



Progress Report: Pollution Prevention Planning for Nonylphenol and its Ethoxylates in Products

Pollution Prevention (P2) Planning is a process by which organizations examine current operations and develop a plan to eliminate or reduce pollution at the source.

Update to July 2010

As of July 2010, facilities have reported 90% reduction in nonylphenol (NP) and its ethoxylates (NPEs) use in manufacturing of products and 88% reduction in NP and NPEs imported in products since preparing and implementing their P2 Plans.

Ninety-three percent of the facilities have met the first phase reduction target of 50%. Sixty-five percent of the facilities have met the second phase reduction target of 95% ahead of the timeline.

Background

Nonylphenol and its ethoxylates are part of a broader group of compounds known as alkylphenol and its ethoxylates (APEs). These high volume chemicals have been used for more than 40 years in a variety of soap and cleaning products such as detergents. Based on 1998 and 1999 averages, soap and cleaning products accounted for 56% of the NP and NPEs released into the environment and textile processing aids accounted for 18%.

NP and NPEs were found to be harmful to a wide variety of fish, bacteria, freshwater mussels and algae. Assessment of these substances concluded that they were entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term effect on the environment or its biological diversity. As a result, in 2002, NP and NPEs were added to the List of Toxic Substance in Schedule 1 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999).

A P2 Planning Notice was chosen to manage NP and NPEs because it provides flexibility for site-specific solutions, it minimizes potential incompatibilities with

existing or future provincial or municipal regulations, and it allows for early action.

Pollution Prevention Planning Notice requirement

In December 2004, Environment Canada published in the *Canada Gazette*, Part I, a Notice requiring preparation and implementation of Pollution Prevention Plans.

Persons subject to this Notice include any person or class of persons who (a) owns or operates a facility that manufactures or imports soap and cleaning products, or processing aids used in the wet textile industry or pulp and paper processing aids; and (b) purchases or otherwise acquires 2,000 kilograms or more of NP and NPEs in at least one calendar year between January 1, 2003, and December 31, 2012. Persons subject to the Notice must prepare and implement a P2 Plan that takes into consideration the risk management objectives described in the Notice, including a Phase 1 and Phase 2 reduction targets. **Persons are required to consider reducing the total quantity of NP and NPEs used to manufacture products and imported in products in the base year by 50% and 95% in Phase 1 and Phase 2, respectively.** Unless a person becomes subject to the Notice after the date of publication, timelines for each phase are the 2007 and 2010 calendar years, respectively.

Individual facilities are required to submit Interim Progress Reports to Environment Canada to highlight the progress that has been made in implementing the P2 Plan and in achieving the reduction targets. Much of the following information is derived from these submissions, which are made available to the public on Environment Canada's website (see References). For the 2009 calendar year, 49 Interim Progress Reports had been received, along with six submissions declaring that their facility has fully implemented their P2 Plan.

Overall reductions

As chart 1 illustrates, manufacturing and imports of NP and NPEs increased from the base year (1998) to the preparation year (2003), with manufacturing increasing from 2.09 million kg to 2.16 million kg and imports increasing from 0.85 million kg to 1.19 million kg. However, after facilities prepared and began implementing their P2 Plans, both manufacturing and imports of NP and NPEs decreased significantly. By the end of 2009, annual use in manufacturing was down to 0.21 million kg and import was down to 0.145 million kg.

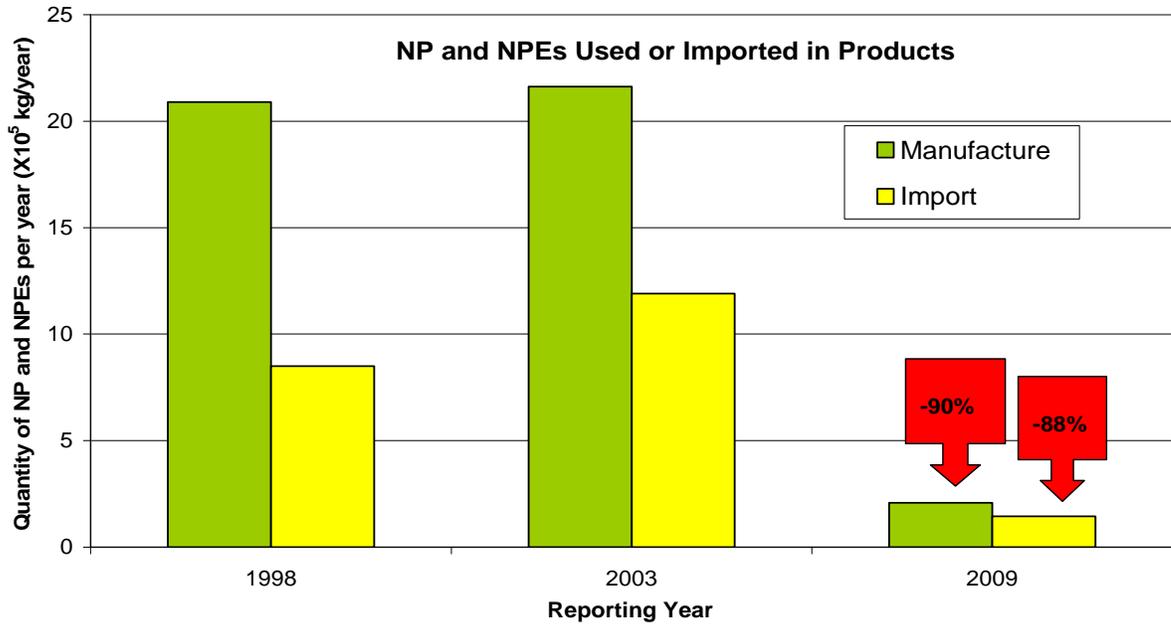


Chart 1: Reported annual use of NP and NPEs in products manufactured on-site or imported for all facilities

Notes: Unless a person has become subject to the Notice after the date of publication, 1998 represents the base year and 2003 represents the preparation year. Percent reductions in the red boxes are reductions from 2003. Data is from submissions from facilities subject to the Notice.

Progress toward meeting the risk management objective

The reduction targets established in the P2 Planning Notice are per facility. Table 1 shows the progress facilities have made toward meeting the Phase 1 and the Phase 2 reduction targets, as of July 2010. Overall, 93% of the facilities are currently meeting the Phase 1 reduction target of 50%. Sixty-five percent of the facilities are meeting the Phase 2 reduction target of 95%, a year ahead of the timeline. In addition, since 2007, the number of facilities reporting an increase in NP and NPEs use in manufacturing and/or imported in products has decreased from 13 facilities to one.

Table 1: Progress made toward meeting the Phase 1 and 2 reduction targets by facilities as of July 17, 2010.

Key Reduction Results	Manufacturing	Import
Facilities currently meeting or exceeding the Phase 1 reduction target of 50%	53 (94%)	27 (93%)
Facilities currently meeting or exceeding the Phase 2 reduction target of 95%	36 (65%)	19 (65%)
Facilities reporting an increase in NP and NPEs used to manufacture products or imported in products	0 (0%)	1 (3.4%)
Facilities Reporting 100% reduction	29 (52%)	15 (51%)

Notes: In the "Declaration that a Pollution Prevention Plan Has Been Prepared and Is Being Implemented", 56 facilities reported the use of NP and NPEs in manufacturing, 29 facilities reported importing NP and NPEs in products, and 14 facilities reported both manufacturing and importing products containing NP and NPEs.

Pollution prevention methods used to achieve the risk management objective

Pollution Prevention Planning is a means of protecting our environment and promoting sustainable development. Pollution prevention focuses on avoiding the creation of pollution rather than trying to manage it after it has been created. Environment Canada has provided a list of pollution prevention methods to be considered when creating a Pollution Prevention Plan. **In 2009, 90% of the pollution prevention methods used to achieve the risk management objective were those identified by Environment Canada in the Notice (Chart 2).** Nearly two thirds of facilities chose product design or reformulation (38%) or material or feedstock substitution (28%) as a method to achieve their objectives.

Methods Used to Achieve Risk Management Objective

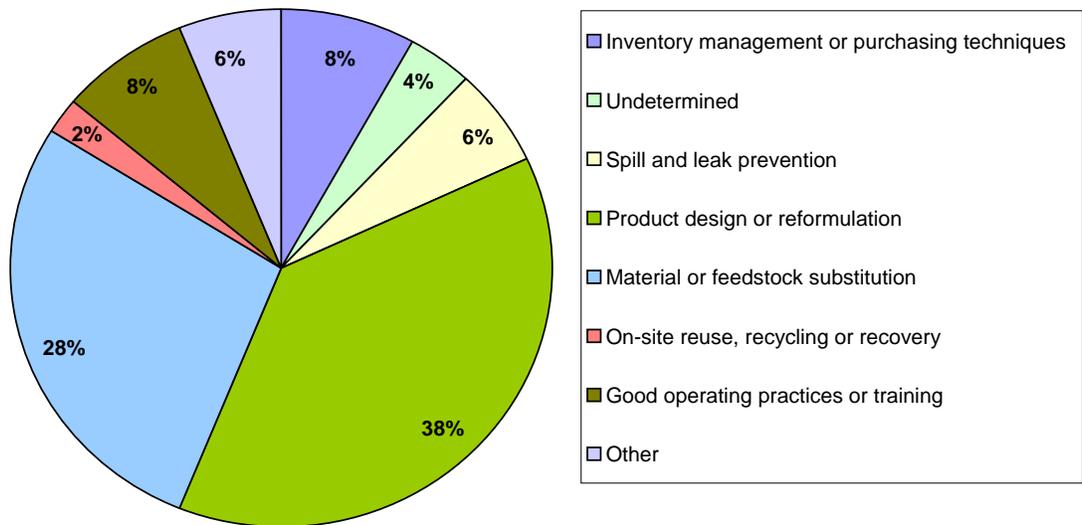


Chart 2: Pollution prevention methods used to meet the risk management objective of the P2 Planning Notice for NP and NPEs Contained in Products in 2009

Continuing Progress

The Interim Progress Reports for the 2009 calendar year show that individual facilities are very close to meeting the risk management objective described in the Notice. Ninety-three percent of the facilities have met the first phase reduction target of 50%. As of July 2010, 20 facilities (30%) had declared that they have met the Phase 2 reduction target of 95%, ahead of the timeline, in addition to 28 facilities (36%) that have already fully implemented their P2 Plan and achieved 100% reduction. This brings the percentage of facilities that are meeting the Phase 2 reduction target of 95% ahead of the timeline to 63% (48 facilities). In accordance with the risk management strategy for NP and NPEs, Environment Canada will continue to monitor and evaluate the progress of facilities in order to determine whether or not further government action is required.

References:

- The Pollution Prevention Planning section of Environment Canada's website: <http://www.ec.gc.ca/planp2-p2plan/default.asp?lang=En&n=F7B45BF5-1>
- The Pollution Prevention Planning Database and Web site: www.ec.gc.ca/cepap2

- The Priority Substances List (PSL) Assessment Report for Nonylphenol and its Ethoxylates: www.ec.gc.ca/substances/ese/eng/psap/final/npe.cfm
- The Pollution Prevention Planning Online Reporting Tool:
<http://www.ec.gc.ca/planp2-p2plan/default.asp?lang=En&n=EF79BA93-1>