



SECOND PROGRESS  
REPORT ON THE CODE  
OF PRACTICE FOR  
THE **MANAGEMENT**  
**OF TETRABUTYL TIN IN**  
**CANADA (2017)**

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Annex 1: [\*Code of Practice for the Management of Tetrabutyltin in Canada\*](#)

## INTRODUCTION

Organotin substances are tin compounds having 1, 2, 3 or 4 organic groups attached and are designated as mono-, di-, tri- or tetraorganotin, depending on the number of tin-carbon bonds in the molecule. Organotins are mainly used in the vinyl processing industry and as pesticides. Tetrabutyltin, the substance that is the subject of this report, has the chemical formula  $(C^4H^9)_4Sn$  and is used in Canada as a starting material for the synthesis of mono- and dibutyltin compounds for use in polyvinyl chloride (PVC) processing.

*Pursuant to section 68 of the Canadian Environmental Protection Act, 1999 (CEPA), a [Follow-up to the 1993 Ecological Assessment of Organotin Substances on Canada's Domestic Substances List](#) was published by Environment and Climate Change Canada in the *Canada Gazette*, Part I, on August 8, 2009. The assessment report concluded that tetrabutyltin meets the criterion set out in paragraph 64(a) of CEPA and that it can be harmful to sensitive aquatic organisms at low concentrations. There is also concern with commercial formulations of tetrabutyltin being released into the environment because these formulations may contain up to 30% of tributyltins, and dealkylation can cause tetrabutyltin to break down into tributyltins. Tributyltins were also assessed and found to meet the criterion set out in paragraph 64(a) and the criteria for persistence and bioaccumulation as defined by the *Persistence and Bioaccumulation Regulations* under CEPA.*

To meet the risk management objective of achieving the lowest level of releases that are technically and economically feasible, as identified in the [Risk Management Approach for Non-Pesticidal Organotin Compounds](#) dated August 2009, Environment and Climate Change Canada published in November 2011 a [Code of Practice for the Management of Tetrabutyltin in Canada](#) (herein referred to as the “Code of Practice”).

Following the publication of the Code of Practice, Environment and Climate Change Canada conducted a site visit on March 20, 2013 to the only facility to which the Code of Practice applies. The purpose of this visit was to determine to what degree the Code of Practice was implemented at this facility. Based on this site visit it was concluded in October 2013 that the facility can be considered as having fully implemented all of the procedures and practices in the Code of Practice.

In June 2014, representatives of Environment and Climate Change Canada and the facility discussed a path forward to ensure continued application of the Code of Practice. It was agreed that the facility will provide a voluntary *Annual Report on Continuous Implementation of the Code of Practice for the Management of Tetrabutyltin in Canada*. It was also agreed that a site visit to re-verify compliance with the Code of Practice will be held before 2020.

This second progress report outlines the results of the first and second voluntary annual *Reports on Continuous Implementation of the Code of Practice for the Management of Tetrabutyltin in Canada* covering the period from September 30<sup>th</sup>, 2013 to September 30<sup>th</sup>, 2016.

## PURPOSE OF THE CODE OF PRACTICE

The purpose of the Code of Practice is to minimize releases of tetrabutyltin to the aquatic environment by identifying best management procedures and practices for activities involving the import, distribution, manufacture and use of tetrabutyltin. The Code of Practice does not apply to importers of the substance as a component of dry blended vinyl compounds, or to the transportation of tetrabutyltin which is addressed by the [\*Transportation of Dangerous Goods Regulations\*](#).

The Code of Practice provides best management practices for the following activities: packaging, storage and secondary containment; handling and dispensing; uncontrolled, unplanned or accidental releases. It also details best management practices concerning empty packaging, waste disposal, record keeping, reporting, training and management systems.

## TARGETS

To ensure the continuous implementation of the Code of Practice, the facility to which the Code of Practice applies will provide a voluntary *Annual Report on Continuous Implementation of the Code of Practice for the Management of Tetrabutyltin in Canada* and a site visit to re-verify compliance will be held before the end of 2020.

## RESULTS

The facility covered by the Code of Practice provided to Environment and Climate Change Canada with the first and second voluntary *Annual Report on Continuous Implementation of the Code of Practice for the Management of Tetrabutyltin in Canada*. These reports cover the period of September 30<sup>th</sup>, 2013 to September 30<sup>th</sup>, 2016. Environment and Climate Change Canada concluded that the facility continues to implement the Code of Practice based on a review of the information in the two annual reports.

## CONCLUSION

By continuing to implement the Code of Practice, the facility contributed to the realization of Environment and Climate Change Canada's risk management objective to achieve the lowest level of releases technically and economically feasible.

## NEXT STEPS

To ensure the continued implementation of the Code of Practice, the facility covered by the Code of Practice will provide the *Annual Report on Continuous Implementation of the Code of Practice for the Management of Tetrabutyltin in Canada* to Environment and Climate Change Canada on a yearly basis until September 30<sup>th</sup>, 2020. Environment and Climate Change Canada may request additional supporting documentation in the future from the facility.

A site visit to the facility to re-verify compliance with the Code of Practice will be held before 2020.

If any new activities involving tetrabutyltin in Canada cause additional facilities to be subject to the Code of Practice, these facilities will be requested to submit documentation on how they are implementing the Code of Practice.

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## BACKGROUND

Between August 1994 and March 2000, the Minister of the Environment received notifications for nine organotin substances as “new” and/or “transitional” substances pursuant to subsection 26(2) of the 1988 *Canadian Environmental Protection Act* (CEPA 1988), now subsection 81(1) of CEPA 1999. These substances were proposed for importation or manufacture in Canada for the following uses: as stabilizers for PVC products; as intermediates used in the manufacture of organotin stabilizers (which was the case of tetrabutyltin) and as material preservatives for building material formulations.

These substances were assessed, and it was concluded that all nine substances, including tetrabutyltin, are entering or may enter the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity. Therefore, these substances met the criterion set out in paragraph 64(a) of CEPA.

On March 23, 2005, a Notice under subsection 84(5) of CEPA was published in the *Canada Gazette*, Part I. The Notice specifies the conditions under Ministerial Condition No. 13618 pertaining to the use, release and disposal of tetrabutyltin in Canada.

The Ministerial Condition for tetrabutyltin was rescinded on December 15, 2012, following the publication of the Code of Practice, because the Code of Practice incorporated most of the requirements of the Ministerial Condition and it applies to all importers, distributors, manufacturers and users of tetrabutyltin in Canada. Tetrabutyltin was subsequently listed on the Domestic Substances List on February 26, 2014.