products to use by certified pest control operators, farmers and persons authorized by government-approved pest control programs; PPE for handlers; statements to protect non-target organisms including species at risk and other statements). See also Rodenticides for additional mitigation measures	

Active Ingredient	CAS Number	Type	Status	Regulatory Publications	Summary of Decision or Proposed Decision (as contained in PACR, RRD, PRVD, RVD or REV Note)	Discontinuation/ Phase-out Timeframe (discontinue date, expiry date)
Zineb	12122-67-7	Insecticide, fungicide	Initiated: 29/08/2002 Completed: 31/01/2008	REV2002-06 REV2008-02	Final Decision: Not supported by registrant, no further action. All uses of zineb are being discontinued.	Phase-out dates for uses for which alternatives exist (asparagus, broccoli, brussels sprouts, cabbage, carrots, cauliflower, celery, cucumbers, eggplant, lettuce, melons, onions [dry], onions [green], peppers, potatoes, pumpkins, squash, tomatoes): • Registration number 9318: 31/12/2010 Phase-out dates for remaining use on potatoes: • Registration number 10644: 31/12/2008 • Registration number 11515: 31/12/2010 • Registration number 10711: 31/12/2010
Ziram	137-30-4	Fungicide, material preservative	Initiated: 29/08/2002	REV2002-06		

Lawn & Turf As described in REV2000-04, the PMRA is undertaking a priority re-evaluation of the lawn and turf uses of the eight most commonly available lawn pesticides. In some cases, the evaluation of lawn uses is complete and/or mitigation has been implemented.