DRAFT ENTRY CHARACTERIZATION FOR PUBLIC COMMENT

Canadian Environmental Protection Act, 1999

July 2006

Entry Characterization of benzenamine, 2,6-dinitro-*N*,*N*-dipropyl-4-(trifluoromethyl)- (*trifluralin*); 1,3,5-triazine-2,4-diamine, 6-chloro-*N*-ethyl-*N'*-(1-methylethyl)- (*atrazine*); 1,3-benzenedicarbonitrile, 2,4,5,6-tetrachloro- (*chlorothalonil*); 1*H*-indene-1,3(2*H*)-dione, 2-[(4-chlorophenyl)phenylacetyl]- (*chlorophacinone*); benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (*methoxychlor*); and phenol, pentachloro- (*pentachlorophenol*)

The above substances are among 123 substances on the Domestic Substances List (DSL) selected for a DSL Screening Assessment Pilot project. All six substances were determined by Environment Canada to meet categorization criteria for persistence and/or bioaccumulation and inherent toxicity to aquatic organisms (EC, 2003), under paragraph 73(1) of the *Canadian Environmental Protection Act, 1999* (CEPA 1999). Additionally, four substances (atrazine, chlorothalonil, trifluralin and pentachlorophenol) were identified by Health Canada as inherently toxic to humans (HC, 2005b). Pursuant to paragraph 74(*a*) of CEPA 1999, the Ministers of the Environment and of Health have initiated a screening assessment on trifluralin, atrazine, chlorothalonil, chlorophacinone, methoxychlor, and pentachlorophenol.

All six substances are registered as active ingredients in pest control products under the *Pest Control Products Act* (PCPA) and have undergone an environmental and human health risk assessment by the Pest Management Regulatory Agency (PMRA) as part of its registration process. The approach of Environment Canada and Health Canada to the screening assessment of registered pesticides on the DSL is to conduct an entry characterization of the substances in Canada and then evaluate any non-pesticidal releases and sources. Therefore, releases from applications registered under the PCPA will not be taken into consideration when conducting a screening assessment under section 74 of CEPA 1999. An industrial survey conducted under paragraph 71(1)(*b*) of CEPA 1999 revealed no non-pesticidal use of these substances in Canada above reporting thresholds in 2000 (EC, 2002). Entry characterizations consisted of additionally searching for release and sources information on the substances in relevant databases and on the internet, and reviewing findings for both Canada and elsewhere. Searches for these substances were made up to April 2005. The ecological categorization information, uses and quantities of the substances in Canada are summarized further below.

General information on ecological screening risk assessments under CEPA 1999 is available at http://www.ec.gc.ca/substances/ese. Additional information may be requested by e-mail from existing.substances.existantes@ec.gc.ca.

Benzenamine, 2,6-dinitro-*N*,*N*-dipropyl-4-(trifluoromethyl)- (*trifluralin*)
CAS No. 1582-09-8
Trifluralin is bioaccumulative and persistent according to the *Persistence and Bioaccumulation Regulation*s of CEPA 1999, and inherently toxic to non-human organisms (EC, 2005) based on

an experimental acute aquatic toxicity value of 0.005 mg/L (Koyama, 1996). Trifluralin was determined to be inherently toxic to humans based on a classification of "Group C: Possible human carcinogen" according to the U.S. EPA 1986 Carcinogenicity Guidelines (Health Canada, 2005b). A total of 388 tonnes of trifluralin were imported into Canada in 2000 for use as pesticide or herbicide (EC, 2002). Trifluralin is registered under the PCPA as an herbicide (PMRA, 2005). No other uses were identified in Canada or elsewhere (US EPA, 1984; IARC, 1991; EC, 2002; NLM, 2003).

1,3,5-Triazine-2,4-diamine, 6-chloro-*N*-ethyl-*N'*-(1-methylethyl)- (*atrazine*)
CAS No. 1912-24-9
Atrazine is persistent according to the *Persistence and Bioaccumulation Regulation*s of CEPA 1999, and inherently toxic to non-human organisms (EC, 2005) based on an experimental acute aquatic toxicity value of 0.011 mg/L (Carrasco and Sabater, 1997). Atrazine was determined to be inherently toxic to humans based on a classification of "Group III: Possibly carcinogenic to humans" according to Health Canada's Guidelines for Drinking Water Quality (Health Canada, 2005b). A total of 947 tonnes of atrazine were imported into Canada for use as herbicide or pesticide in 2000 (EC, 2002). Atrazine is registered under the PCPA as an herbicide (PMRA 2005). No other uses were identified, in Canada or elsewhere (IPCS, 1990, Howard, 1991; NIH, 1997; EC, 2002; PAN, 2002; US EPA, 2003).

1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro- (*chlorothalonil*)
CAS No. 1897-45-6
Chlorothalonil is persistent according to the *Persistence and Bioaccumulation Regulation*s of CEPA 1999, and inherently toxic to non-human organisms (EC, 2005) based on an experimental acute aquatic toxicity value of 0.0109 mg/L (Davies et al., 1994). Chlorothalonil was determined to be inherently toxic to humans based on a classification of "Group III: Possibly carcinogenic to humans" according to Health Canada's Guidelines for Drinking Water Quality (Health Canada, 2005b). Between 1000 and 10,000 tonnes of chlorothalonil were imported into Canada in 2000 for use as a fungicide (EC, 2002). Chlorothalonil is registered under the PCPA as a fungicide, bactericide and nematicide (PMRA, 2005). No other uses were identified in Canada or elsewhere (IPCS, 1995 and 1996; EC, 2002; CCOHS, 2003; NLM, 2003).

1*H*-Indene-1,3(2*H*)-dione, 2-[(4-chlorophenyl)phenylacetyl]- (*chlorophacinone*)
CAS No. 3691-35-8
Chlorophacinone is bioaccumulative according to the *Persistence and Bioaccumulation Regulation*s of CEPA 1999, and inherently toxic to non-human organisms (EC, 2005) based on a predicted acute aquatic toxicity value of 0.0376 mg/L (Accelrys Inc., 2004). There were no reports of manufacture or import of chlorophacinone in Canada in 2000 at a reporting threshold of 100 kg (EC, 2002). Chlorophacinone is registered under the PCPA as a rodenticide (PMRA, 2005). No other uses were identified, in Canada or elsewhere (Cornell University, 1985; Merck, 2001; NLM, 2003)

Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (*methoxychlor*)
CAS No. 72-43-5
Methoxychlor is persistent according to the *Persistence and Bioaccumulation Regulation*s of CEPA 1999, and inherently toxic to non-human organisms (EC, 2005) based on an experimental

acute aquatic toxicity value of 0.00005 mg/L (US EPA, 1977). There were no reports of manufacture or import of methoxychlor in Canada in 2000 at a reporting threshold of 100 kg (EC, 2002). Methoxychlor is registered under the PCPA as an insecticide/fungicide. No other uses were identified in Canada or elsewhere (ATSDR, 2002; NLM, 2003; PAN, 2004).

Phenol, pentachloro- (*pentachlorophenol*)

CAS No. 87-86-5

Pentachlorophenol is persistent according to the *Persistence and Bioaccumulation Regulation*s of CEPA 1999, and inherently toxic to non-human organisms (EC, 2005) based on an experimental acute aquatic toxicity value of 0.09 mg/L (Geyer et al., 1985). Pentachlorophenol was determined to be inherently toxic to humans based on classifications of "Category 3: Causes concern for humans owing to possible carcinogenic effects" according to the European Community and "Group B: Probable human carcinogen" according to the U.S. EPA 1986 Carcinogenicity Guidelines (Health Canada, 2005b). Between 100 and 1,000 tonnes of pentachlorophenol at a concentration higher than 1% were imported into Canada in the year 2000 for use as a wood preservative (EC, 2002). Additionally, one company reported either importing or manufacturing pentachlorophenol at a concentration lower than 1% and in a quantity meeting the reporting threshold of 100 kg (EC, 2002). Pentachlorophenol is registered under the PCPA for certain limited applications as a wood preservative (PMRA, 2005). It has been used elsewhere in health- and dental-care products as a disinfectant (IPCS, 1987), but these are not current uses in Canada (EC, 2002; HC, 2005a; Adewoye, 2004; PMRA, 2005).

For the above six substances, no uses and releases other than those covered by the PCPA have been identified in Canada.

Proposed Conclusion

Based on available information, and until new information is received indicating that any of the substances is entering, or may enter the environment due to applications not registered under the PCPA, it is proposed that the above six substances are currently not entering, or likely to enter, the environment from applications not registered under the PCPA. Therefore it is proposed that they do not meet the criteria set out in section 64 of CEPA 1999.

Given the hazardous properties of these substances, there is concern that new activities for the substances, other than those covered under the PCPA, which have not been identified or assessed under CEPA 1999, could lead to the substances meeting the criteria set out in section 64 of the Act.

As an interim measure until import and manufacture of these six substances in Canada are subject to subsection 81(1) of CEPA 1999, it is recommended that benzenamine, 2,6-dinitro-*N*,*N*-dipropyl-4-(trifluoromethyl)- (*trifluralin*); 1,3,5-triazine-2,4-diamine, 6-chloro-*N*-ethyl-*N'*-(1-methylethyl)- (*atrazine*); 1,3-benzenedicarbonitrile, 2,4,5,6-tetrachloro- (*chlorothalonil*); 1*H*-indene-1,3(2*H*)-dione, 2-[(4-chlorophenyl)phenylacetyl]- (*chlorophacinone*); benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (*methoxychlor*); and phenol, pentachloro- (*pentachlorophenol*) be subject to the Significant New Activity provisions specified under subsection 81(3) of the Act, to ensure that any new manufacture, import or use of these

substances in quantities greater than 100 kg/year, and other than the ones covered under the PCPA, is notified and will undergo ecological and human health risk assessments as specified in section 83 of the Act prior to being introduced into Canada.

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