

# Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate

General sectors: Industry and commercial products

(CAS numbers: e.g. 76025-08-6, EC number: 616-283-4

/ Entry number in HELCOM list of substances of concern: 6)

DRIVERS

ACTIVITIES

PRESSURES

STATE

IMPACTS

## Why a HELCOM concern?

### Main evidence

**S** Concentrations of a substance tentatively identified as Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate exceed the applied threshold value in all the **17** examined areas (assessment units) of the Baltic Sea. The threshold is exceeded in both coastal and off-shore areas (**3/3** assessed off-shore areas). In these 17 areas, **100%** of the assessable samples in **sediment and/or biota** exceed the threshold value. This is based on suspect screening data from the project PreEMPT<sup>1</sup>. A total number of 29 data points were possible to evaluate for this substance.

By further considering how much above or below the threshold each concentration is, and how often the substance is detected, Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate scores **8.8/10** (confidence range: **8.5 – 9.0**) in the scale established when assessing the criticality/significance of current levels in the Baltic Sea pose, where 5 indicates concern and 10 extreme risk, and the range reflects the level of reliability and representativeness of concentrations and the thresholds.

The threshold values for Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate, in sediment and biota, were acquired from the NORMAN Network ecotoxicology database<sup>2</sup>.

**I** Current levels in the Baltic Sea indicate potential negative impacts on pelagic biota and/or sediment-dwelling biota and/or top predators such as mammals and birds.

### Overall assessment

When assessing current levels in the Baltic Sea, current inputs, and the severity of the relevant toxicity mechanism, Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate scores **61-90/100** in the scale established for assessing the overall risk for impacts/threat for the Baltic Sea, where 50 indicates concern, 100 extreme risk, and the width of the span outlines the uncertainty in the assessment.

## Facts relevant for management considerations

### Causal chain and pathways

**A** The EU REACH registered volume for Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate is >1,000 t/y<sup>3</sup>. Registered uses, according to ECHA's ARN<sup>4</sup> are as flame retardant in polyurethane foams and coatings, with presence in, e.g., plastic and textile articles in vehicles and furniture. According to the same source, it is additionally used in adhesives and sealants. Whereas article types include among others childcare articles.

**S** **?** *In order to further improve the evaluation of the risk, the first aspect to consider is identity confirmation (PreEMPT samples). If identity is confirmed, then a further relevant aspect to consider is a review of the relevant toxicity thresholds (sediment, biota).*

### Relevant policies (existing or planned measures)

**M (on A/P)** • Bis(2-chloro-1-methylethyl) 2-chloropropyl phosphate is covered by an **Assessment for Regulatory Needs prepared by ECHA** (on a group of chlorinated trialkyl phosphate flame retardants)<sup>9</sup>. Although the substance with the specific CAS number appears as not REACH-registered, according to ECHA's ARN it appears that registration has been adapted to a different description of substance identity. According to the same report, there is a known or potential hazard for reproductive toxicity, carcinogenicity and endocrine disruption and possible inclusion to the REACH SVHC list can be considered perhaps after ongoing toxicological assessment's (in the US – to be confirmed) results.

## References:

1. 2. 3. 4.

[Note: Listing of detailed references will be provided in an upcoming update of the fact sheet – for a listing of the most common references among the different substances see the section at the end of the consolidated document which includes all the fact sheets]

<sup>1</sup> \* considering that there were also inconclusive non-detections (in terms of exceedance, due to a relatively high limit of detection), it is possible that the actual average frequency of exceedance in these areas is somewhat lower, but in any case >65%.